January 2020 Share Package
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Ruralite/Currents magazine 2020 Schedule of Important Dates

February 2020 Issue

pages 1, 4-5 due .....Dec 23
pages 8, 25, 28-29 due .....Jan. 7
mailing labels due.....Jan. 9
page 32 due.....Jan. 15
camera-ready pages due .....Jan. 16

March 2020 Issue

pages 1, 4-5 due .....Jan. 24
pages 8, 25, 28-29 due .....Feb. 7
mailing labels due.....Feb. 10
page 32 due.....Feb. 14
camera-ready pages due .....Feb. 18

April 2020 Issue

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mailing labels due.....March 9
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May 2020 Issue

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June 2020 Issue

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July 2020 **Issue**

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page 32 due.....June 15
camera-ready pages due .....June 16

This schedule is only applicable to Ruralite/Currents.

Winter Warming 101

Don't let winter weather and thermostat confusion ruin your winter. Learn to control costs and maintain comfort.

QUESTION: Should I set my thermostat lower during winter? If so, how low and for how long?

ANSWER: It is a common myth that it takes as much energy to reheat a house—in the morning for example—as was saved during the temperature setback period overnight. The amount of heat a house loses through its walls, ceilings and floors is directly proportional to the difference between the indoor and the outdoor temperatures. Air leakage into and out of your house also increases with larger temperature differences.

When the indoor temperature is set lower, the indoor-to-outdoor temperature difference is smaller so less heat is lost from your house. If less heat is lost from your house, your furnace has to use less gas, oil or electricity to create the heat to replace it. The amount of heat used to reheat the house, therefore, is less than the amount saved over the temperature setback period. During the summer, the same concept applies when air-conditioning.

It saves energy overall if you lower the temperature setting on your central furnace or heat pump thermostat. The dollar amount you can save depends primarily on how low you set the thermostat, how long you have it set back and, to a lesser degree, your climate.

The only time a temperature setback may not be wise is if you have a heat pump with backup electric resistance heat and an old standard thermostat. When it is time to reheat the house and you set the thermostat higher again, the expensive backup electric resistance heater may come on. However, for a long eight-hour setback, you will likely still save overall. That is not true for a short couple-hour setback.

If you use a heat pump, install a setback thermostat specifically designed for heat pumps. These have electronic circuitry to keep the backup resistance heating elements off after the setback period.

There is not a "best" thermostat setting for all homes and climates. The lower you set it, the greater the overall savings. The amount of savings per degree for each nighttime eight-hour setback period ranges from 1% to 3%. Since many people are also gone working during the daytime, the temperature can be set lower for about 16 hours a day. Unless there are some health problems in your family, 62 F is typically comfortable if you are wearing long sleeves or a sweater.

Selecting proper temperatures throughout the day and night can be a bit confusing. You want to balance comfort with energy savings. It is surprising how comfortable you can be at a lower indoor temperature once you become accustomed to it.

In moderate climates, let your comfort dictate how low you initially set the furnace or heat pump thermostat. As you get used to the lower temperatures and wear a sweater, you will be able to gradually lower it more. In colder climates, excessive window condensation often limits how low the indoor temperature can be set. To set the temperature lower, you will have to reduce the indoor humidity level.

When selecting a new programmable thermostat for setback, choose one that lets you control it from your cellphone or tablet. Schedules can deviate, so you may want to change the setback times and temperatures remotely. For maximum savings and comfort, install a thermostat capable of setting different temperatures in different rooms along with a duct zoning system. ■

For more information or to ask a question about energy savings, go to www.dulley.com.

Keep Pets and Energy Bills Comfortable

We hope these answers are helpful as you work to save energy while caring for your furry friends.

Don't let winter weather and thermostat confusion ruin your winter. Learn to control costs and maintain comfort.

Will a pet door affect your energy bill?

Pet doors are convenient for pet owners and pets, but they can affect energy bills. A poorly made or improperly installed pet door will create unwanted drafts that increase energy bills and reduce the overall comfort level of your home. The wrong type of door also may be pushed open during high winds.

Consider installing a pet door certified by the Alliance to Save Energy, or one that has a double or triple flap. These types of pet doors can reduce energy loss and make life easier for you and your furry friends.

The best solution may be a high-quality electronic door that is activated by a chip on your pet's collar.

It's difficult to undo a pet door installation, so we suggest doing your homework before taking the leap. There may be other strategies that will give you and your pet some of the convenient benefits without the downsides.

How much hot and cold can your pup and tabby handle?

Cats and dogs can handle the cold better than humans. The U.S. Department of Agriculture, which regulates facilities that house cats and dogs, requires facilities to maintain temperatures above 50 F.

Some exceptions are allowed for breeds accustomed to the cold or if some form of insulation is provided for the animals. Your pet's tolerance really depends on their breed and coat thickness.

A report by the Purdue Center for Animal Science says Siberian huskies can tolerate temperatures below freezing, but some short-haired dogs require temperatures of 59 F or warmer. Older animals may require warmer temperatures than younger ones.

During summer, cats and dogs handle the heat in different ways. Cats clearly enjoy warmer temperatures more than dogs, and do a good job reducing their activity level as temperatures climb. But both cats and dogs can get overheated. The USDA says room temperatures in facilities housing dogs or cats should not exceed 85 F for more than four hours at a time.

Is it OK if your pet sleeps in the garage overnight?

USDA rules suggest this should be fine if your garage temperature stays between 50 F and 85 F. Pets might be able to handle a lower temperature if they have a warm, insulated bed.

I do not recommend heating or cooling your garage for your pet. This could lead to extremely high energy bills, which makes sense. An uninsulated, but heated, garage could easily cost more to heat than a home. A better solution is a heated pet house, which you can buy from multiple retailers. If you're willing to spend a little more, you can find climate-controlled pet houses that include heating and cooling options.

You can also buy heated beds for cats and dogs. Some beds use as little as 4 watts of electricity, so they won't drain your energy bill. ■

This column was co-written by Pat Keegan and Brad Thiessen of Collaborative Efficiency. For more energy tips, go to www.collaborativeefficiency.com/energytips.

Natural Light Saves Electricity, Improves Vision

Question: Are rectangular or tubular skylights better for more natural light and energy savings?

Answer: Although the amount of electricity used for lighting in a house is only a fraction of what is used for heating, cooling and water heating, it still constitutes a significant annual cost. Using more natural light instead of lightbulbs is not a difficult task.

If saving electricity is your primary concern, replacing all your lightbulbs with LEDs is a less expensive option than installing either a typical or tubular skylight. Although not as natural as true sunlight, higher temperature bulbs—rated at 4000+ degrees Kelvin—produce a more natural, whiter light. Bulbs with a high color rendition index make colors looks more realistic.

Most people's vision is better under natural lighting—even at a somewhat lower brightness level—than under typical artificial lighting. I can read a magazine easier by a window even on a cloudy day. Some businesses now use special lights that closely simulate natural light. They can reduce bulb wattages by more than 15% for big savings, and the workers cannot tell the light is dimmer.

A tubular skylight is generally a more efficient and less expensive choice than a traditional rectangular skylight. A traditional skylight provides more lighting and a view of the sky, but it creates a large hole in the insulation envelope of your roof and loses energy.

I installed a tubular skylight in my garage. It provides adequate light for most activities during the daytime. When there is a full moon, it produces enough light for me to walk to my car in the garage without switching on the light.

Tubular skylights are available in several diameters, depending on how much light you need and the space available. As a reference, a 10-inch-diameter model produces as much light as three 100-watt incandescent lightbulbs. A 14-inch model is equivalent to using five 100-watt bulbs.

If you are still using incandescent bulbs, the annual electricity savings from installing a large tubular skylight is about $90. If you typically use compact fluorescent bulbs or LEDs, the annual savings is about $20. This might not sound like a lot, but the tubular skylight should last for many years.

A tubular skylight requires no maintenance other than wiping off the glass or globe in the home. The dome on the roof should stay clean from the rain. It is not difficult to install one yourself, especially if you have an asphalt shingle roof.

A tubular skylight is installed on a shingle roof. Notice how the shingles fit over the flashing to eliminate leaks.

PHOTO BY SOLATUBE

Tubular skylights use a sheet metal tube that extends from above the roof to the ceiling below. The interior of the sheet metal has a reflective coating, so little brightness is lost as the sunlight bounces back and forth on its way down. A clear dome seals the top of the tube above the roof and a flat diffuser snaps over the bottom in the ceiling.

To control the brightness, optional dimmer flappers are available to reduce light intensity. These can be operated by an electric motor or a solar panel with a remote control. Another nice feature for bathrooms is a model that also works as an exhaust fan.

Most natural light comes in through windows. If you have relatively efficient windows, open the curtains or use just sheers during the daytime to allow light in. If you have old single-pane windows, use insulating shades. Opening them loses more energy than you save on lighting. Prune back shrubs that have grown up and block the window.

Placing decorative mirrors opposite windows can be effective. One method uses mirrors on opposite walls. This reflects light, and the repeating images in the mirrors add a sense of depth to the room. For a window near a corner, place the mirror on the adjacent wall close to the window. It will reflect the light out at 90 degrees from the window to brighten the entire room. ■

For more information or to ask a question about energy savings, go to www.dulley.com.

Where Does Your Power Come From?

By Paul Wesslund

We depend on electricity 24/7, but have you ever wondered how it's made, or where it comes from? To understand the basics of something so important to modern life, think about steam from a teakettle and those magnets stuck to your refrigerator door.

Magnetic metals in nature attract each other because parts of the atoms that make up the metals want to match up with others. Those restless atomic particles are called electrons—and that's where we get the word "electricity."

In the early 1800s, a scientist in England named Michael Faraday noticed that when he rotated a metal disk through the middle of a horseshoe-shaped magnet, he could get electrons to flow together in an electric current.

Engineers soon took over and made Faraday's process really complicated—and really useful. Today, nearly all of our electricity comes from turbines that spin a magnet inside a coil of wires.

One way to turn those turbines is by heating liquid into steam that forces the turbine to spin, using the same principle that makes a teakettle sing.

When you boil water on your stove, that liquid expands more than 1,000 times as it vaporizes. If you've ever had your hand burned near boiling water, you've felt the power that steam produces.

