

August 2018 Share Package

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The First Line of Grid Defense

Public utilities work to secure consumer information and safeguard the grid



Phil Bigler is director of IT at Douglas Electric Cooperative in Roseburg, Oregon.

In today's connected world, people are accustomed to having access to nearly limitless amounts of data, including information from their electric utility. Personally identifiable information, past use, amounts due and active outage reports are just a handful of the data points available to most consumers via their utility's website or SmartHub app.

Unfortunately, that same data in the hands of a cybercriminal can lead to identity theft, financial ruin and years spent recovering from the difficulties associated with being a victim of identity theft.

As if a breach of consumer data were not enough to worry about, electric utilities also must prepare for potential cyberattacks targeting electric transmission and distribution systems. These attacks are generally directed at the utility's supervisory control and data acquisition systems, which are used to automate and collect system data in the field and control processes locally or at remote locations. If criminals were to gain access to this system, they could potentially damage sensitive equipment, possibly leading to widespread or long-term outages while the breach is being closed and the equipment repaired or replaced.

In addition to data theft and cyberattacks aimed at the grid, there are programmers who design and send out malicious code known as ransomware. Ransomware encrypts the intended victim's data, preventing them from accessing it. To regain access, the victim must either pay the ransom to decrypt the data or restore from a known safe backup.

On March 22, 2018, the city of Atlanta fell victim to a massive ransomware attack that left city workers unable to perform their daily duties, and residents without access to numerous city services. Court proceedings came to a halt, and residents could not pay traffic fines, apply for licenses or pay utility bills.

Not only is this incredibly inconvenient for the electric consumers and employees, the costs and time associated can be significant—whether it be paying the ransom, restoring from backup or, in the worst-case scenario, recreating the data.

The good news is your utility's information technology team constantly works to keep the bad actors from accomplishing their goals, whether it be theft of information or direct attacks on the grid. Unlike for-profit businesses, publicly owned utilities do not compete with each other, so we can openly share

successes and communicate about potential threats and technologies to combat those threats.

Publicly owned utilities lean on multiple organizations to help combat potential bad actors, such as the National Rural Electric Cooperative Association, the Electricity Information Sharing and Analysis Center and the U.S. Department of Energy. These three organizations represent only a small part of the shared resources your utility can use to keep your data safe and your lights on.

Public utilities employ a layered approach in their cybersecurity strategy. Those layers can be broken into three key areas, with a brief explanation that a person not in the technology field can easily digest: protect the network, protect the computer or server, and protect the user.

To protect the network, utilities use complex firewalls that prevent unwanted traffic, monitor all traffic for malicious payloads and provide a secure method for remote access. They also employ network segmentation, patching, network monitoring, and web/email filtering to further protect the network.

To protect the computer and server, IT professionals ensure all applicable security patches are installed on a regular basis, antivirus programs are kept up to date and all systems are password protected.

To protect the user, IT staff provides training by educating and testing users with phishing and social engineering campaigns, creating a culture of cyber awareness. Users are also updated on potential threats and required to use complex passwords that are changed on a regular basis. The IT staff also implements controls that only allow users to access the portions of the information systems that are applicable to their job duties.

According to LifeLock—a leading identity theft protection service—16.7 million individuals fell victim to identity theft and lost a total \$16.8 billion to cybercriminals last year. Cybercrime is big business. These criminals try to get access your utility's consumer data by any means necessary. Your utility's IT staff works hard to safeguard that consumer data, but consumers must do their part by ensuring they protect themselves. Consumers need to keep their firewall up to date, their computer patched regularly, and their password complex and frequently changed to keep the utility and their information safe. ■

Portable Air Conditioning is a Viable Option



Above, this 12,000 Btuh portable air conditioner uses evaporative technology, so there is no condensation tank to empty. Btuh describes the number of Btus of energy produced or removed in one hour.

Top, the outdoor ends of the ducts are tapered for better air flow. Some units have a handheld remote.

Photos by Sunpentown (top), and James Dulley



To ask a question, write to **James Dulley**, Energy Report, 6906 Royalgreen Dr., Cincinnati, OH. 45244, or go to www.dulley.com.
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Q: *Are portable air conditioners in various rooms more efficient than using central air conditioning to cool the entire house?*

A: Using a portable air conditioner—or one with a heat pump option—is a good idea, especially if you will be in the same room for an extended time. This also is effective with central air conditioning.

I use a portable heat pump model in my home office for year-round savings. Portable heat pumps look identical and operate similarly to a portable air conditioner. They provide heat during cold weather. This efficient heating source can produce up to 12,000 British thermal units per hour from a 120-volt electrical outlet. Most electric space heaters produce only 5,100 Btuh.

Even though the efficiency of a newer central air conditioner is generally better than the efficiency of a portable model, using one can save money overall.

Run a portable conditioner to cool a frequently used room or two to a comfortable temperature. Raise the temperature setting on the wall thermostat for the central air conditioner four or five degrees higher than normal. This can provide a 10 to 15 percent electricity savings without a major sacrifice in comfort.

During moderate weather, turn off your central air conditioner and use just the portable unit. Generally speaking, an 8,000 British thermal unit per hour model should comfortably cool rooms up to 350 square feet, while a 12,000 Btuh model should cool a 550-square-foot area.

Portable air conditioners are convenient because you can roll one from room to room. It is best to have one for each floor of a multistory house.

Portable air conditioners operate similarly to a window unit. The sound level is similar to a typical window air conditioner, so they work well in bedrooms.

There are two basic portable unit designs. One uses a single duct to the window adapter. This is the simplest system and works well, but it does draw some

cooled or heated room air to the outdoors. I use a one-duct model in my second-floor bedroom to precool it at night. Then I set its thermostat higher so it does not come on much overnight.

The other design uses two ducts, which is more efficient. All of the air flowing through the condenser is drawn from outdoors and exhausted back outdoors. With two ducts, no already-conditioned indoor air is exhausted outdoors. This is more energy efficient, especially when operating a model with a heat pump in the heating mode in winter.

Another feature to consider is how the condensed water is handled in cooling mode. Evaporative models mix the water with the air exhausted outdoors so there is nothing to empty. Other models, which also function well as dehumidifiers without cooling much on the dehumidify setting, capture the water in a small tank that must be emptied. This is basically distilled water in the tank, and can be used to water houseplants.

Select a model with several blower speeds and adjustable directional louvers. When cooling, adjust the louvers to direct the cooled air up at about a 30-degree angle. The cooled air blowing out is denser, so this keeps it from settling at floor level.

A flat adapter panel is used to connect the portable air conditioner to a window with one or two 5-inch-diameter flexible and collapsible ducts. This is where the heat is exhausted outdoors. The window adapter and ducts—which must be moved along with the portable air conditioner—fit easiest in single-, double-hung or slider windows and sliding glass doors.

Use 1-by-1-inch foam weatherstripping to seal the window edge against the panel. Hollow round foam pipe insulation also works well. Use tape or glue to secure the foam to the panel to simplify moving among windows. To use with a casement window, you must make triangular top and bottom end caps to seal in the window opening. ■

Screen/Storm Door Combo Saves Money



Above, combo doors are easy to install. No cutting is required. Pre-drilled installation and assembly holes eliminate guesswork.

Photo by Pella

Top, this strong condo door has two retractable screens, strong corner supports and threshold weatherstripping.

Photo by ProVia



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Q: *My screen door needs to be replaced. I thought about getting a screen/storm combo door with a glass panel for winter. Is it worth spending more for a combo door?*

A: A primary door is a relatively small area, but even an insulated one can lose a significant amount of energy. Doors typically have glass—which has a lower insulation value—and the 10 feet of weatherstripping leaks air, so adding a combo door makes energy sense.

Before you consider adding a combo screen/storm door, make sure your primary door closes tightly and seals well. A combo door will improve energy efficiency, but it is not designed to correct problems with an old warped primary door.

If possible, buy replacement weatherstripping for your existing door from the original manufacturer. If you cannot find it, most home center stores sell generic weatherstripping. Pry off the old door molding, fill any gaps around the framing with foam insulation and caulk around the primary door frame.

The combo door construction is important for a nice appearance, long life and security. It must withstand a lot of abuse, so don't just pick the cheapest one. High-quality combinations—such as those from ProVia Spectrum—have internal polymer corner supports, rigid insulated foam core, reinforced kick panels and triple bottom-sweep weatherstripping.