The use of heat to spin a turbine generates two-thirds of the nation's electricity from a pair of fossil fuels: coal and natural gas.

Another 20% comes from nuclear power, with hydroelectricity adding 7% and wind contributing 6.5%. Smaller amounts come from solar, biomass and geothermal.

Coal

Coal—which produces about a third of the nation's electricity—is dug from the ground, either near the surface or from deep underground mines. It is then shipped to power plants, often by train, and stored in large piles on the ground until it is crushed into small pieces or powder and burned in a furnace.

The heat from that combustion is used to turn liquid into steam in a furnace/boiler that spins the steam turbine/generator, producing electricity.

Large transformers at the plant boost the voltage of the electricity—lowering the current and minimizing line loss potential—for shipment across the country through tall transmission lines. As it gets closer to where it will be used, a substation of transformers reduces the voltage to a level that can be safely delivered to a smaller transformer on the utility pole or pad-mounted transformer in your yard, decreasing the voltage further for use in your home.

The furnace burns the coal up to 3,000 degrees F, and the steam it produces gets hotter than 1,000 degrees.

Coal contains harmful elements that are captured and removed through sophisticated pollution controls. That environmental equipment can cost as much as the power plant.

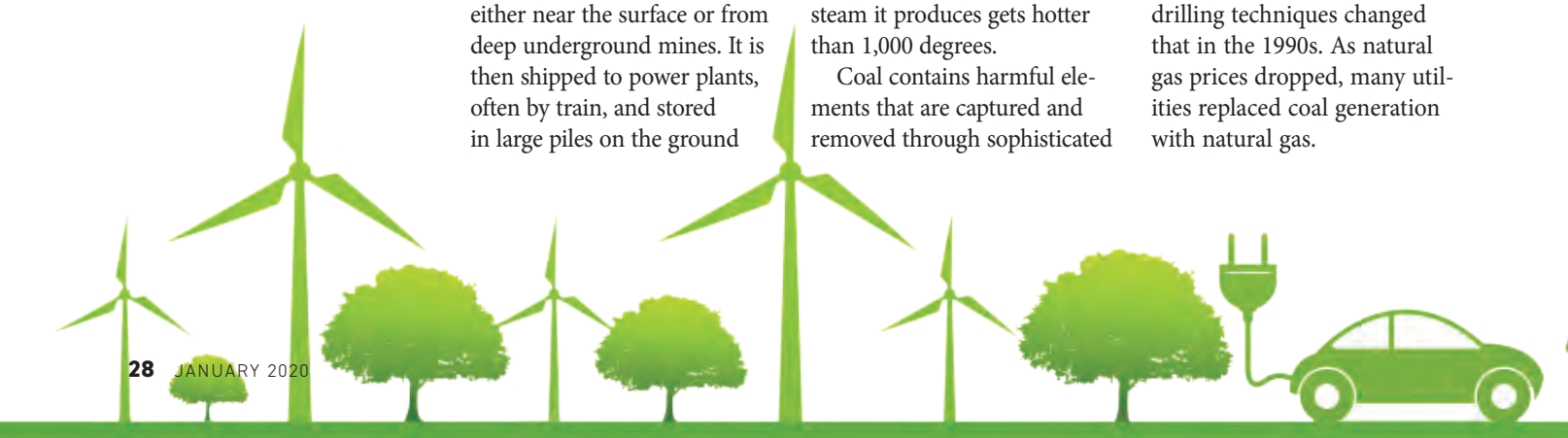
Natural Gas

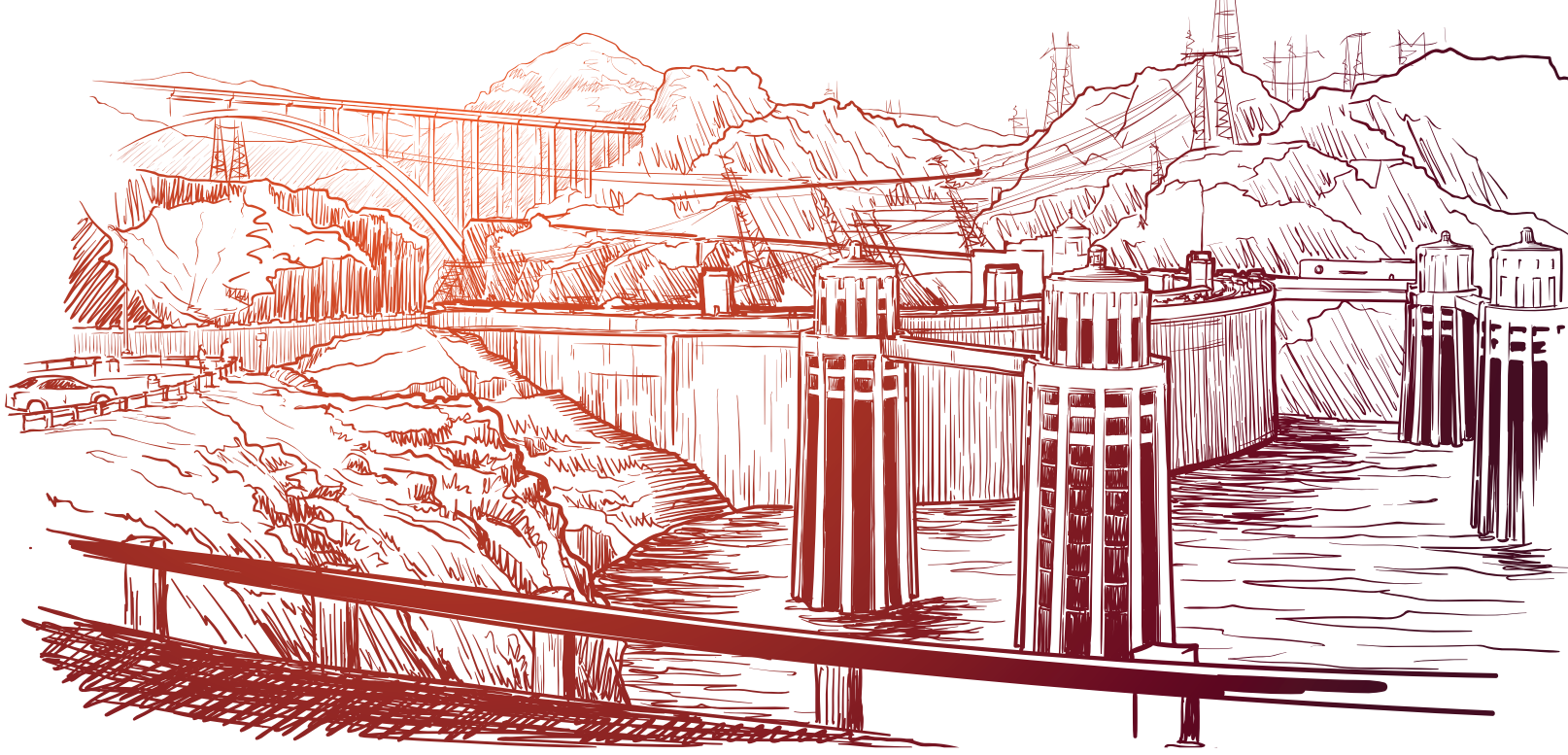
Ancient plants and animals that died long ago turned into coal, oil and natural gas. That's why all three are called fossil fuels.

Like coal, natural gas comes from the ground and produces about a third of the nation's electricity. In a natural gas power plant, specially designed combustion turbines burn the gas to make them spin, generating the electricity. Natural gas turbines are a large, complicated version of what you see hanging on airplane wings.

Natural gas plants are simpler and cheaper to build than coal plants, require less staff, and can be shut down and powered up more quickly. Natural gas doesn't contain as many pollutants as coal, so fewer environmental controls are needed. Burning natural gas also produces less greenhouse gas.

Although natural gas used to be more expensive than coal, fracking and other new drilling techniques changed that in the 1990s. As natural gas prices dropped, many utilities replaced coal generation with natural gas.





Hydropower provides about 55% of power in the Northwest, but only 7% nationwide. Two-thirds of the nation's power is still generated from coal and natural gas.

Nuclear

A nuclear power plant works basically the same as a coal plant, making steam to spin a turbine and generator. The difference is that instead of burning coal, heat from a nuclear reactor heats the liquid into steam.

The basic fuel for a nuclear power plant is uranium, which is mined from the ground. It then must be formulated into expensive and complex fuel components for utility use.

A little uranium can last a long time, making it a promising, incredibly cheap power source—and it produces none of the pollution or greenhouse gas that comes from burning coal or natural gas.

However, concentrated radioactivity in the nuclear reactor is potentially so dangerous, expensive safety measures need to be part of any nuclear plant. Highly technical control systems need to be in place to slow or shut down the level of heat produced, and the nuclear reactor needs to be inside a strong containment building to keep radioactivity out of the atmosphere in the event of a low-probability accident in the reactor core.

Another issue is how to dispose of the spent nuclear fuel, which can stay radioactive for millions of years before the radioactivity is brought down to naturally occurring radioactivity in the environment. Most of the spent fuel is stored in pools of water and dry storage casks at the site of the nuclear plant.

Hydropower

One way to turn an electricity-generating turbine is to store water behind a dam, then harness its power as it flows from the reservoir to the river below.

Hydroelectric projects in the Columbia River Basin provide about 55% of the Northwest's energy needs—much higher than the national average.

Unlike many other renewables, Northwest hydropower is dependable and predictable. Because it is a load-following resource, it can throttle up or down to match the daily peaks and valleys of our energy use—increasing in the morning when people start the day, and decreasing in the evening as people wind down.

Operators control the electrical output by choosing how much water to allow through water intakes in the dam. Opening and closing the intakes directly controls the amount of water flowing to the turbines, which determines the amount of electricity the dam generates.