Buying an aluminum combo door and installing it yourself is typically the lowest-cost option. Aluminum combo doors are lightweight with the glass panels removed, so installing one is a simple do-it-yourself project. They are made to the standard sizes of primary door frame openings.

With the store display door attached to a wooden door frame, the aluminum frame feels strong. When you open the box at home, the unattached aluminum frame strips are flexible. Be careful not to kink them during handling. Apply a bead of silicone or siliconized acrylic caulking on the aluminum frame before screwing

it to the door opening.

The newest, most convenient design of combo door uses one or two spring-mounted roll-up retractable screens built into the door. For ventilation, just lower the glass and pull the screens down. This design is attractive because the screen is hidden away during winter without having to remove and store screen panels.

If you plan to use natural ventilation during the summer, a self-storing triple-track combo door is a reasonably priced option. The screen panel has its own vertical track in the door, so it never has to be removed. At winter's end, slide one of the glass panels down and slide the screen panel up for ventilation.

For families with large pets or active children who may damage the screening, durable stainless steel screen fabric is available in retractable screen doors. It also is a simple DIY project to add this durable screening to a panel door.

If your budget is tight, consider making your own door. It is easy to mount hinges in the existing door opening for the storm door. Make a simple wood frame for the new door with only the top half open and a plywood lower panel. This panel improves rigidity for the door for a more airtight seal and better durability.

Most home center stores carry sheets of clear acrylic plastic to mount in the frame. Make another narrow wooden frame slightly larger than the open half and mount the acrylic sheet in it. Screw it over the door opening. Make a similar frame with screening in it for summer use.

If you prefer more durability and efficiency, and a perfectly clear view outdoors is not critical, select double-walled polycarbonate instead of acrylic. You can barely break the polycarbonate even with a big hammer.

Nail ½-inch-wide spring steel weatherstripping in the door opening on the latch side and top and bottom. This type of weatherstripping is durable where there is sliding friction. Adhesive-backed ¾-inch foam weatherstripping is effective in compression on the hinge side. ■

Now Comes the Hard Part

Negotiations between the U.S. and Canada to modernize the Columbia River Treaty have potential sticking points

By Curtis Condon

On more than one occasion, the Columbia River Treaty renewal process has been compared to a marathon. The first time was more than six years ago, even before the Northwest recommendations for a new agreement were finalized in 2013.

How prophetic.

The process has now entered the negotiating phase and—just as the last miles of a marathon are often the most difficult—chances are this could be the hardest part of the renewal effort.

Let the Wrangling Begin

U.S. and Canadian treaty negotiators met for the first time in Washington, D.C., on May 29-30, 2018.

“Good treaties make good neighbors,” Francisco Palmieri, state department acting assistant secretary for Western Hemisphere Affairs said in a statement released in advance of the first negotiating session. “The United States and Canada have a long, positive history of engagement on the Columbia River. We expect to continue that cooperative spirit when we engage in negotiations starting today.”

State Department Chief Negotiator Jill Smail leads the U.S. negotiating team. The team also includes negotiators from the Bonneville Power Administration, the Army Corps of Engineers, the Department of Interior and the National Oceanic and Atmospheric Administration.

Members of the media were briefed



by conference call following the two-day session in May and asked to refer to the unnamed negotiators and other officials as “senior U.S. government officials.”

“We’re in the beginning stages, reaffirming cooperation,” a senior official said. “We are laying out what our future objectives are at this point.”

The officials declined to provide specifics. Instead, they described their primary objectives in broad terms, which include ensuring reliable and economical hydropower production, managing flood risk and addressing ecosystem concerns.

They also reiterated they are using the 2013 regional recommendations as a blueprint for the negotiations.

An official characterized the first round of negotiations as “very productive.”

With talks off to a good start, many watchers are hopeful of a quick outcome. However, if history is any indication,

there are miles still to go.

Negotiations of this magnitude always take time. The original Columbia River Treaty took nine rounds of talks during the course of almost a year before a final agreement was reached. Back then, there were two primary issues: flood control and hydropower.

Negotiations may take even longer this time around, given there seems to be more moving parts. In addition to flood control and hydropower, negotiators want to better address ecosystem and other concerns. Both sides have different ideas about what those things are and how best to achieve them, which presents lots of opportunities for sticking points.

The Canadian Entitlement

Perhaps no issue is more likely to be contentious than the Canadian entitlement. The term refers to the annual electricity payments the U.S.

Opposite page, Libby Dam in Montana is one of four dams built as a result of the original Columbia River Treaty. The other three are in Canada.

Photo courtesy U.S. Army Corps of Engineers

sends to Canada, as prescribed by the existing treaty.

Scott Corwin is the executive director of the Public Power Council, which has long advocated for changes to the treaty, particularly as it relates to electricity payments sent to Canada.

“There is a lot at stake for citizens of the Northwest,” Corwin said, noting the treaty manages flows, controls flood risk and enhances power production. “For electricity ratepayers in the Northwest, it also determines how much hydropower is sent to Canada from U.S. dams.”

The treaty calls for half of the Columbia River’s downstream electricity to be sent to Canada—currently, about 450 average megawatts and 1,300 MW of capacity. Powerex, a power marketer and subsidiary of BC Hydro, sells the electricity to utilities in British Columbia and elsewhere.

“This is flexible hydropower that could otherwise be used to help meet load demands in the U.S. or help integrate more variable generation, like wind power,” Corwin explained.

The payments averaged \$250 million to \$350 million per year at their height, according to industry sources. They have since declined somewhat.

“In recent years, it has been around \$150 million (a year),” said Corwin.

Almost all of that is paid for by Northwest ratepayers, in the form of higher electric rates.

Corwin said that’s too much. He and others in the industry suggest the payments should be about an eighth or a tenth of what they are today—more like \$15 million to \$18.75 million annually.

“We are cautiously optimistic,” Corwin said. “However, there should be a sense of urgency. Every one to three days there is the equivalent of \$1 million of U.S. ratepayer funds being sent to Canada.”

The next round of treaty talks is August 15-16 in British Columbia. ■



U.S. President Dwight Eisenhower, right, and Canadian Prime Minister John Diefenbaker sign the Columbia River Treaty in January 1961. The treaty was implemented September 16, 1964.

Photo by White House Photo Office, Eisenhower Administration; courtesy National Archives

Columbia River Treaty Q&A

What is the Columbia River Treaty?

It is the 1964 agreement between the U.S. and Canada to work together to manage the flow and storage of Columbia River waters, minimize flood risk and enhance hydropower production for the benefit of both countries.

What is all the fuss about now?

Major provisions of the treaty are set to expire in 2024 unless the two countries agree to renew it. If renewed, the treaty probably will look different than the original. Negotiators are hard at work to modernize it and better address ecosystem issues, as well as tweak the flood control and hydropower aspects of the treaty.

How long will negotiations take?

There’s no way to know how long this phase of the process will take, or if talks will be successful. Negotiations for the original treaty began in February 1960. Negotiators met nine times before an agreement was reached. U.S. President Dwight Eisenhower and Canadian Prime Minister John Diefenbaker signed the treaty January 17, 1961.

What is the likelihood the treaty will be renewed?

It’s too soon to tell. Both sides hope for a smooth negotiating process and an equitable outcome. However, there are many more issues and challenges this time around, including additional ecosystem and cultural concerns.

Why should I care?

There are lots of reasons to care about the outcome of the treaty talks—such as flood protection, hydropower and salmon recovery efforts—but the one thing that directly affects all Northwest residents is the cost of electricity. A new treaty will impact how much you pay for electricity.

Clearwater Power Ruralite

AUGUST 2018



Kathy Judson rescued her first horse when she was just a child growing up on a Minnesota dairy farm. It quickly became a passion.

PHOTO BY LORI MAI



Kathy Judson spends time with Cookie. The Judsons name the horses by whatever strikes them as fitting. Cookie likes treats, so they call her a cookie monster.

A Heart for Horse Rescue

Kathy and Mike Judson have opened their lives to horses in need of a home

By Lori Mai

Kathy Judson rescued her first horse, a Shetland pony, when she was a kid growing up on a dairy farm in Minnesota.

“We had sold him, and then the people couldn’t keep him,” Kathy says. “I ended up buying him back to make sure he didn’t go to a bad spot.”

Later, she and her husband, Mike, made their first rescue together—a blind mare named Champagn—from an auction in South Carolina.

“We shipped this mare clear across the country because she was 100 percent blind,” Kathy says. “We knew that she would end up going to slaughter if we hadn’t saved her.”

Champagn lived for 20 years with the Judsons—just one of the more than 40 rescue horses they have taken in during their 29-year marriage.

Kathy says they have saved horses that have suffered from abuse, neglect and kill pens, which is where horses are bought and sold to slaughterhouses in Mexico and Canada and the horse meat is sold for consumption. There are no horse slaughterhouses in the United States, so often these horses are transported great distances in inhumane conditions.

Kathy says it is a practice the general public is uneducated about.

Kathy tries to help save as many of these horses as she can either by finding homes for them or keeping them on the 123 acres of natural pasture at the family homestead north of Potlatch.

The first step is to acquire funding to bail the horse. Kathy follows online groups, such as Arabian Horses at Risk, where people will post about certain at risk horses and pool their money to buy—or bail—them from auctions or kill

pens, sometimes only hours before the horse is to be shipped to slaughter.

“One time a lady said, ‘I challenge every granny to contribute \$1,’” Kathy says. “People jumped on and added a dollar, and they saved the horse.”

Once bailed, a good home needs to be found immediately, which Kathy says is the hard part.

“That’s the big problem with rescue,” she says. “People are willing to contribute to saving the life, but they don’t do anything else. Upkeep is far more costly than the purchase.”

Kathy ticks off the expenses involved in keeping a horse: food, worming, shots, teeth, hoof trimming, medicine, salt.

“Just one horse can go through at least 3 tons of hay per year,” she says.

The horses often have other issues not so easily identifiable. One horse, Sissy, wouldn’t allow anyone to touch her for



Above, Kathy and Mike care for 20 rescues and 20 of their own horses and ponies on 123 acres of natural pastureland. Left, Mike has a natural way with horses.

Left photo courtesy of Kathy Judson



two years.

“When she figured out we weren’t going to hurt her, she was incredible,” Kathy says.

Another mare, Cherokee, a beautiful pinto rescued by the Judsons, has severe neck scarring. She panics whenever a horse comes up behind her.

“Cherokee acts like a horse that someone rode up behind her and threw a rope around her neck and threw her to the ground a lot,” Kathy says.

It is a controversial rodeo practice performed in some areas, and is known as tripping.

“It’s hard to find a home for her because somebody might not understand she’s scared, and that she reacts from fear,” Kathy says. “They might think she

reacts because she’s poorly behaved. We understand it, so I promised her we would be her forever home.”

Kathy says horses she rescues come with no history, no age and little information, so their backstory is always a guessing game.

“You know absolutely nothing about these horses when you get them, so you don’t know if they’re halter broke, if they’re wild or if they’re super tame,” Kathy says.

Kathy says every horse rescue is completely different, but in many instances, the horses need rehabilitation.

A gray mare named Lily Grey recently came with severe leg problems. By being allowed to run free, she is building muscle strength and getting better.

Kathy says another horse had obviously spent a lot of time in a small pen. She was extremely thin and ate nonstop. When she was put out in the pasture, she just ran and ran.

“We try to bring them here and throw them loose in the pasture and just let them be a horse and finally get to enjoy some life,” Kathy says. “Once they enjoy life and they’re not under stress, they’re fun to start working with.”

There are many chores and challenges involved in horse rescue. Mike and Kathy’s days often start at 4 a.m. and go

late into the night.

“It’s a daily struggle to save these guys,” she says.

Kathy says it is difficult to put a price on what a rescue costs. They lose money and hope only to recoup the cost in hay. They appreciate donations of hay and are in need of panels to help train the horses.

“It’s hard to contain the horses on all of this acreage,” she says.

The Judsons have about 20 rescues and 20 of their own horses and ponies.

“I bet we average calls three times a week from people begging us to take their horses,” Kathy says. “We’re maxed. We just can’t do it.”

However, Kathy emphasizes that if she does find a home for one of the horses but the new owners can’t keep it for whatever reason, she wants them to return the horse to her so it doesn’t go back into the system from which it was rescued.

Despite the hard work, challenges and heartbreak, Kathy says it is rewarding when she considers all of the horses she and Mike have rescued through the years. Flipping through a photo album, she recounts every name and story.

“They love you unconditionally,” Kathy says. “The horses always seem to appreciate it. They seem to know that they’ve been saved. They’re happy horses.” ■

Inspire a Love of Reading

Together, we can make a difference

Do you have a child between birth and 5 years old? If so, Wasco Electric Cooperative has a great opportunity for you and your family to begin instilling a love of books and reading.

Wasco Electric Cooperative, Four Rivers Learning Hub and the Dolly Parton Imagination Library have partnered to spread the love of reading to engage children in the most fundamental skill necessary to succeed in life: reading.



How the Program Works

Free signup is easy:

- Visit www.wascoelectric.com.
- Register your child online or print the application and mail it to WEC.
- Confirm information via the email address provided and set up an Imagination Library account.
- Sit back and wait for the books to arrive.

The key to success in school and beyond is developing proficient reading skills. One of the most important things a parent can do to develop these skills is to read with their child as much as possible.

That is why Wasco Electric Cooperative encourages each family with young children to take advantage of this great free program and prepare for school and beyond. ■

Why Imagination Library

Imagination Library strives to enhance participants' home literacy environment so:

- ▶ Books are available in homes.
- ▶ Parents begin reading to children early in life.

The program promotes positive attitudes and increases motivation to read so:

- ▶ Children ask adults to read with them.
- ▶ Children "play" with books independently.
- ▶ Children practice reading skills.

As a result, children develop emerging literacy skills, including:

- ▶ Understanding print.
- ▶ Naming letters and making letter sounds.
- ▶ Increasing their vocabulary.
- ▶ Understanding oral sounds, syllables and words.
- ▶ Improving auditory memory.

Have Your Voice Heard

Become a Central Electric Advocate

Central Electric Cooperative, a member of the Oregon Rural Electric Cooperative Association, is asking you to join **ORECA-Action**. ORECA educates lawmakers and state officials on legislation that supports our mission and fights against mandates that jeopardize co-op values such as local, democratic member control and economical, reliable power. We cannot do this alone. Central Electric encourages members to promote common sense solutions by way of our political grassroots program: ORECA-Action.

Legislators want to hear from you! Sign up and become a member of ORECA-Action today. You will become an important voice in our efforts to hold elected officials accountable and promote the importance of Oregon's electric cooperatives. Go online to Central Electric's website at www.cec.coop and click on the ORECA-Action link on the left side of the home page.

Remember, your voice can make a difference!

Join ORECA-Action:

- Support efforts to keep our electricity costs from increasing due to mandates and special interests.
- Maintain the reliability of the power system.
- Protect and preserve the federal hydropower system that provides low-cost, renewable energy to CEC members.
- Oppose unnecessary legislation, mandates and regulations that will increase CEC members' electric bills.



Sparks light up the night sky during a past Deschutes County Fair as Central Electric linemen demonstrate the power of electricity.

Photo by Jeff Beaman



Sparks Fly for Safety

Safety demonstrations light up Deschutes County Fair

By Courtney Cobb

Central Electric Cooperative will generate sparks this month at the 2018 Deschutes County Fair with its safety trailer demonstrations.

Demonstrations run every hour on the hour August 1 and 2 from noon to 8 p.m. and August 3 and 4 from noon to 9 p.m.

CEC uses a 30-foot-long high-voltage safety trailer energized to 7,200 volts to educate the public about proper safety precautions around electrical equipment.

Fairgoers will witness the flashes of electrical arcs, see what happens when a kite gets tangled in power lines

and discover why a person should never touch a live power line.

“Our licensed linemen will show attendees how to handle and avoid dangerous situations, and what can happen when different everyday items like kites, tree limbs or irrigation pipe come into contact with a live power line,” says Jeff Beaman, CEC Member and Public Relations director.

The demonstrations last about 15 minutes and are geared to people of all ages.

“We encourage parents to bring their kids to see the demonstration so they learn to respect the potential hazards of electricity, gain a basic



Kids try to pick up nickels while wearing the protective gloves linemen wear.

understanding of electrical safety and remain aware when they are out playing this summer,” Jeff says.