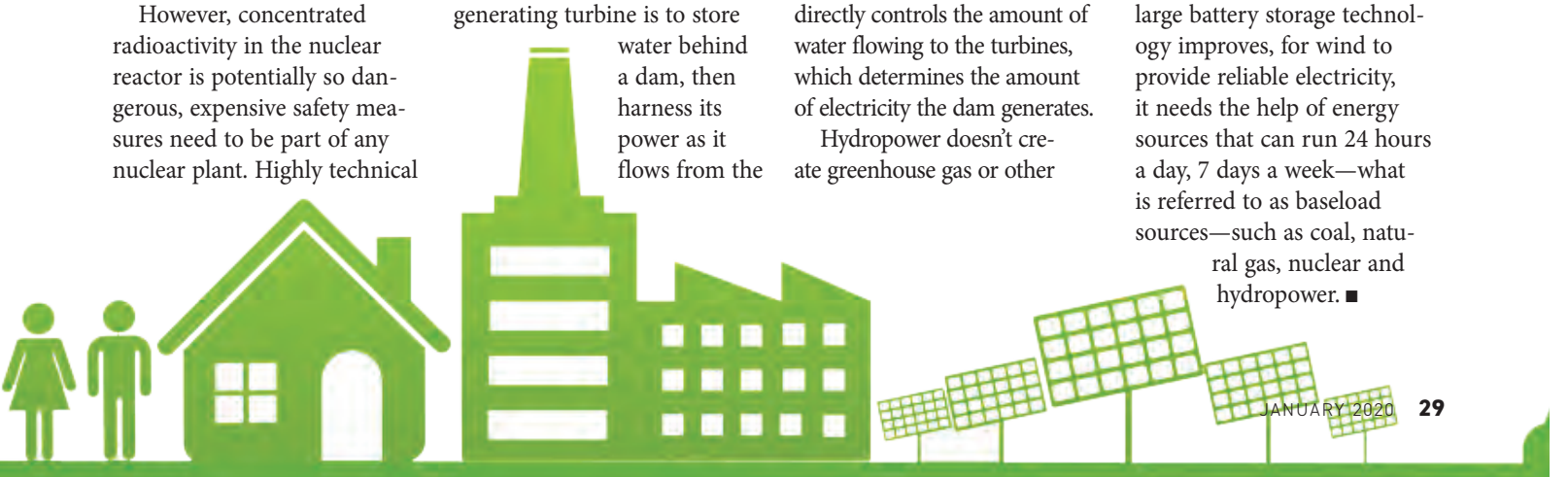
Hydropower doesn't create greenhouse gas or other chemical pollutants, which is an issue with burning fossil fuels.

Wind Power

Like other forms of generation, wind creates electricity by spinning a turbine that creates an electricity-producing magnetic field. The difference is the turbine is turned by enormous propeller-like blades designed to catch the wind from towers as high as 300 feet in the air.

Although still a small overall contributor to the nation's electricity supply, wind power has increased significantly as costs decrease. It has increased about 35% during the past four years.

Because the wind does not blow all of the time, it is a tricky power source. Until large battery storage technology improves, for wind to provide reliable electricity, it needs the help of energy sources that can run 24 hours a day, 7 days a week—what is referred to as baseload sources—such as coal, natural gas, nuclear and hydropower. ■



A Designer Trend

New technology and personal preferences give you more control over your electricity.

By Paul Wesslund

The thermostat on your wall marks a new era in electricity. Whether it's a dial-style older than you or a digital model installed last month, it's become more than just a way to set the temperature in your home.

That familiar gadget is now a gateway to a world where consumers have more say over their electric service.

You might call it designer electricity.

New technology, new regulations and new ways of thinking are reshaping the utility industry. Consumers can regulate the temperature in their home more precisely. They can even generate their own electricity with rooftop solar panels and sell the excess power back to their utility.

This new world started taking shape in the 1990s, says Andrew Cotter, a program manager for the Business and Technology Strategies Group of the National Rural Electric Cooperative Association.

Cutting costs and raising reliability for sensitive electronic equipment was top of mind. Companies were willing to pay extra for electric service that wouldn't blink off for even a fraction of a second. Other companies didn't need such high reliability, and looked for ways to pay less in return for occasional power interruptions.

"This is a trend that's been going on for a long time, but it's just starting in homes," Cotter says, noting that thermostats "can be the entry point for a lot of people to take advantage of smart-home technology and be more energy efficient."

A programmable thermostat can be set to avoid heating and cooling when you're not home, or set separate temperatures for rooms you don't use often.

That's just the beginning of ways consumers are making more of their own energy decisions. Highly efficient LED bulbs can be controlled from your smartphone. Washers and dryers sense how much water and heat need to be used to clean and dry your clothes.

All that efficiency makes a difference. Americans' electricity use decreased by about 2% in the past three years, according to the U.S. Department of Energy's Energy Information Administration. That trend is expected to continue for at least the next couple of years.

It Started With Batteries

While energy efficiency saves money, the story of battery storage shows the bigger picture of how consumers are putting utility decision-making into their own hands.

The story began with homeowners using portable, motorized generators to power refrigerators and other crucial appliances during extended outages. Driven by the demand for smaller and stronger chargers for smartphones and other electronics, battery technology improved.

Battery companies thought their improved product could grab part of the

Saving Big? Timing Is Everything

DID YOU KNOW that *when* you use electricity often matters as much as *how much* electricity you consume?

It's no surprise electricity use fluctuates throughout the day.

Electric utilities must be able to provide enough electricity to meet the energy demands of their consumers during times of highest energy use—"on-peak hours"—typically in the early morning, when people start their day, and evening hours, when they return home after work.

To reduce peak energy demand and save money, many electric utilities have created a time-of-use rate program to encourage electricity use during off-peak hours, when energy is less expensive to provide. Using less on-peak power means lower costs for your utility and, ultimately, lower rates for consumers.

That involves performing some of your daily chores such as running the dishwasher or doing laundry during off-peak hours; plugging electronics, TVs and power tools into a power strip and turning it off during peak hours; adjusting the settings on your programmable thermostat so your heating/cooling system syncs up with off-peak rate periods; and using automatic timers to run hot tubs, pool pumps, water heaters and other appliances.

Similar to saving money by attending a matinee, you can keep more money in your wallet simply by using electricity during an off-peak period.

portable generator market. Tesla, the high-end electric car company, soon announced a battery designed to look attractive enough to hang on your wall and provide backup power. Other companies followed.

In addition to promising relief from power outages, Tesla promoted its battery to the growing renewable energy market.

Homeowners installing solar panels on their roofs ran into a problem: They generated a lot of electricity in the middle of a sunny day, when no one was home to use it, and none at night, when they were home wanting to use electricity.

Batteries can store the sunlight.

Utilities Navigate the New World

Offering more options for consumers complicates business for electric utilities since their model didn't plan for consumers storing electricity or selling electricity back to the utility.

"Utilities are navigating a lot of difficult decisions," Cotter says. "They're not selling as many kilowatt-hours. They're selling technology that reduces sales, so they're working to come up with a sustainable business model. There are no easy answers."

Cotter says the member-owned, not-for-profit business structure is an advantage in a more consumer-centric industry. Co-ops are in a unique position, with long power lines that have to cover a much larger area, he says, noting that has prompted pilot programs to test utility-scale batteries.

"It might be really expensive to hook the last person up to the end of three or four miles of line," Cotter says. "Co-ops might be in a more natural position to adopt batteries for use in those remote locations."

A network of nearly 1,000 electric co-ops shares results from small pilot programs across the country. Co-ops are experimenting with batteries, incorporating home renewable energy projects into the electric grid and making the most effective use of energy-efficient technologies.

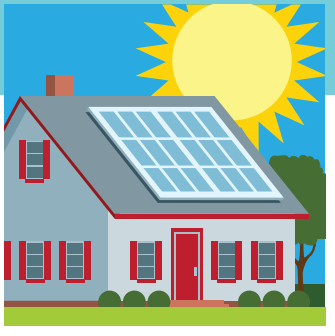
"Co-ops are developing a more robust understanding of how consumers want to use electricity," Cotter says. "They are all working together so one co-op doesn't have to do all the testing. There are no top-down solutions."

THE POWER TO SAVE

Consumers have more options in how they use electricity, which means big changes for electric utilities. Here are a few of the major trends and developments:

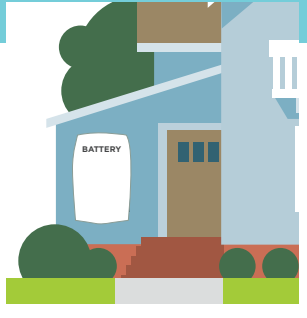
Energy Efficiency

Efficient lightbulbs and other appliances have reduced electricity sales, even as the population increases, the economy improves and we use more electronic devices.



Renewable Energy

Rooftop solar panel use is increasing enough that some utilities notice a decrease in sales during the sunniest part of the day. Homeowners with solar panels are selling excess electricity back to the utility.



Bigger, Better Batteries

Spurred by research into stronger batteries for electric cars and smartphones, you can now buy a battery powerful and pretty enough to hang on your wall as a backup during power outages. Note: That cool gizmo can cost up to $10,000!

But Where Is the Price Point?

While the march toward more choices in electric service might seem inevitable, Cotter sees it as an uphill battle because of one key question: Is it worth it?

"Do you want to spend $10,000 for a photovoltaic system on your roof and another $10,000 for a battery to avoid 45 minutes a year of power outage?" he asks.

That's where your old-fashioned thermostat could put you on the cutting edge of the trend toward more customer choice. You can decide you like things the way they are.

"People are generally happy with their electric service," Cotter says.

Some hobbyists might want to design ways to manage their electricity, but a lot of others don't want to pay money for hardware only to save a few dollars a year, he notes.

In an era of more energy options, vendors will be promoting batteries, solar panels and other gizmos. Cotter advises consumers to check with their utility before making major power-use decisions.

"Talk to your co-op first because they're the local energy expert," he says. "Vendors have a goal of selling products. The co-op—as a not-for-profit, member-owned utility—has a different perspective that will be more in your interest." ■

The Evolving Electric Power Grid

By Jonathan Susser

When we turn on a light or plug in a phone charger, we receive electricity from a complex web-like network of equipment. Power plants, power lines, substations and transformers all communicate and work in tandem to deliver the right amount of energy when and where we need it. Together, these wires, switches and related equipment are known as the electric power grid, or just "the grid."

As the grid was being built in the late 19th and early 20th centuries, electric utilities operated in isolation. The power plants that popped up from coast to coast consisted of large, centrally located generators that delivered electricity in one direction to the communities that needed it.

In time, the grid became more interconnected and efficient. It has provided safe, reliable and affordable electric service for more than a century. Much of the time we don't even notice it is there.