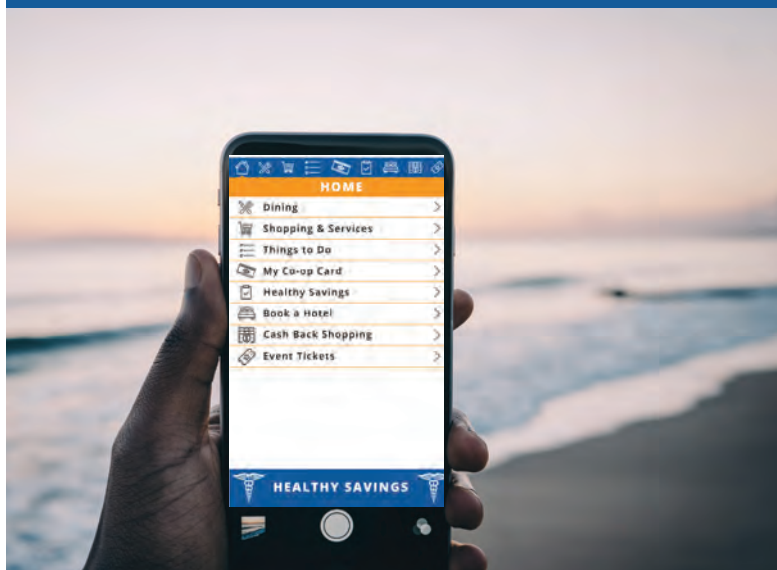
During the demonstration, the audience will get to handle some of the tools and safety gear used by linemen, including gloves, helmets and safety straps.

They also will have the

opportunity to put on some of the 50 pounds of safety gear linemen wear.

“We really encourage people to try to put on the gear and see what it feels like,” says Jeff. “This really gives them an eye-opening experience of what our linemen have to do every day to stay safe.” ■

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CHECK OUT ALL OF THE WAYS TO SAVE!

Program FAQs & Benefits

How am I able to receive discounts with the Co-op Connections program?

You are able to start saving immediately if you have access to a computer or smart phone. Simply download the free Co-op Connections app from the Google Play or Apple app stores to your smart phone. Create an account and have access to thousands of deals right at your fingertips. You can also access your account from a computer. Simply visit connections.coop and create an account to start saving today.

Can I still use my plastic Co-op Connections card? Can I still get cards at my co-op?

Yes, your card will still work at the pharmacies and local businesses. You may pick up a card at your local CCEC office or have one mailed directly to you. Just be aware that you have access to more deals and features if you use the online and mobile aspects of the program.

What are some features of the upgraded Co-op Connections program?

The upgraded program allows you to review participating local and national businesses through the mobile app, use coupons straight from your phone or computer and receive deals from your favorite businesses. We also have deals at theme parks, shows and events and so much more. Book your next trip with the hotel discounts and find rental car offers through the app and online.

Can I use this app while I'm traveling to receive discounts in other locations?

Yes. Receive hotel discounts and change your zip code in the app or use your GPS location while on the road to see what local deals are nearby. Traveling is expensive and this program allows you to save on the go.

What kinds of deals do I receive with this program?

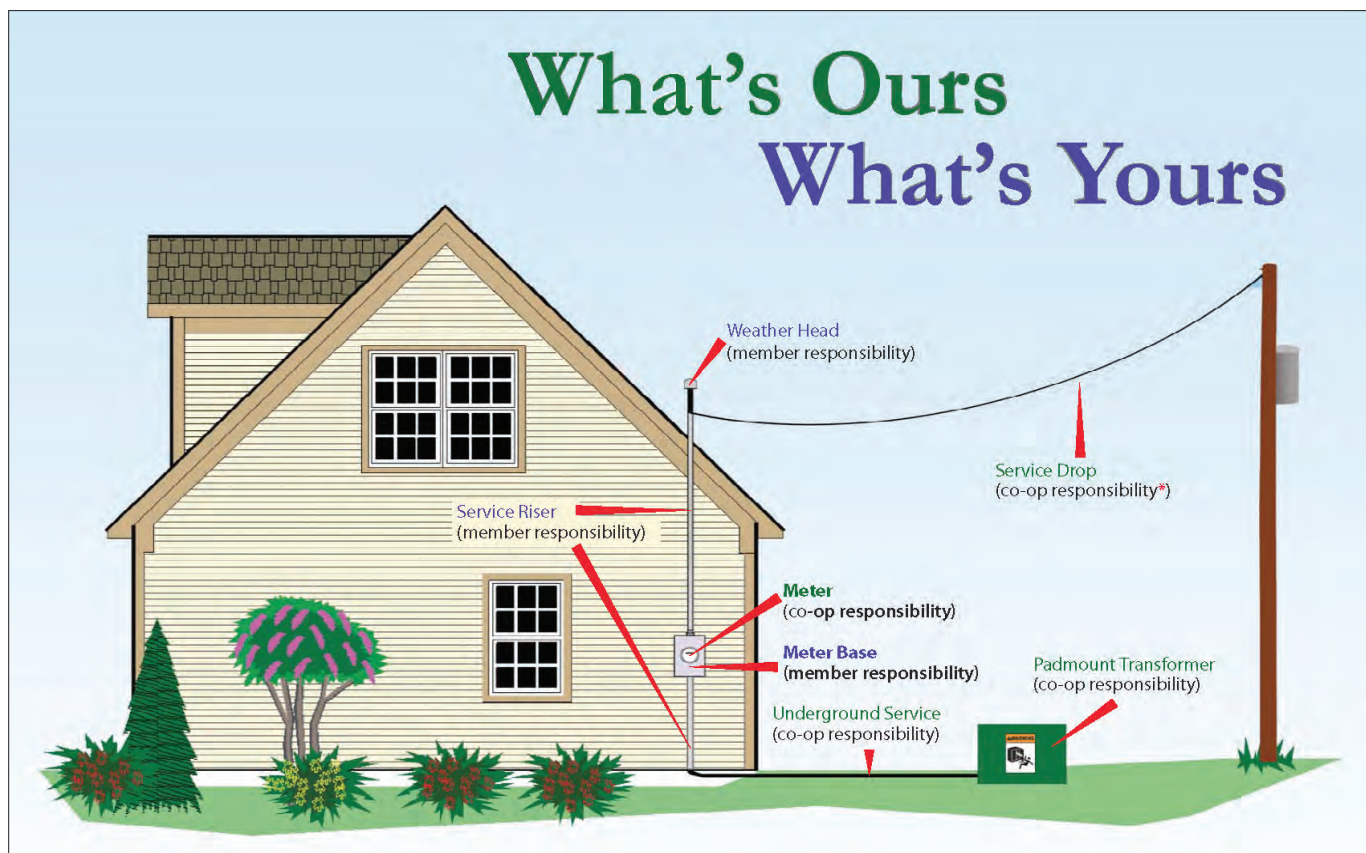
You can use your card at 60,000+ pharmacies nationwide to get discounts on your prescription medicine. We have also set up money savings discounts at a growing number of local businesses throughout CCEC's service area. From automotive to dining we've got you covered.

Where is a list of all of the participating businesses?

Visit the Co-op Connections app to see all of the local and national deals, and to shop online. You can also see a complete listing at connections.coop.



What's Ours What's Yours



Your property is served by either an overhead service drop or underground service. This shows both. Co-op members are responsible for keeping the service drop free of limbs and vines. Use qualified tree trimmers to safely prune vegetation.

Electric Meter Equipment: What's Yours, What's CCEC's

When your electric service was installed—whether it was a few years ago or decades have passed—it had to meet specific requirements for safety and code.

We maintain our homes for comfort and curbside appeal, but we often forget about maintaining our electric service equipment and the area around it.

Weather and the coastal environment can wreak havoc on some equipment, causing once-safe electrical services to become a hazard. When working with our members to correct hazards, we find some confusion about what the homeowner is required to maintain and what Coos-Curry Electric is responsible for.

Each year, CCEC puts a plan in place to audit equipment and make necessary maintenance and repairs that will help ensure the safety and reliability of your electric service. While doing so, we may come across safety and service condition

concerns that require immediate action by you, the homeowner, to repair the unsafe condition. For example, a rusted meter base exposing electrical wiring is unsafe.

While CCEC provides your meter and delivery of electricity to the meter via an overhead service drop or underground service from the transformer, the meter pedestal, meter base, weather head and service riser are the consumer's obligation.

It is also important you maintain adequate access to your meter by trimming and clearing trees and brush that may be a hazard or impair accessibility. Never build around or stack items or equipment that limit CCEC's ability to properly access and maintain electrical facilities.

If you have questions about your service equipment or accessibility, call CCEC at (541) 332-3931.