But the grid's equipment and infrastructure are aging, and our needs are changing.

With a growing population, advancements in technology and many new electronic devices, we consume substantially more electricity than we used to. Electricity use today is more than 16 times greater than it was in the 1950s—and we expect more information and feedback about our energy consumption.

We also see new sustainability initiatives and a rise in renewable, more variable, energy sources located closer to their points of use. We also have to combat the threat of mounting physical and cyberattacks, and manage and respond to changing weather patterns.

These developments are pushing the grid to do more than it was designed for and have forced it to evolve and modernize.

Getting Smarter

Similar to phones, thermostats and watches, the grid is getting smarter. Advanced instrumentation and technologies such as relays, sensors and switches have become more affordable and are being added to our grid's existing network, enhancing communication, adaptability and efficiency. The result is a bidirectional system that supports energy consumers, communities and utilities, as well as environmental and economic efforts.

Benefits of a smart grid include:

- Increased reliability and resiliency.
- Faster restoration after disruptions.
- More information and energy management for consumers.
- Easier integration of renewable energy.
- Enhanced security and protection.
- New business opportunities supporting the smart grid supply chain.

The rise of the smart grid has coincided with and been supported by emerging technologies such as battery storage, renewable energy, smart meters and advanced metering infrastructure, self-optimizing networks and electric transportation. Although these technologies are not new—electric vehicles have been around for more than a century—their growth today is especially impactful because they are able to enhance a grid that is now capable of effectively harnessing them.

Microgrids

The arrival of these emerging technologies on the grid also has supported development of custom-designed microgrids: independent electric systems. The miniature grids use local energy resources such as solar arrays and battery storage to control equipment and help power a defined area, such as a building, campus or community.

These systems are becoming more popular, and for good reason: They can increase grid reliability and resiliency; ease periods of peak demand, when consumer demand for electricity is high; act as a testing ground for new technologies; and provide an alternative source of generation and storage to reduce power supply costs.

North Carolina launched a microgrid in electric cooperative territory in 2017 with a diesel generator, Tesla batteries, a rooftop solar array on the diesel plant, thermostats and water heaters that can be coordinated by the cooperative and a controller that pieces it all together.

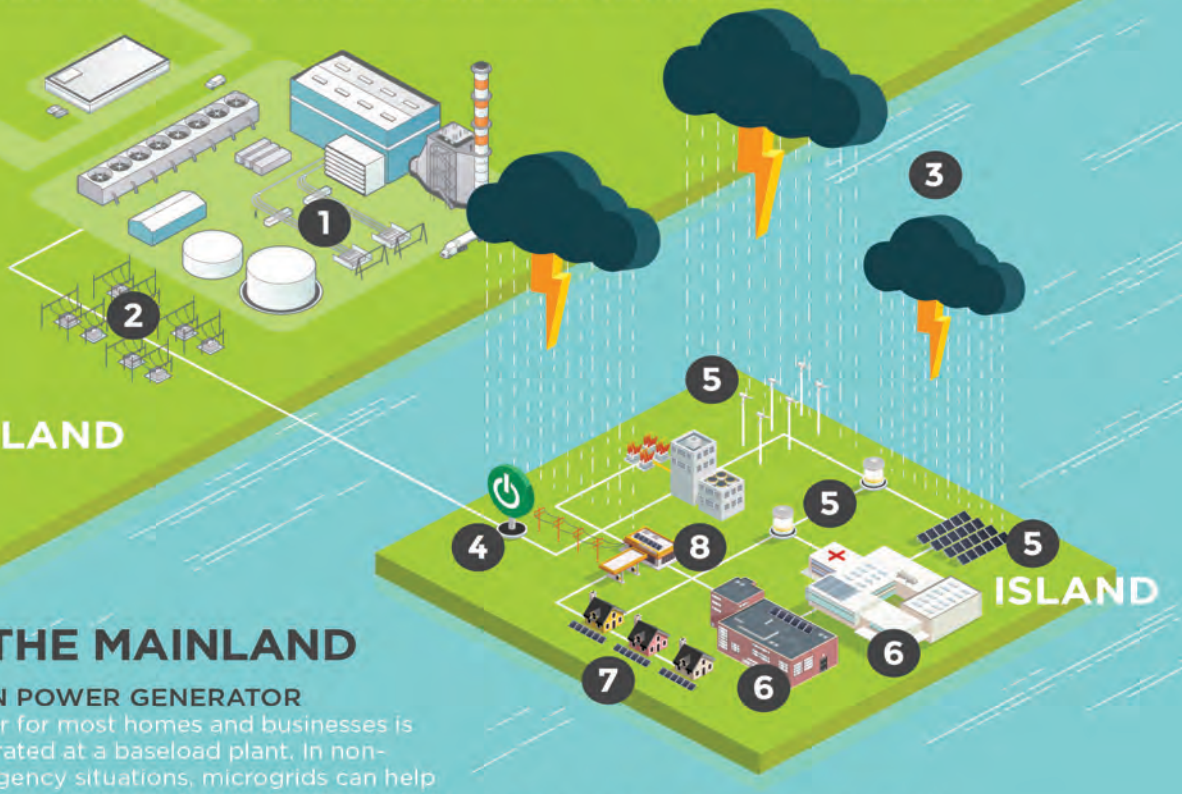
The combination of supply-side and demand-side components provides flexibility, and can improve performance and speed recovery during a loss of power.

Alaska's cooperatives have deployed dozens of microgrids—many featuring networks of wind turbines—to ensure remote communities have reliable power under the harshest weather conditions. Some communities are so rural a microgrid is the only way to serve them.

It can be easy to take for granted a ready supply of electricity, but the grid is truly a marvel of engineering. It has been able to evolve with the changing needs of society. The transition to a smarter grid with emerging technologies will allow for even more reliable, safe and affordable service. ■

How Microgrids Work

The electricity grid is like the mainland, where energy is generated at a central power plant and sent to where it's needed. A microgrid is like an island — it can function on its own, power a concentrated area, and connect to the mainland. Microgrids can keep power on during blackouts, storms and other disasters.



ON THE MAINLAND

1 MAIN POWER GENERATOR
Power for most homes and businesses is generated at a baseload plant. In non-emergency situations, microgrids can help reduce peak demand at the baseload plants.

2 SUBSTATION
A substation is the intermediary between the power plant and the consumer. If the substation fails or has problems, consumers lose power or experience brownouts.

ON THE ISLAND

3 STORMS
Storms and other disasters can cause large-scale outages on the main grid. Microgrids are being built today to increase resilience and keep the power on during emergencies.

4 MAIN COUPLING SWITCH
The microgrid and main grid connect. The coupling switch functions as the main switch point in case of grid outage. On an average day, the coupling switch ensures that voltage levels remain equal between the regular grid and the microgrid.

5 INDEPENDENT GENERATION
The microgrid system can generate electricity from a single solar or wind installation, or a combination of traditional and alternative power generation methods.

6 CRITICAL SERVICES
A microgrid is usually built to power critical community resources like hospitals, police and fire departments, and schools so that they can continue to function in emergency situations.

7 HOMES
Individual homes are usually low on the microgrid priority list, but can be linked to the microgrid if they have power generating capabilities, like rooftop solar panels.

8 BUSINESSES
A key commercial property may sometimes be included in the microgrid, depending on its generating power and the needs of the community.

SOURCE: American Public Power Association

PHOTO COURTESY OF POLOLIA/STOCK.ADOBE.COM

High Electrical Bills?

Learn the common causes and how to avoid them

By Juan D. Alfonso

While the winter holidays may be over, frigid weather continues to impact much of the country. With the cold comes higher electric bills, and the increase typically brings some not so happy utility consumers.

"Frustration is probably more frequent than anger," says Jeff Marshall, communications specialist with Clearwater Power in Lewiston, Idaho. "The most common calls we get are from people who went on vacation during the winter and came back home to higher bills than they were expecting. They say they turned everything off, and that's when I have to tell them, 'The home doesn't know whether or not it's occupied.'"

While lights and electronics can be turned off, many home devices operate completely independently. Refrigerators, water heaters and central heating systems continuously draw power from the electrical grid.

"We are very conscious of TV, lights and the devices we constantly use, but they just aren't a significant part of the power bill," Jeff says. "An unoccupied home loses its TV, light and washer load, but it is still keeping the home warm."

According to Jeff, the lion's share of an electric bill comes from the water heater and central heating unit, which continuously draw energy even when the thermostat is turned down.

"People will think their heat is off," Jeff says, "but it's pretty rare for it to actually be off. 55 degrees tend to be as low as the thermostat goes. You can turn both

of these appliances off at the breaker box, but a lot of people think that not using something electrical is the same thing as being turned off."

Another common misconception is when consumers keep their thermostats at the same temperature year-round and expect the bill to remain consistent.

"We get a lot of snowbirds who leave their home around 60 and expect their bill to be drastically cheaper," says Kelly Jackson, senior member services specialist with Mt. Wheeler Power Inc. in Nevada. "But it gets so cold that their heater works hard to maintain what they think is pretty cold to begin with."

However, there are some cases where excess energy consumption does occur.

"I was getting ready to bill a member when I noticed her bill went from $210 in September to $500 in October," Kelly says. "I spoke to her, we investigated it and turns out the heater in their home needed to be replaced."

What Kelly did was not unusual, according to Christina Sawyer, internal communications specialist at Mt. Wheeler Power.

"We do take the time to look at the higher bills before they go out to the member so we can discuss what might be happening," Christina says. "It's part of our customer service procedures, so they are prepared for these larger bills and we can have a discussion about how to make things easier for them."

A common complaint utilities face is when consumers claim their bill is much higher than it was in previous years or previous months when temperatures were similar. Comparing past bills with the consumer is a common industry practice.

"A lot of people come to us very confused as to why their bill is so high," Kelly says. "But when we compare their most recent bill to the previous year's usage, it turns out to be pretty comparable. I think most people just forget because of the lower bills in the summer months."

"Another part that leads to confusion is that we bill them for the previous month's usage. They get their September usage bill in October and assume that because October and November had similar weather, their bill will be about the same."

Many consumers are surprised when their new, energy-efficient homes cost far more to power than they were expecting.

"It's called Jevons Paradox," Jeff says. "When you have a more efficient device, you tend to use it more freely. For example, heat pumps use less power than a furnace, so people with heat pumps will make their home warmer than they would with a less efficient system. This eats into their savings and ends up costing them more in the long run. Newer houses have better insulation and windows. All of those things have savings, but the alarm in the back of your head is just quieter. You use it more and you'll light places that aren't normally lit."

Vampire or phantom loads from smart TVs, gaming consoles and other electronics may also drive up the electric bill.

"Manufacturers are invested in creating devices that load more quickly and efficiently," Jeff says. "On the flip side, these devices are always turned on and absorbing power from the grid. When you turn a dishwasher off, it's off, but a lot of electronics are never turned off."

An easy solution to vampire loads is buying a smart power strip. Jeff recommends the Trickle Star advanced power strips. These smart strips detect when electronic devices are in an off or standby state, and cuts their connection to the outlet.

Another way to reduce the electric bill is by inviting friends and family over. The ambient body heat produced by each person will heat the home, allowing for a much lower thermostat setting.

"I was at a conference once where the staff lowered the heat below 60 36 hours before the event in anticipation of what happens when you have 500 people in a room," Jeff says. "If the thermostat had been 68 degrees, the room would have easily heated past 80. Don't underestimate the cost savings of people in your home."

Lastly, Jeff wants everyone to know that lighting isn't that big of a deal.

"Don't be afraid of lights," he says. "They really don't use up a lot of energy. Switching CFLs to LEDs, the savings are only about a quarter. It would take years to recoup that investment." ■

Tips for Reducing Your Electrical Bill

- **Lower the temperature when you are not at home and before going to bed.** The U.S. Department of Energy estimates 1% savings for every eight hours you lower the thermostat.
- **Dust your refrigerator.** Your refrigerator is working much harder if the coils are covered in dust.
- **Replace your filters.** Dirty filters force your air conditioner or heater to work harder to push air through the vent and uses more energy.
- **Nuke it.** Cooking with a microwave or an electric skillet consumes far less energy than your oven.
- **Plant trees.** Plants around your home generate shade during the warm months of the year, reducing your air conditioning needs. Planting trees with leaves that fall during the winter will increase sunlight and reduce your warming needs when it is cold.
- **Buy energy-efficient appliances.** Replacing decades-old inefficient appliances with smart ones can save hundreds of dollars a year.
- **Install a ceiling fan.** Fans move air around the room without actually cooling it. This provides a significant reduction in energy use while keeping your home comfortable when it is warm.
- **Cover air leaks.** Caulk cracks and openings in your home to keep the warm air in during the winter and out during the summer.
- **Seal air ducts.** Air loss from unsealed ducts can be responsible for up to 30% of your electric bill.
- **Don't open the oven.** Opening your oven door while baking or cooking can reduce the internal temperature by 25 degrees. Turn your oven off 5 minutes before your meal is done to allow the ambient heat to finish the cooking.

Food Venture

Our Hunt for the Region's Best Food

Brush Creek Creamery & The Pie Safe

Deary, Idaho

Standing proudly in the center of downtown Deary, the warm glow of this classic brick building is hard to resist. Inside, customers are struck by the rich smell of the wood-fired oven and the busy bakery. The friendly staff welcomes you to take it all in.

Two in One
On the right side is a fully-fledged bakery serving everything from cookies and danishes to pizza and sandwiches. On the left is a nationally-recognized, award-winning creamery filled with traditional and exotic cheeses, all made right there on-site. Together, they present such an amazing array of food, it's easy to forget you're still in rural Idaho.

Which dishes are most popular?
In the mornings, the latte and home-made apricot-almond tea bread are a popular pair. In the afternoons, the grilled, Mediterranean chicken sandwich has become very popular.

Recommended menu item?
The pepperoni pizza starts with homemade pizza dough topped with Mozzarella cheese made right next door in the creamery. It is then baked in their own custom-made, wood-fired brick oven.

Items that might surprise people?
The Apricot-Brie Melt is an incredible twist on a classic grilled cheese. It starts with the sweet and delicious apricot-almond tea bread and is then generously topped with their award-winning Brie cheese and grilled to perfection.

When is the best time to come in?
Mid-morning is perfect because all of the baked good are finished but not yet sold out, so you get first choice. A full coffee bar and a unique breakfast menu are available.

Restaurant hours
Tuesday - Friday: 7:00AM to 5:00PM
Saturday: 7:00AM to 6:00PM

Instagram, Facebook and web sites are at: brushcreekcreamery.com & piesafebakery.com

Behind the Grid

The world continues to seek new methods to generate and store electricity. There is no perfect solution. Challenges include reliability, renewability and greenhouse gas emissions. This series seeks to explore those questions. This month, we look at nuclear power.

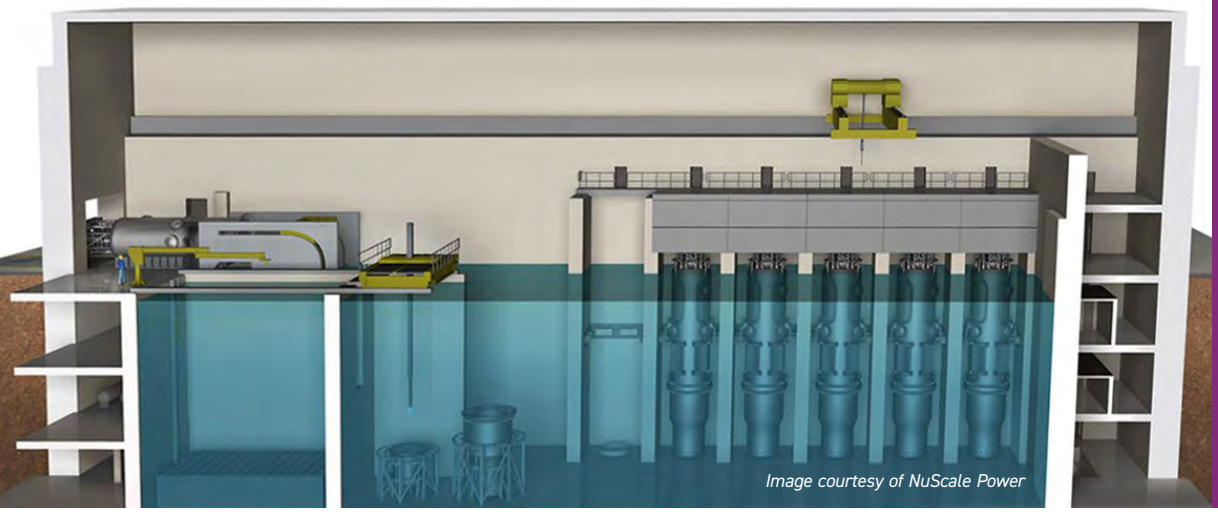


Image courtesy of NuScale Power

- The City of Idaho Falls along with other small utilities in Idaho and Utah support purchasing power from SMRs in the future.
- The first city in the U.S. to receive electricity from a nuclear power plant was Arco, Idaho in 1955.
- This rendering to the left is a Small Modular Nuclear Reactor (SMR) which incorporates all of the components for steam generation and heat exchange into a single integrated unit called the NuScale Power Module™ (NPM). Each NPM operates independently within a multi-module configuration. Up to 12 modules can be monitored and operated from a single control. Each module can output 60 Megawatts of electricity, which would power about 30,000 homes.

Most nuclear power plants use uranium fission to create heat. The heat turns water into steam and the steam then drives turbine generators to make electricity. About 20% of electrical generation in the United States comes from nuclear power. It is the largest contributor of non-greenhouse-gas-emitting electric generation.

Nuclear power is extremely reliable. Often running 24/7 at over 90% capacity for 18-24 months without refueling. It is also scalable, able to meet peak demands for power. Uranium is a fairly common element (about as plentiful as tin) and is found all over the world. However, it requires a great deal of refinement to be turned into a useful fuel.

A Northwest company called NuScale Power is currently working on a technology known as Small Modular Nuclear Reactors (SMRs). These nuclear power plants are designed to be cleaner, safer and more cost competitive. Their compact design allows them to be built and assembled in a U.S. factory, then shipped to a prepared site for deployment. SMRs are about one-third the size of traditional reactors and their size and simplicity could reduce the time it takes to construct a new nuclear power plant. These factors make SMRs more flexibile for different scales of production or as demand changes over short periods of time. The U.S. Department of Energy supports the design, certification, and commercialization of small modular reactors (SMRs).

The greatest concern over nuclear power regards used fuel. Used fuel (often called 'spent' fuel) remains radioactive for many thousands of years and must be contained or else it poses a serious environmental threat. Most nuclear waste in the U.S. is stored in large, water-cooled pools on-site at power plants. A safer but more expensive option for storage are large containers called dry casks. Great strides have been made in reusing old fuel but these methods are not currently considered economical.

For more information on nuclear power, visit: www.energy.gov

Use Energy Wisely

Plan for a Year's Worth of Savings

Small changes add up to big savings when it comes to energy efficiency

Got cabin fever? Make your home more energy efficient this winter and start saving for your summer vacation.

You can trim your electric bill by taking a few simple steps. Following are recommendations for year-round energy and money savings from CPI.

January: Lower your thermostat a few degrees during winter and save dozens of dollars a year. Programmable thermostats make it easy to save by offering preprogrammed settings to regulate a home's temperature throughout the year.

February: Adjust your water heater. Turning down the temperature gauge to below 120 F can heat up your savings.

March: Stop air from escaping your home and money from escaping your wallet. Head down to your home's basement and seal leaky ducts.

April: A little caulk can go a long way. Air leaks add up. Caulking cracks and openings to the outside could save more than $200 a year.

May: Put your refrigerator on your spring cleaning to-do list. Throw out expired items, clean the refrigerator inside and out, and check the temperature gauge. For maximum efficiency, a refrigerator's temperature should be between 37 and 40 F.

Used properly, programmable thermostats typically pay for themselves within a year due to money saved on heating and cooling.

Give your refrigerator a thorough cleaning. For maximum efficiency, keep the temperature between 37 and 40 F.

June: When was the last time you changed a filter? Replacing furnace and air conditioner filters regularly can have a big effect on a home's energy use. Dirty filters restrict air flow and reduce the overall efficiency of your cooling system, forcing it to work harder on hot summer days.