Working with electricity is dangerous.



A rusted meter base is a safety hazard and should be repaired by the homeowner.

In most instances repairs will need to be done by a certified electrician, with coordination of repairs between CCEC and the electrician.

Depending on the type of repairs necessary, utility service may not be re-energized until the repairs have been inspected and approved by the state electrical inspector. ■



CVEA Begins Automated Meter Infrastructure (AMI) Deployment



Copper Valley Electric Association will install new, automated meters over the next two years to increase the efficiency and reliability of the electric system in CVEA's service territory. Improving the efficiency of both operations and electricity delivery within the existing electric distribution system can help keep down costs for members.

The biggest change? The new automated meters will enable the Cooperative to perform several functions remotely, such as reading meters and reconnecting power. Remote meter reading will save time, labor and money. In fact, the metering system is expected to pay for itself within eight years.

In addition to reducing operational costs, the new meters, which can receive and send information to computers at the dispatch center at Solomon Gulch and to the Co-op headquarters, will help improve the reliability of the system.

The new technology allows CVEA to detect problems more quickly and to locate outages more precisely. In some cases, problems may be fixed before members even know their power has been out. The new meters will also report when power has been restored. CVEA will know if there are single member out-

ages without relying solely on a phone call from that member.

The new technology allows the team to monitor the electrical system in almost real-time. This information can be used to make the process of delivering power much more efficient. Members can also expect to experience fewer blinks, surges and spikes as a result of the upgrade.

The meters, which provide daily information about power use will help consumer-members understand how and when they are using electricity. Armed with this information, CVEA's customer service representatives will be better able to help members address unusual circumstances and billing inquiries.

According to Travis Million, CVEA COO, "The AMI project is very exciting for CVEA and the membership. Not only will this project save the co-op time, money, and improve the safety of our team, but the ability to identify and respond to outages in a much quicker and more tactical way will be very beneficial. I know the entire team is looking forward to utilizing the new tools that come with the AMI project to improve the reliability, safety, and cost for the membership."

Installation began in the Valdez District on July 16, and is expected to continue through September. Once complete, crews will begin installing the new meters in the Copper Basin, starting with areas that take crews the longest to reach and are the most difficult to investigate during the winter months. The majority of the Copper Basin District will be deployed in 2019.

It is important to note that members whose meters are changed out will see this reflected on their bill; possibly as early as the August billing, but will be determined based on the date of each member's installation. The bill will reflect separate kWh usage for the original meter and the new meter. The original meter usage will be designated as a 'meter exchange' line item on the bill, and the usage from the new meter can be seen under the 'current read' heading of the bill.

An example of a sample bill can be seen on page 5 of this article. In this case, the original meter used 192 kWh and the new meter used 277 kWh. The total of these two meters is 469 kWh, which is the total billed amount. After the initial meter exchange, member bills will return to normal, no longer recording usage from the old meter.

CVEA will continue to provide status reports via *Ruralite Magazine*, cvea.org, and CVEA's Facebook page. For questions, view the Q&A at cvea.org or contact Sharon Crisp at 907-822-5506, 907-835-7005, or email crisp@cvea.org.

ss	Service From	Service To	No. of Days	Billing Date
TON HWY	08/22/2017	9 /11/ 2017	11	9 /20/ 2017
d	Current Read	Mult.	KWh Usage	Past Due Date
	277	1.0	277	10/15/2017
CURRENT BILL INFORMATION				
Customer Charge				12.00
Meter Exchange	2735	2927	192 kWh	32.83
	469 kWh @ 0.0700	=	32.83	
G&T Charge		0.1153/ kWh		54.08
Total Due				98.91



After the installation, you can expect.....

Increased efficiency

Operating more efficiently helps us keep costs down for members.

- With data from the meters coming directly into the offices, CVEA will be able to **read your meter remotely**. Remote meter reading and remote reconnects mean the Co-op eliminates the labor and transportation costs of in-person meter reading - a savings passed on to the members.
- Older systems are less efficient at distributing power. Now, information coming from the new meters will allow CVEA to monitor the system in near real-time and **correct problems and inefficiencies**.
- New system allows for **optimum dispatch** of CVEA crews.
- **Improved safety** from reduced patrolling and quicker fault isolation times during extreme weather improves safety and leads to fewer potential accidents.

Increased reliability

New tools for diagnosing problems and disruptions help us improve reliability for members.

- More advanced and detailed information about what is happening in the field will produce **faster outage response time**. The new meters can pinpoint the exact location of outages and disturbances more quickly.
- With more data we can also **improve power quality** by reducing the number of spikes, blinks and surges.
- More data enables us to provide **more accurate information** about outages and restoration times.

New tools to help keep electric bills affordable

- New meters mean more information about power consumption patterns, outage and blink count history, and voltage information, **improving CVEA's ability to troubleshoot and diagnose problems** leading to high energy bills.
- **Improved billing accuracy** by eliminating misreads or inaccurate readings.

Future Benefits

- Future program that will allow members to prepay their bill.
- Enhancements to SmartHub graphs for members bills.

Something New to Help Serve You Better



Nushagak Expanding Power Production

By Bob Armstrong
Electric Operations Manager

The power plant has been expanded several times since Nushagak Cooperative was formed in 1964. The last upgrade was 12 years ago. Some of the equipment has been in service for a lot longer than that.

Although we have had little growth in

population, fish processing has increased. At this time, there are some members we do not provide energy to because we do not have the generation.

In June, we began expanding the power plant in Dillingham to give us the capacity to provide energy to everyone in Nushagak's service area. The existing seven individual engine and generator sets in the power plant are approaching

the end of their expected service use. Because of this, and the need for more capacity, we are adding 4.5 megawatts of generation to the existing plant.

This not only will give us the ability to serve more demand for fish processing, it will allow us to extend the life of the existing gen-sets. Adding more generation allows us to rotate the load not only with existing gen-sets, but new ones,



Bob Armstrong inspects equipment in the Nushagak Cooperative power plant. If the Nuyakuk Falls project is successful, load would mostly be shifted to hydro generation.

Photo by Mike Teegarden

which will extend the life of all them.

The expansion will be ongoing through the winter and completed in the spring, ready for service by June 2019. We will add switchgear—used to direct the flow of electricity—and change out existing switchgear as it has reached the end of its service life.

This will put the power

plant on solid ground for years to come, until we need more generation.

Growth will cause us to increase generating capacity. Even though it creates challenges, growth helps us as a community.

Every community's standard of living is directly related to the cost and availability of energy. As a

cooperative, we are working hard to bring down the cost and increase the availability. This is what all cooperatives try to do for their members in the rural areas of the country.

We have a much higher cost of operation compared to most cooperatives because of our remote location—even more remote than the most rural areas in the rest of the country. The fact we generate with diesel fuel makes it even more costly. Your cost of energy is directly related to the cost of diesel fuel, which we, as a cooperative, cannot control.

Even though the operational cost of diesel generation is higher than most other forms of energy production, diesel is the most economical and timely option for now.

Hydro Update

As promised, this is the first of many updates. We have received a preliminary Federal Energy Regulatory Commission permit and the special use permit from the state parks. This allows us to start on some of the environmental studies this fall.

Mandated environmental studies are time consuming and expensive. Prior studies and data collected on the Nuyakuk Falls and the project

area will help bring down the cost. We will continue to search for existing data as we collect more through the studies we are doing.

As of July 4, peak flow of the Nuyakuk was 23,200 cubic feet a second. This is six times more than what we need to produce all of our energy needs. Using one-sixth of this flow will provide energy to Nushagak members and the upriver villages of Koliganek, New Stuyahok, Ekwok and Levelock.

It is important for us to determine the amount of flow we can safely divert to get the energy we need while having a minimal effect on the environment. We are producing energy with 100 percent diesel, which has an effect on the environment in several ways. With the effect on the environment always the first concern, responsibly developing hydro at the Nuyakuk Falls will be a much better answer to our energy needs.

This is why we are going through the study process and will work with FERC, state parks, fish and game and other stakeholders to make sure we can provide a safe, renewable and economical source of energy for generations to come. ■

Ohop Mutual

Ruralite

AUGUST 2018



Josey Howard began riding when she was 9 years old. A state champion, she will compete at the national level in Wyoming.

PHOTO BY KAYCEE BURRINGTON



High school freshman Josey Howard says she enjoys the competition of cow cutting and is always trying to improve.