July: Heading out of town on vacation? Unplug all of your electronic devices, such as computers, monitors, printers, TVs and cable boxes, DVD players and microwaves. Electronics with digital displays and instant-on features consume energy even if not in use.

August: Your home's cooling costs can skyrocket in summer, right along with the temperature outside. Keep your thermostat set between 78 and 80 F to save monthly on cooling bills.

September: Be a "fan-atic." While they do not replace an air conditioner or a heat pump, fans move the air so everyone feels more comfortable. On a milder day, a fan is a more energy-efficient choice than cranking up the air conditioning. Fans cool people, not rooms, so turn them off when you leave the room.

October: Get ready for winter by insulating your attic and crawl space. CPI offers substantial rebates to weatherize your home.

November: As the weather cools down, pull up your window shades. Keeping blinds open during cold weather lets heat from sunlight in, reducing the need to turn up your home's thermostat.

December: Top your Christmas wish list with an Energy Star appliance. Upgrading appliances such as washing machines to Energy Star-rated models can save up to $140 a year. ■

The Art of Education

Art teacher Todd Lensing, left, and Principal Josh Metzger are excited about the possibilities of the new digital arts classroom at Gold Beach High School.

Gold Beach High adds digital arts classroom

There are many types of art available for us to enjoy: visual art, music and theater are but a few. Today, the influence of digital art and design is all around us, sometimes in ways that may surprise you.

Digital arts is not a new class for most schools nationwide. However, it is new to Gold Beach High School due to a prior lack of proper hardware and software. While teachers and students made the best of the resources available, a partnership between Coos-Curry Electric Cooperative and Central Curry School District facilitated some big changes.

On November 6, 2019, Gold Beach High School students arrived to find a completely new digital arts classroom.

Funded by a GEAR UP grant (Gaining Early Awareness and Readiness for Undergraduate Programs) through the Department of Education, Coos-Curry Electric Cooperative, which is contracted to provide IT services to the Central Curry School District, negotiated pricing for computers and software, and set up the classroom. Dan Springer, CCEC chief information officer, provided an orientation to the first class in the lab. He provided tips and tools on how to log into Microsoft Office 365 with their user-specific login, how to save documents to their files and, most importantly, how to share their work with the digital arts teacher.

It is a great improvement to the classroom, which consisted previously of of Windows Home machines which were insufficient for software to teach digital arts. The old machines used a generic login, leaving each student to work around the previous user's settings.

Along with the new hardware, the digital arts class now has full subscriptions to Adobe Creative Suite, which offers access to programs such as Photoshop for image editing; and Illustrator, graphic design software used to create web and mobile graphics.

The successful partnership between CCEC and Central Curry School District has impacted students beyond the new digital arts classroom. A previous Gear Up grant enabled the district to buy 50 Surface Pro tablets. The new equipment allows teachers to get more creative in their assignments and projects. For example, the eighth grade biology teacher was able to have their students model functions of a cell on the tablets using the popular game Minecraft for education.

"The new $25,000 grant enabled the program to purchase the computers; however, the district must budget in the remaining funds for flooring, heating systems, labor and more," says Curry Central School District Superintendent, Tim Wilson.

According to Tim, they do not take this upgrade lightly. The previous computer lab was misused by some students. To maintain the integrity of this major upgrade, a select number of 11th and 12th grade students have been screened and selected to use the facility for yearbook class.

The school plans to integrate computer science and student business. However, one thing is sure: The school district, students and teachers are all looking forward to seeing the impact this new technology will provide. ■

Attention Members of Districts No. 2 and 4

This year, Blachly-Lane County Cooperative Electric Association members residing in Districts No. 2 and 4 may petition for nomination for a position on the board of directors.

To have your name placed on the official ballot as a candidate, pick up a petition at Blachly-Lane's office at 90680 Highway 99, Eugene. The petition must be completed and returned to the cooperative's office no later than Tuesday, February 18, 2020—at least 60 days before the annual meeting Saturday, April 18, 2020, as outlined in Blachly-Lane's bylaws.

Members residing in a district may nominate a candidate for director—who resides in the same district—to represent that district by filing a petition with the board secretary at least 60 days before the date of the annual meeting, signed by at least 15 members of the cooperative residing in the district for which a director is to be elected, according to the bylaws.

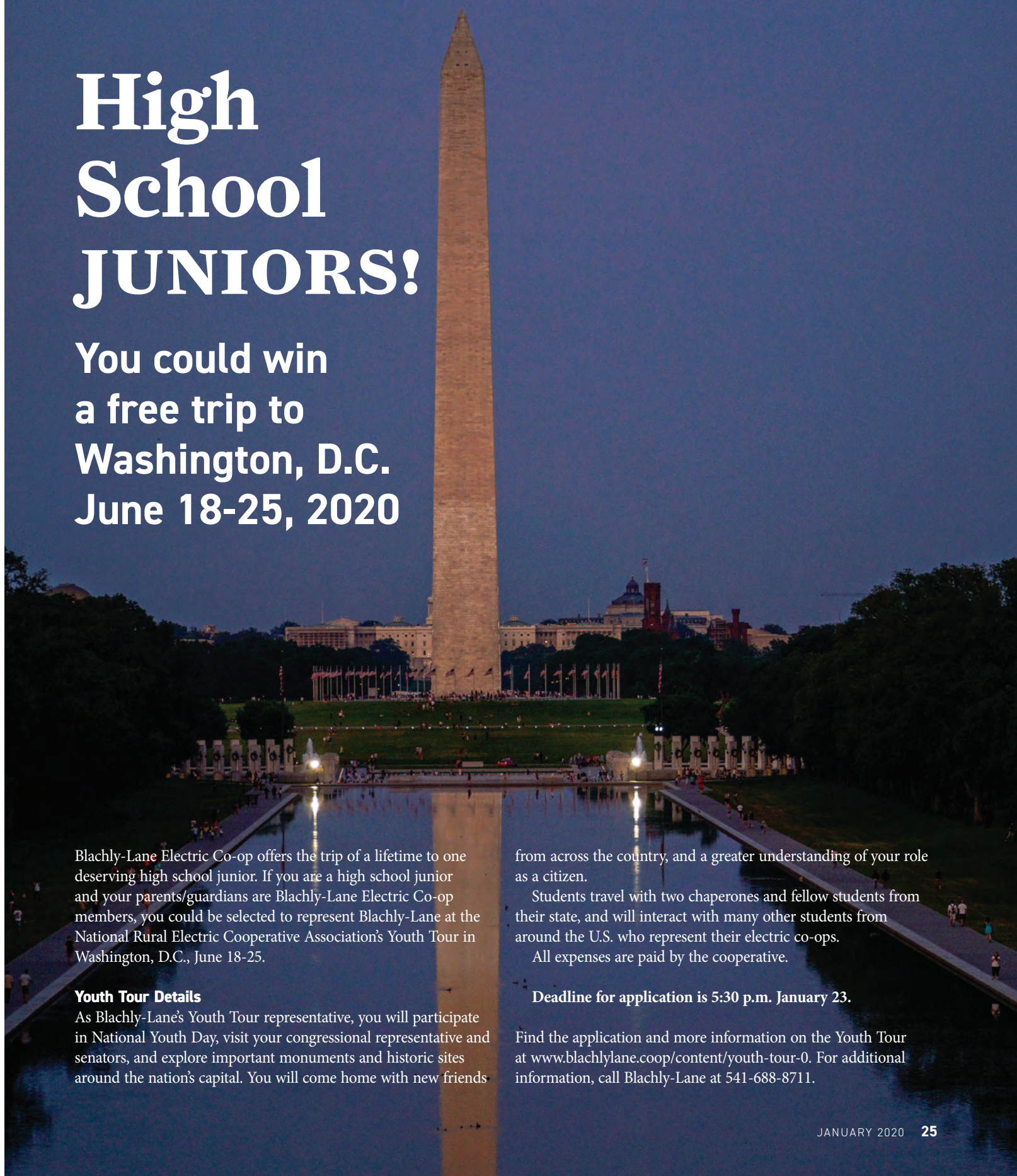
The District No. 2 and District No. 4 positions are for three-year terms.

Please call us at 541-688-8711 for more information about the nomination process. For more information about the role of individual board members, visit www.blachlylane.coop/content/member-owned-member-run. ■

Petitions are due Tuesday, February 18, 2020, by 5:30 p.m.

High School JUNIORS!

You could win a free trip to Washington, D.C. June 18-25, 2020



Blachly-Lane Electric Co-op offers the trip of a lifetime to one deserving high school junior. If you are a high school junior and your parents/guardians are Blachly-Lane Electric Co-op members, you could be selected to represent Blachly-Lane at the National Rural Electric Cooperative Association's Youth Tour in Washington, D.C., June 18-25.

Youth Tour Details

As Blachly-Lane's Youth Tour representative, you will participate in National Youth Day, visit your congressional representative and senators, and explore important monuments and historic sites around the nation's capital. You will come home with new friends from across the country, and a greater understanding of your role as a citizen.

Students travel with two chaperones and fellow students from their state, and will interact with many other students from around the U.S. who represent their electric co-ops.

All expenses are paid by the cooperative.

Deadline for application is 5:30 p.m. January 23.

Find the application and more information on the Youth Tour at www.blachlylane.coop/content/youth-tour-0. For additional information, call Blachly-Lane at 541-688-8711.

MOUNTAIN HOUSE
EMERGENCY MEALS™

Are You Prepared?

Upgrade your survival kit with reliably delicious and long-lasting Mountain House meals. The emergency food supply kits come packed with enough delicious food to keep you and your family nourished and energized to take on any obstacle. Simple to prepare, just add water directly to the pouch and enjoy. And with our 30-year taste guarantee, you can be sure the food will be ready when you are.

Harney Electric Members Save 20% Sitewide

Go to www.MountainHouse.com. Apply code "PrepareHEC" during the checkout process.

See You at the Annual Meeting

MOST OF US LEAD BUSY LIVES. We find ourselves multitasking—constantly checking phones and email to keep up with the demands of modern life. Thanks to technology, we can accomplish many tasks electronically and remotely to be more efficient.

With so many pressing obligations, we like to protect our "spare" time. Invitations to attend in-person meetings and gatherings are weighed carefully as we decide whether or not our time and effort to attend is beneficial. The answer to the question, "What's in it for me?" must be compelling.