Photos by Kaycee Burrington

State Champion Cow Cutter Heads to Nationals

Josey Howard of McKenna is on her way to Wyoming to compete in the Girls National Cow Cutting Competition

By Caleb Flowers

In the world of cutting horses, horse and rider must work together as a team. This is something Josey Howard has gotten down to an exact science.

Cow cutting starts with one horse and rider in the ring with a herd of cattle. The objective is to separate one cow from the group and keep it away from the herd for a given period of time.

The pair must “cut” the cow—prevent it from getting back to the group by blocking the cow’s attempts to get around them.

The horse-and-rider team is judged on several factors, including how many

cows are cut during the run and how well the rider keeps his or her hands lowered—causing the horse to do the back and forth cutting. The cow’s speed is even a factor.

Josey comes from a family of cutting horses, riders and rodeoers, and she has been riding horses since before she could walk. Her grandfather, Jeff Sleeman, and her uncle, Josh Sleeman, have been instrumental to the sport for many years now. Both are cutting horse trainers and compete in the sport.

Prior to last winter, Josey had other horses she enjoyed working and winning with, but in November 2017 a new horse, Bob, came into the picture.



Left, cow cutting is judged by how many cows a horse-and-rider team can separate, or cut, from the herd, and how long they stay separated. Above, Josey began working with Bob in November 2017. The pair won first place at Washington State High School Rodeo Association's Girls Cow Cutting event.

Above photo courtesy of Josey Howard

She spent the entire winter and spring learning and training with her new teammate who she affectionately calls “Bob the Horse.” She says it was a challenge to learn Bob and get him ready to compete in this year’s competitions, but to say they figured it out is an understatement.

Josey won first place in the Washington State High School Rodeo Association’s Girls Cow Cutting event, an accomplishment she says she is very proud of.

While cow cutting is the family’s forte, all things rodeo are significant to them. Josey’s great-grandparents run the Roy Rodeo, and she is looking to train and compete in other events such as cattle roping.

Josey is a freshman at Yelom High School, excels in areas outside of the rodeo as well. She has a 4.0 GPA and is active in school clubs. She is working to hone other life skills, such as leadership and public speaking.

Her real specialty is cow cutting, and she has been showing in these

competitions since age 9.

She thinks she has ridden in about 40 or 50 competitions. She competes in the Cascade Cow Cutters series—a division of the National Cutting Horse Association—and the Washington State High School Rodeo Association.

She has competed across the state and as far as Utah and Montana. This summer, Josey competed at the National Championship in Rock Springs, Wyoming.

After working with horses for so many years, Josey says it is rewarding to see this much progress.

“The horses are so smart and intelligent,” Josey says, adding she appreciates what a horse can do and understand. “Making the horse a winner is one of the best parts, too.”

One of Josey’s favorite parts about cow cutting is how the horse instinctively knows what to do, and she says it’s always fun to compete. She is admittedly very competitive when it comes to putting up the best scores.

Josey compares cow cutting to the

sports of golf and tennis, individual sports in which the athlete competes against herself or himself as much as anyone else. And she’s always trying to improve.

Josey says she can tell before another rider even shows in an event whether they have what it takes.

“You can tell if a rider is a good one just by their gear and their positioning,” she says. “An experienced rider always has a horse that’s well taken care of, too.”

Together, Josey and Bob fit the bill.

She finished second place in last year’s Cascade Series before winning first place in this year’s state high school competition. She has added trophies, bridles and buckles to her awards.

Josey would like to thank her grandfather, Jeff, her mother and personal manager Jaelyn, and Bob’s owners, Duane and Jane Roundree. ■

Follow Josey Howard’s progress as she competes at the national level by visiting Jeff Sleeman Cutting Horses at www.jeffsleemancuttinghorses.com or on Facebook.



MORE THAN POWER. A CONNECTION.

Moving is hard. You land in a new neighborhood, surrounded by boxes while trying to connect basic services. When I contacted LMUD to turn power on, they surprised me. Getting service was easy, but I also learned I'm not alone. I'm connected to a public power utility, owned by my neighbors. What is best for me is best for my utility. LMUD's energy experts also gave me advice on managing my energy use, answered questions about how to add renewable energy to my new home, and armed me with ways to boost my energy IQ. When I moved here, I found more than power. I found a local connection.

We are public power.
We are MORE POWERFUL TOGETHER.

New to the area? Learn how you and LMUD are
#MorePowerfulTogether at www.lmud.org.



Help Your Child Succeed in School

Developing a love of reading early pays dividends later in life

Parents want their children to grow up to become well-adjusted, happy and successful adults. Most know that for their children to be successful, they need a good education.

Studies show children do better in school if their parents are involved in their education.

Although small children are inquisitive and eager to learn, they need encouragement and reinforcement to start them off and keep them going in the right direction in school.

Good reading skills are necessary for success. Here are some tips to help your child develop good study habits and a lifetime love of learning.

- Start early by instilling a love for learning. Read to preschool children every day. It arouses their natural curiosity about the world around them and encourages them to want to learn to read for themselves.
- Provide books and supplies. Give your children the tools they need to improve their reading and to do projects.



Reading helps children develop a lifelong love of learning.

- Work out a schedule. Decide how much time should be set aside for homework. Establish a routine.
- Help your children get organized. Using a calendar gives students a sense of accomplishment.
- Designate a quiet, comfortable place for studying. Study in the same place every day, away from distractions.
- Provide reinforcement. Praise your children for working hard and completing assignments.
- Talk with your children about what is going on in the world around them. Encourage new ideas and interests.
- Set an example for them. Parents are, after all, the most important teachers in a child's life. ■



Drivers Should Watch for Back-to-School Kids

On average, 26 children in the United States are killed every year while getting on or off a school bus, or while waiting at the bus stop. To avoid such tragedies, drivers are reminded to:

- ▶ Carefully back out of driveways. Watch for children walking to the bus stop.
- ▶ Slow down. Watch for children walking in the street and playing or congregating near bus stops—especially in the early morning hours, when it may still be dark.
- ▶ Be alert. Children arriving late for the bus may dart into the street without looking.
- ▶ Obey the law. Yellow flashing lights on a bus mean motorists should slow down and prepare to stop. Red flashing lights mean motorists must stop their cars and wait until the red lights stop flashing, the extended stop sign is withdrawn and the bus starts moving again. Unless there is a median, oncoming traffic also must stop.

Thunder Rolls ... and the Lights Go Out

EREC linemen respond to outages any time of the day, every day of the week

It's 9:50 p.m., and you're lying in bed watching television before drifting off to sleep. The rain and rolling thunder outside have just about lulled you into dreamland when your power blinks one ... two ... three times ... and it's off.

What happens now? In our hypothetical outage, you make your way in the dark to the kitchen, where your glow-in-the-dark Escambia River Electric Cooperative magnet on the refrigerator is illuminated enough for you to read the outage number. You call 1-877-OUT-EREC and follow the voice prompts.

Your call goes into the dispatch center. Your name and address appear immediately on the computer screen: ### County Road 399 in Jay, Florida. This address receives power from the Wye-Junction Substation. You assume the evening's thunderstorm is the culprit for your home being left in the dark. You reported the outage. Your job is done.

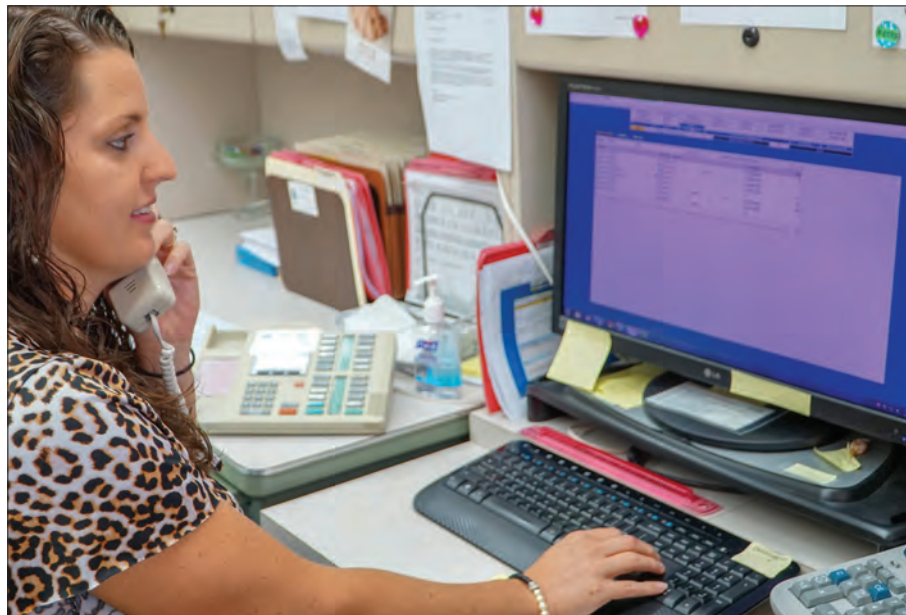
Here is the sequence of events EREC takes to restore your power as quickly and safely as possible.