You may think attending United Electric's annual meeting would be easy to lump into the "no benefit to me" category. UEC staff asks you to think again.

United Electric exists to provide safe, reliable power at reasonable rates to its consumer-members—that's you. Equally important is our mission to enrich the lives of all members and to serve the long-term interests of our local communities. This is where you can help.

As a member of the community, you have a valuable perspective, and we invite you to share it with the co-op. At the annual meeting, co-op leaders will discuss priorities and challenges and the financial health and priorities for the coming years. The annual meeting is also the time to vote for new board members to represent you—the members of the co-op. Board members are local consumers, like you.

United Electric is one of the few local organizations uniquely positioned to bring together all members of the community. The health of the co-op and the well-being of the community are closely intertwined.

Perhaps you feel that you have nothing to add to the discussion, so there is no need to attend the annual meeting. However, every energy bill you pay to the co-op helps ensure better service and reliability for the whole community. Your dollars are reinvested locally into improvements that impact the reliability and affordability of your energy, and United Electric wants to hear from you to better inform our decisions as we plan for the future.

While United Electric provides convenient electronic options for bill-paying and communication, there are times when there is no substitute for in-person engagement. When members of our community come together for a common purpose, we improve the quality of life for all in our corner of the world.

If you've never attended our annual meeting, or if it's been awhile, please stop by. Our co-op family looks forward to visiting with you.

We'll have cookies, fun and door prizes, so mark your calendar for the annual meeting Tuesday, March 17, 2020. ■

Drastic Measures

Power Shutoffs an Inflection Point for Power and Water Providers

By John Egan

Millions of California homes and businesses lost power last October and November after the state's three investor-owned utilities implemented public safety power shutoffs.

These shutoffs—which had varying effects on publicly owned electric utilities, water agencies and community choice aggregators—may become a driver in ongoing public policy debates about climate change and the provision of essential water and electric services across the state.

The recent public safety power shutoffs implemented by the state's three investor-owned utilities—Pacific Gas & Electric, Southern California Edison and San Diego Gas & Electric—darkened as many as 2.6 million homes and businesses across at least 40 counties in California, creating an economic loss exceeding $2 billion, according to an estimate from the Stanford Woods Institute for the Environment.

The shutoffs were intended to reduce the risk that shorting or failing utility equipment would start wildfires during high winds, high temperatures and low humidity. In windy conditions, tree branches and other vegetation can fly into power lines and cause a spark.

The widespread shutoffs proved to be an inconvenient solution to a vexing problem. The Kincade Fire in Northern California and the Saddleridge Fire in Southern California in October 2019 ignited at or near utility equipment, according to fire investigators. The Kincade Fire burned 77,758 acres of land, and the Saddleridge blaze scorched about 8,800 acres of land, according to the California Department of Forestry and Fire Protection.

Clifford Chan, director of operations and maintenance at the East Bay Municipal Utility District, has trouble reconciling the shutoffs with the longtime utility mandate to provide essential electricity services that are safe, reliable and affordable.

"PG&E instituted rolling blackouts in 2005, but they were able to tell us exactly which circuits would go out when and for how long," said Chan, who's been with East Bay MUD for 22 years. "But the PSPS are a whole different animal. I would never have thought that some customers could be turned off preemptively, and with little notice about which circuits could be affected or how long the customers would be out of power."

Those who California Water & Power spoke with agreed the shutoffs likely will factor into ongoing discussions about utilities, climate change and the wildfire mitigation

"YOU CAN SEE ON SOCIAL MEDIA POSTINGS THAT PEOPLE ARE ANGRY AT PG&E. PEOPLE DON'T WANT THIS TO BECOME THE 'NEW NORMAL.'"

— KATE ZIEMBA, SAN JOSE CLEAN ENERGY

plans that all electric utilities—public and private—were required to file by January 2020.

HOW AGENCIES WERE AFFECTED AND WHAT THEY DID

No publicly owned utility in California implemented similar widespread preemptive power shutoffs last fall. But the IOUs' power shutdowns affected some of the state's publicly owned electric utilities, water agencies and community choice aggregators.

Customer call volume surged for many public agencies as anxious customers wanted to know if they would lose power.

Many POU communicators expanded their communications activities before, during and after the shutoffs, using media briefings, social media platforms such as Twitter and Facebook, emails, texts and the neighborhood social networking app Nextdoor to provide customers with information on the shutoffs.

Some agencies communicated with customers in multiple languages, including Spanish and Vietnamese. Community choice aggregators urged their customers to register with their IOU to receive wildfire safety alerts.

MCE (formerly known as Marin Clean Energy), a CCA, made its solar-powered electric vehicle chargers available at no cost for two days during one of the shutoffs. MCE also opened its large conference rooms to the public to provide access to electricity for cellphones and other portable device charging.

Confusion and chaos characterized communications for PG&E's first PSPS, implemented in early October. PG&E's website went down several times. When it was up, maps of affected areas were not always accurate.

There were sharp criticisms of PG&E's performance during the October shutoffs. Paul Hauser, general manager of Trinity Public Utilities said PG&E's communications in early October were "completely inadequate."

"The PSPS turned our first-world electric system into a third-world system, with no certainty about when the power would go out or when it would come back on," Hauser said. "If that happened on my watch, I wouldn't be here for long. Californians won't tolerate that kind of deterioration in an essential service. Remember, Gov. Gray Davis was recalled for less."

With wind speeds up to 88 mph and an elevated risk for a wildfire, SCE made the difficult decision to turn off power to some customers in Mammoth in mid-September.
Photo courtesy of Southern California Edison

WATER AGENCY PERSPECTIVES

Although both electricity and water are essential to life, water arguably is the more essential service. Most people can live a day or two without electricity. It's difficult to live a day or two without water.

One water agency, Oakland's East Bay Municipal Utility District, began planning for the power shutoffs more than a year before they happened. During the summer of 2018, following the CPUC decision granting IOUs the right to preemptively de-energize their electric distribution systems during red flag warnings, East Bay MUD began to assess how it could respond in the event of a shutoff.

It issued a request for proposals for the rental and predeployment of 29 backup generators—adding them to the 40 portable generators and pumps the district already deployed on its system— to ensure water and wastewater service would not be interrupted if PG&E turned off the power, according to East Bay MUD's Chan, the district's director of operations and maintenance.

During a three-day PSPS outage in early October, East Bay MUD lost power at about 140 of its 400 facilities. But the agency's 1.4 million customers were not affected because

the district had invested more than 4,000 staff hours in preparation and $750,000 to plan for and respond to the shutoffs.

East Bay MUD developed an operational mitigation plan that included drills in the field as well as back at headquarters, planning exactly how it would respond in the event of a power shutoff. Exercises included sending electricians out to the field to test the generator interconnections with East Bay MUD facilities.

"All the planning really paid off," Chan said. "Without the preparation, our customers would have felt an impact."

POWER AGENCY IMPACTS

A number of POUs—including Redding Electric Utility, Burbank Water & Power, Los Angeles Department of Water & Power and Riverside Public Utilities—reported their electric service was unaffected by the October and November shutoffs.

Operationally, the biggest impact most POUs faced was a spike in customer calls asking if they would lose power.

But not all power agencies reported such benign results. Randy Howard, general manager of the Northern California Power Agency, said some of the agency's geothermal generation at The Geysers was affected by PG&E's October power shutoffs.

"The distribution system around The Geysers was shut down several times," he said. "About half of our employees who work there couldn't get to work if they didn't refuel their vehicles before the PSPS closed down public gas stations."

During the late-October PSPS events, Howard said several NCPA members were impacted by PG&E's transmission-level de-energizations.

One public power community, the city of Healdsburg, was given three hours' notice before the PSPS event on the transmission line that delivers power to their community. Healdsburg officials and NCPA scrambled to get PG&E to extend the timeline for the shutoff because the entire community was being evacuated to get out of the way of the Kincade Fire.

PG&E Gets Understanding, Some Appreciation

Even those highly critical of PG&E's performance in the shutoffs recognized that, facing a no-win choice, the utility acted to save lives and property. Losing power may be unpopular, but a temporary loss of electricity would cause far less disruption than a wildfire caused by failing utility equipment that led to the loss of lives, homes and businesses.

No one wanted to see a repeat of the 2018 Camp Fire, which destroyed the town of Paradise and killed 85 people.

Several individuals recognized the magnitude of the challenge facing PG&E.

"PG&E faces a huge challenge," said Catherine Elvert, communications manager for the City of Palo Alto Utilities. "They serve an incredibly large area, a lot of which is heavily forested. They have to contend with a lot of uncertainties, including changes in weather forecasts and wind patterns. Even before the recent wildfires, PG&E was under a lot of scrutiny over safety issues. They invoked the shutoffs out of an abundance of caution."

Some officials contacted by California Water & Power even thanked PG&E for its efforts to keep critical infrastructure operating during the shutoffs.

Ross Branch, public affairs manager for Placer County Water Agency, expressed appreciation for the embattled utility moving about 10 megawatts of portable generation hundreds of miles from Southern California to Placer County so the agency could continue running its backup water-supply system during the power shutoffs.

Branch said PG&E didn't charge PCWA for renting, transporting or running the backup generation equipment, but the water agency bore other costs, such as diesel fuel and employees' overtime labor costs.

"While we experienced some challenges in the beginning, once PG&E understood the critical nature of our backup water supply system, they had a very good emergency response for us," he added. "Had PG&E not come through with the backup generators, we might have had widespread water outages."

PG&E transported two 1.5-MW backup generators several hundred miles to Placer County, at no charge, enabling the water agency to continue pumping water during a PSPS in October. Photo courtesy of Placer County Water Agency

Howard recalled that people were trying to pack-up their homes and businesses. Power was needed to ensure that the evacuations could proceed safely. PG&E eventually did agree to delay the PSPS transmission event to support the city's evacuation efforts.

As well, he noted, PG&E's transmission-level PSPS resulted in

This aerial image of San Jose was taken during the first PG&E PSPS event on October 10. It shows the patchwork of neighborhoods with power outages.

Photo courtesy of the San José Police Department

another public-power community, the city of Ukiah, being offline for four days. It had to rely on backup generation in the city to support essential services.