EREC's Outage Management System rapidly gathers and compares data from automatic meter signals and incoming calls to provide precise outage details to the dispatch center. The dispatcher contacts the on-call EREC crew to make repairs.

Since the two-person crew is assigned emergency duty for the evening, each has driven home an EREC truck loaded with the equipment and supplies necessary to repair a typical outage. When dispatch calls, the workers leave their homes and head to the outage site. There is no need to stop at the EREC facility.

The crew investigates the reason for the power failure. Dispatch center personnel has reported other houses on that street and an adjacent street are experiencing outages, too. The crew determines the cause is an oil reclosure breaker failure in the Wye-Junction Substation due to a lightning strike.

The two-person crew repairs the damage and contacts the dispatch center, reporting that power has been restored. Dispatch center personnel calls back each member who reported



Although EREC meters automatically report power outages to the dispatch center through the Outage Management System, members are nonetheless asked to call in all power outages in case the meter signal is obstructed.



EREC linemen are assigned emergency call duty each evening. In the event of a major outage, everyone is available to be called out to restore power.

an outage to make sure power is on. A member has the option to decline a return call when reporting a power outage.

This is what happens during a typical power restoration. There are many reasons why your power can go out. In situations with more damage, additional EREC crews will be called out. If damage is extensive, crews from other cooperatives will assist.

Rest assured EREC will be there to restore your power as quickly and safely as possible. In the dead of night, in the middle of terrible storms or whatever the case may be, EREC crews do what it takes to get the lights back on. ■

Keep It Safe

Know What to Do After Storms

Severe thunderstorms, tornadoes, hurricanes and flooding can leave more than damage in their wake. They can leave hidden dangers, too.

In some cases, more lives are lost after the storm than from the storm itself.

When dealing with storm cleanup or flood-damaged property, the prospect of an electrical accident is probably not at the top of your mind. But it is the first thing you should think about before you go outside, step foot into a flooded area or enter a storm-damaged building.

When outside, stay away from downed power lines and be alert to the possibility tree limbs or debris may hide electrical hazards. Treat all downed or hanging power lines as if they are energized.

Lines do not have to be arcing or sparking to be live. Warn others to stay away, and call 911 and Escambia River Electric Cooperative.

Do not touch downed power lines, or objects or puddles of water in contact with those lines. There is no way to know if they are energized. Encountering these objects can be as hazardous as coming into contact with a downed power line itself.

Safe Electricity offers these additional precautions following storms:

- If you are driving and come upon a downed power line, stay in your vehicle, warn others to stay away, and contact 911 and EREC. Never drive over a downed line. Not only could it be energized, but driving over the line could pull down poles and other items in its path.
- Be alert at intersections where traffic lights may be out. Stop at all railroad



crossings, and treat road intersections with traffic signals as four-way stops before proceeding with caution.

- Before re-entering storm-damaged buildings or rooms, make sure all electric and gas services are turned off. Never attempt to turn off power at the breaker box if you must stand in water to do so. If you cannot reach your breaker box safely, call EREC to shut off power at the meter.

- Never step into a flooded basement or other area if water is covering electrical outlets, appliances or cords. Be alert to any electrical equipment that could be energized and in contact with water. Never touch electrical appliances, cords or wires

while you are wet or standing in water.

- Keep electric tools and equipment at least 10 feet away from wet surfaces. Do not use electric yard tools if it is raining or the ground is wet.

- Electric motors in appliances that have been drenched or submerged should be thoroughly cleaned and reconditioned before they are put back into service. It may be necessary to replace them. Do not use any water-damaged appliance until a professional has checked it out.

- If power to your home is out for a prolonged period after a storm or disaster, know important safety rules, such as never using a charcoal or gas grill to cook inside.



Storms leave behind hazards, such as downed power lines. Be aware of your surroundings.

- If you use a portable generator, make sure a transfer safety switch has been installed, or connect appliances directly to the generator. This prevents electricity from traveling back through the home to power lines—what is known as backfeed. Backfeed creates a danger for anyone near lines, particularly crews working to restore power. ■

Safe Electricity is the outreach program of the Energy Education Council, a nonprofit organization with more than 400 electric co-op members and others who share the mission of educating the public about electrical safety and energy efficiency.

Use Energy Wisely

Turn the Lights Out!

Automatic controls can help you keep your home's indoor and outdoor lighting costs in check

Whether you struggle to get your children to turn off lights when they leave a room or you need a better outdoor lighting scheme, automatic controls could be a cost-effective solution.

No matter the type of lighting you use, the most important thing to remember for any lighting control is to use a type of bulb that does not need to warm up.

All bulbs for residential use now on the market will work: incandescents, compact fluorescent lamps and light-emitting diodes.

Outdoors

If you already have or are thinking about installing an outdoor security light, consider combining it with a photosensor to keep it from burning all day. If you do not want continuous light, a motion sensor goes one step further.

Timers commonly are used for aesthetic or holiday lighting—sometimes in conjunction with a photosensor, so they turn on at dusk and off at a designated time.

Indoors

Occupancy sensors are helpful indoors, as long as they are positioned to detect people in any corner of the room.

They are also good as task lighting—above places like a desk or kitchen sink—so you get the extra light you need while working, but don't forget and leave it on all night.

There are two types of occupancy sensors: ultrasonic and infrared. Ultrasonic sensors detect sound. Infrared sensors detect heat and motion.

Timers make an empty home look occupied. However, if kids are running

in and out, timers are not as effective as occupancy sensors. Plug timers into a wall outlet or install them in the wall, like a lightswitch or thermostat. New varieties are digital.

Photosensors generally are best outdoors, but new applications have found them to be useful for LED night lights. When an overhead light is on, the night light shuts off automatically. ■

For more home energy-efficiency ideas, visit www.erec.com or www.energysavers.gov.



If forgetting to turn off the lights is a common occurrence in your home, try automatic lighting controls to control lighting costs.



How High Temps Impact Cooling Cost

For every degree the outdoor temperature rises above your indoor setting, your A/C will use approximately 5% more electricity.

As summer temperatures soar and we crank down the air conditioning to beat the heat, our cooling systems are consuming more electricity. To save on cooling costs raise your thermostat to raise your savings.

For every degree the outdoor temperature rises above your indoor temperature setting, your A/C will use approximately 5 percent more electricity. For example, if your thermostat is set at 78 degrees and the outdoor temperature rises from 85 to 88 degrees your cooling cost will increase 15 percent.

To save on cooling cost, try to keep your temperature set as close to the outdoor temperature as you can and use other methods like fans to augment cooling. When you leave to go to work or will be gone for over 6 hours this is a good time to set your thermostat higher and save on your electric bill. It is true that when you return home your AC system will run longer to bring the temperature back down to your “at home” setting. However, this is less energy than what your cooling system would use to keep your home’s temperature 6 degrees cooler for an entire 6-plus hours. That extra 6 degrees of cooling can add 36 percent more to your energy usage (6 percent more for every extra 1 degree of cooling).

To further lower your cooling cost use a programmable thermostat, and if you have a smart thermostat, you can get more options and data on how to manage temperature settings more efficiently.

How to Operate Your Cooling System Efficiently

- In our area, the average home’s air conditioning system accounts for 50% OR MORE of the monthly electric bill. Reduce cooling cost by:
- Clean and replace AC filters once a month
- Shade your outdoor air conditioning unit without blocking air flow
- Use and set a programmable thermostat, which could save up to 10% on your annual cooling cost. Or even better, implement a smart thermostat. Smart thermostats with Wi-Fi capability can even be programmed from your mobile device giving you more control over your cooling system.
- Check your AC drain line. When your cooling system is operating excess moisture gets drained. The drain line should periodically be checked to make sure there are no blockages.
- Get a tune-up. This time of year when we run our cooling systems for long periods it is important to have your unit tuned up by a professional.

OUTDOOR
TEMP

90°

10° difference =
50% increase in
cooling cost

80°

2° difference =
10% increase in
cooling cost

78°

INDOOR
TEMP

Tips to Staying Cool this Summer

As we reach peak summer temperatures some of us will take to the refreshing blue waters surrounding us to cool off. But when you're on land there are also ways to keep your cool.

Prevent Heat Gain: Preventing heat buildup in your home is the most cost-effective cooling strategy. Highly reflective windows can reduce heat gain by around 45%, while medium-colored draperies with white-plastic-backed drapes can reduce heat gain by 33%. Exterior shades made of a variety of materials including fabric, wood or vinyl are most effective at reducing heat gain on windows receiving direct sunlight.

Avoid Heat Producing Activities: Avoid adding more to your home's cooling load by waiting until evening (after 7 pm) to use appliances such as ovens, stovetops, dishwashers, clothes washers and dryers. Consider using microwaves or grilling outside to further reduce heat produced from cooking.

Fight Against Humidity: When you shower or bathe, use ventilation fans to blow all that moist, humid air outdoors. Don't leave these fans running for too long. Most residential vent fans can clear a bathroom of steam in ten minutes.



FKEC Member John Cullen snorkels in the waters of the Atlantic Ocean off of Key Largo.



FKEC Outdoor Lighting Q&A



Problem with an Outdoor Light?

If you are aware of an inoperative or malfunctioning outdoor light operated by FKEC, please call the Co-op at 305-852-2431 or 800-858-8845 to report it. Printed in compliance with Florida Statute 768.1382.

When reporting the problem, please have the following information available:

- The specific street address where the light is located.
- A description of where the light is located on the property.
- A description of the problem.
- Your contact information including name, address and telephone number.

Where Can FKEC Install Outdoor Lights?

Outdoor lights provided by FKEC can be installed on existing FKEC distribution poles only and cannot be installed on meter poles. Also, not all poles are capable of a light installation. Co-op engineering personnel survey sites to determine if a new fixture can be installed.

How Do I Request an Outdoor Light?

Any Member can request an LED outdoor light by calling FKEC at 305-852-2431 or by visiting www.fkec.com/AccessAct/outdoor-lighting.cfm and filling out an "FKEC Outdoor Lighting Agreement." The requesting FKEC member is responsible for the monthly cost of the lighting service.

When will the Light Operate?

Outdoor lights installed by FKEC operate from approximately dusk to dawn each day. These lights are controlled by photocells and turn on based on the amount of natural light detected.

Can I Take Over Payment of an Existing Outdoor Light?

Yes. If you are a new homeowner and want to maintain the outdoor light requested by the previous owner, or if a neighbor has decided to stop payment for a light you may take over the billing responsibilities.

Call FKEC at 852-2431 or visit www.fkec.com/AccessAct/outdoor-lighting.cfm to file an "FKEC Outdoor Lighting Agreement."

Does FKEC Maintain the Light?

FKEC will repair or replace any malfunctioning light. However, it is the sole responsibility of the member to notify the Co-op when repairs are needed.

For more information about outdoor lighting call 305-852-2431 or visit www.FKEC.com/AccessAct/outdoor-lighting.cfm. Note, FKEC reserves the right to remove outdoor lighting if a resolution cannot be reached when a neighbor disputes the light.

For more information about outdoor lighting call 305-852-2431 or visit www.FKEC.com/AccessAct/outdoor-lighting.cfm

Turn Lights Off to Protect Turtle Nesting

During sea turtle nesting season from April 15 to October 31, FKEC works with the Save-A-Turtle organization to prevent turtles and hatchlings from being disoriented by artificial light. Lighting on beaches or canals where eggs are laid can confuse mother turtles and their hatchlings because they navigate by moonlight. In compliance with state and local regulations, the Co-op disconnects FKEC provided outdoor lights in known turtle nesting areas during nesting season. FKEC works with Save-A-Turtle, Florida Fish and Wildlife Conservation Commission, and local authorities to determine if a light poses a threat.

For more information about approved wildlife friendly lighting and other tips, visit www.myfwc.com.



Latest in Smart Home Technologies

Futuristic home operation becoming a reality, thanks to mobile app development

By Tom Tate

Today's smart home has blossomed to near Jetson-esque capabilities. Fueled by the near ubiquitous availability of wireless technology and the growth of the Internet of Things, applications for home automation are racing ahead.

Smart home gadgets and technologies continue to evolve, but the mobile app seems to be taking the lead. Let's catch up with the advances in some key areas.

Smart thermostats deserve top billing. They were truly the first smart device to become mainstream. Product choices abound, with smart options for baseboard electric being developed. The focus remains solidly on convenience, energy savings and peace of mind.

Geofencing is one of the best enhancements in this category. Link your smart thermostat to your smartphone, set a radius around your domicile, and whenever you cross that boundary your thermostat goes into away or return mode, depending on which way you are heading.

Smart security is surging. Smart door locks were the first entrants in this category. More recently, video doorbells have entered the fray so you can see who is at the door from anywhere in the world. Very slick.

Wireless cameras have dropped in price, allowing you to canvas your home and property to keep an eye on things anywhere. Get an alert? Open the app and find out what is going on at home.

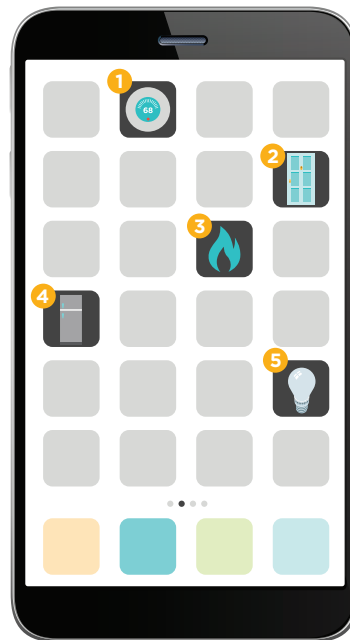
Smart smoke and carbon monoxide sensors are key in the safety sector, with the capability of sending alerts to your phone, allowing remote status checks and silencing alarms from the app—all without sacrificing that awful, ear-splitting alert we have come to love.

Smart appliances are slowly grinding forward. Refrigerators with cameras allow you to check for needed items while at the grocery store, and dryers sense when electric use is highest and turn off. Talk about demand response! Even HVAC systems—including window air conditioners—sport mobile apps these days.

There is not a huge amount of automation for stoves and cooktops. Controlling this appliance remotely seems too dangerous unless the feature is to turn it off. In that case, chalk up another one for peace of mind by resolving that nagging

SMART HOME TECH APPS

Smart home technologies are continuously improving, but their companion mobile apps are taking convenience to a new level. Here are some of the latest app functionalities.



- 1 Smart Thermostat Apps:** Geofencing is a great enhancement for smart thermostat apps. Set a boundary with your smartphone and when you leave the boundary, the thermostat switches to away or return mode.
- 2 Smart Security Apps:** Video doorbells are becoming increasingly popular, allowing consumers to keep an eye from anywhere. Smart security apps send alerts to signal activity outside your home, giving you peace of mind.
- 3 Smart Smoke and Carbon Monoxide Sensor Apps:** These apps send alerts, conduct status checks and silence alarms, even when you are away.
- 4 Smart Appliance Apps:** App functionality depends on the appliance. Refrigerator cameras allow you to see what needs to be stocked (while you are grocery shopping!). A smart dryer can sense when electric use is high and turn itself off.
- 5 Smart Lighting Apps:** Control lighting options for individual rooms, adjust brightness and color, or create lighting scenes based on mood, all from the convenience of your smartphone.



vacation worry, "Did I turn off the stove?"

Smart lighting seems to have become a convergence of mood, efficiency, convenience and security. This is where a smart hub and its software might make sense. Setting up a coordinated lighting schedule is easier from a single interface. Create "scenes" for individual rooms or for the entire house. For security, grab a scene that gives your castle a lived-in look.

Perhaps the coolest new entrants are voice-controlled assistants. These are receiving a lot of attention and, depending on the capabilities they are given, have the potential to command everything via voice, freeing you from the tedium of opening an app to control something.

The smart home circa 2018 is a lot closer to the cartoon vision of the Jetsons. With the ease of installation, programming and use enabled by wireless technology and smartphone apps, anyone not already engaged with smart home tech should consider dipping a toe in the water. ■