Steven Poncelet, assistant general manager for Truckee Donner PUD, said his utility suffered collateral damage from PG&E's power shutoffs.

"We are not connected to California electrically, so we were not directly impacted by PG&E's shutoffs," he said. "But during the early October PSPS, when PG&E's website was up, it showed they were going to shut off Truckee. This misinformation from PG&E was picked up by our local newspaper, Sierra Sun, creating a lot of local confusion and additional phone calls to us."

While the City of Palo Alto Utilities did not institute a preemptive power outage, Catherine Elvert, communications manager for the utility, said a small number of residents in the foothills around Palo Alto, who were PG&E customers, lost power on a few occasions.

In far north California, about 500 customers lost power in early October when PG&E shut down four transmission lines that deliver power to Trinity PUD substations. The majority of Trinity PUD's customers are served by transmission lines owned and operated by the federal Western Area Power Administration (WAPA). These WAPA-served customers were unaffected by the outages because WAPA kept all its transmission lines energized.

"As a transmission customer of PG&E, we were told we would receive advance notice of any shutoffs," Hauser said. "We were given about one hour of notice, and no clear idea of when power would be restored. Approximately 6% of our customers were out of power for as long as two days."

What made matters more confusing to Trinity County residents is that PG&E and Trinity PUD provide electricity to different parts of the same county. That meant less clarity about which neighborhoods would lose power, and which would not.

Hauser said all employees were called in to answer calls from customers.

"No one got a busy signal," he said. "Managers and meter readers were taking customer calls."

If the call volume exceeded Trinity PUD's capacity to answer, calls rolled over to a contracted call center.

COMMUNITY CHOICE AGGREGATORS

During the shutoffs, some community choice aggregators were caught in an uncomfortable position; stuck between their customers and the IOUs responsible for delivering electricity to those customers.

Several years ago, California established CCAs as not-for-profit vehicles to procure cleaner energy—whether renewable, carbon-free or less carbon-intensive—on behalf of the residents and businesses in a specific community that was being served by an IOU. The energy procured by CCAs is delivered via power lines owned and maintained by IOUs.

During four October PSPS events, more than 200,000 MCE customer accounts were affected—some multiple times—according to MCE Director of Public Affairs Heather Shepard. MCE serves 470,000 customer accounts across 34 communities in Marin, Napa, Contra Costa and Solano counties.

"To increase overall community resiliency, MCE has been developing several customer-sited resiliency initiatives, including the creation of a $3 million resiliency fund," Shepard said. "In November 2019, we also released an RFP for energy storage providers to help support the adoption of storage for solar customers and especially low-income solar customers."

San Jose Clean Energy procures renewable and carbon-free energy on behalf of about 328,000 customers in the city of San Jose. PG&E's October 9 power shutoff affected about 20,000 SJCE customers. The October 26 PSPS affected about 7,500 SJCE customers, according to Kate Ziemba, the CCA's senior public information representative.

The City of San Jose spent about $760,000 setting up and staffing an emergency operations center during last fall's power shutoffs. Roughly two-thirds of those outlays should be reimbursed by the state.

"You can see on social media postings that people are angry at PG&E," Ziemba said. "People don't want this to become the 'new normal.' But they also seem to understand it was PG&E, not us, that shut off the power."

WILL THE LIGHTS GO OUT ... FOR PG&E?

As the state's largest utility, it should not be surprising that PG&E was responsible for most of the power shutoffs last October and November. Those outages—particularly the way they were communicated—have stoked long-standing resentment against PG&E.

Resentment became outrage when PG&E CEO Bill Johnson said the shutoffs might have to continue for as long as 10 years to enable the utility to update its equipment and catch up on years of underfunded vegetation management.

PG&E was driven into Chapter 11 bankruptcy in early 2019 and hopes to exit bankruptcy reorganization by mid-2020. But the already complicated bankruptcy proceeding grew even more complex and contentious after multiple competing proposals were advanced during the fall to turn all or part of PG&E into nonprofit, publicly owned entities.

Proponents say public ownership of some or all of PG&E could lower prices and improve service. Prices could be lowered because a publicly owned entity would not be obligated to pay dividends to stockholders and could borrow at lower rates than similarly situated investor-owned utilities. Because cooperatives and public power utilities pay no federal income taxes, they could increase investment in service improvements such as more aggressive vegetation management.

The quality of service would improve because leaders and employees would be focused exclusively on serving customers, without the need to generate dividends that can be paid to investors.

San Jose Mayor Sam Liccardo first proposed turning PG&E into a publicly owned cooperative in late October 2019. Two weeks later, his proposal gained the support of two dozen mayors and leaders across the state in a letter to the California Public Utilities Commission.

MCE provided free electric vehicle charging to the public at the MCE Solar Charge EV charging stations at its San Rafael office. Device charging was also publicly available inside MCE's office building.

Photo courtesy of Marin Clean Energy

"We need to align the financial interest with the public interest," Liccardo said of the proposal.

Criticizing PG&E's first PSPS, initiated in early October, he told The Wall Street Journal, "I've seen better organized riots."

Liccardo said a customer-owned utility structure would "allow PG&E to begin the process of restoring public confidence, in part by allowing the public to have a greater role in determining decisions that increasingly have come to define matters of life and death."

A separate idea, floated in September by the San Francisco Public Utilities Commission, called for paying PG&E about $2.5 billion for its assets within the city.

PG&E has said it is uninterested in either idea.

In late October, Gov. Newsom suggested the state could take over PG&E.

"The entire system needs to be reimagined," he said. "PG&E may or may not be able to figure this one out. If they cannot, we are not going to sit around and be passive. We are gaming out a backup plan. If PG&E is unable to secure its own future ... then the state will prepare itself as backup for a scenario where we do that job for them."

Following Newsom's late-October announcement for a reimagined PG&E, Jeff Shields, former general manager of the South San Joaquin Irrigation District in California, sent a letter to the governor advocating turning PG&E into a public power utility.

"Today, when making any decision, PG&E executives ask themselves 'How will this benefit our shareholders?'" he wrote. "Public power utilities ask a different question: 'How will this benefit our customers?'"

Other attempts to municipalize are afoot. Valley Clean Energy, a CCA serving Yolo County, floated a plan to buy PG&E's lines, poles and other assets for $300 million. Sonoma Clean Power, a CCA for Sonoma and Mendocino counties, has investigated taking over some or all of PG&E's electric assets in those two counties, which were hit hard by the Kincade Fire in October 2019.

While the federal bankruptcy court in San Francisco is responsible for approving one among several competing reorganization plans, any reorganization that involves increasing PG&E's retail electric prices must be approved by the California Public Utilities Commission. The CPUC can veto a plan it believes is not in the public's best interest. The CPUC commissioners are appointed by Gov. Newsom. **CWP**

Be Safe Around Natural Gas

Duncan Valley Electric Cooperative reminds you to call your local gas provider if you smell natural gas in or around your home or business.

Natural gas is orderless, so the gas supplier adds a chemical called mercaptan. This chemical has an odor similar to rotten eggs.

A gas leak could be dangerous. If the odor is strong in your home or business, remember to observe these safety tips:

- Do not light matches.
- Do not turn lights on or off.
- Do not use the telephone.
- Notify everyone in the home or building, if possible.
- Call the gas company from a nearby home or business. Duncan Valley Electric's number is 928-359-2503.
- Do not re-enter the building until the gas company has informed you it is safe. ■

928-359-2503

Feel the Love

Five quick steps will help you earn $10 and stay informed about what is happening at your cooperative

Do you want to make doing business with the co-op a little easier? Do you want to be reminded of important due dates on your utility bill? Do you want to be informed about power outages and other communications from your Co-op? Are you interested in making a difference in your community?

If you answered yes to any of these questions, you should consider using one or more of the various communication tools and payment options Graham County Electric Cooperative and Graham County Utilities provide to members. We are confident you will enjoy all of the convenient ways available to communicate and conduct business with us.

To encourage participation in these programs, GCEC will provide a one-time incentive of $10 as a credit to your account if you follow the following five steps.

Step 1. Enroll in our SurePay program. SurePay is easy, secure and free. It's a way to pay your utility bill each month with an automatic

electronic funds transfer. There are no more checks to write, no stamps to buy, no dates to remember and no special trips to the office to stand in line to pay your bill.

When you sign up for SurePay, your money stays in your bank account until the payment is due—usually on the 10th of each month. In most cases, this program gives you more time to pay your bill. Once you try it, we know you'll enjoy not having to worry about when your bill is due. You'll save money by avoiding costly late fees and reconnect fees.

To enroll in SurePay, go to www.gce.coop and click on the link "View/Pay Online." Sign in to your account or click on "Register here" if you are new to the site. Once you have signed in, go to "Communications" on the left side then "Recurring Bank Draft" and follow the instructions to enroll. If you need help setting up your online account or if you have any questions about the enrollment process, please contact our office at 928-485-2451. If you are already enrolled in SurePay, you can still qualify for the $10 incentive by completing the rest of the following steps.

Step 2. Enroll in E-Billing and select the paperless option. One of the co-op's larger expenses is the cost of processing and mailing a paper utility billing statement. Going paperless is a great way to cut costs and still receive an electronic copy of your billing statement. You will also receive an email each month letting you know how much your bill is and a link for you to see a PDF of the bill when you sign in to your account online. You can also retrieve up to two years of past statements online.

To enroll in E-Billing and go paperless, log on to your account online and go to "Profiles" and then click on "Accounts". Verify your profile information is current, including your email address and phone numbers. Follow the instructions under E-Billing and click the box that says "Go paperless."

Step 3. Sign up for Operation Round-Up. This program is a great way to give back to your community. When you sign up for Operation Round-Up, your utility bill will be rounded up to the nearest dollar amount each month. This small amount used to round up your bill is donated to Graham County Electric Cooperative Foundation, a nonprofit organization that uses the funds for youth education, community projects, and utility assistance for low-income members.

We can all make huge difference by giving a little bit each month on the utility bill. To enroll in Operation Round-Up, go to www.gce.coop and click on Member Services>Operation Round-Up. Complete the form and submit it through the website or bring it to our office.

Step 4. Follow us on Facebook. One of the ways we communicate important events and emergencies, including power outages, is through our Facebook page. When you follow us on Facebook, your news feed will include updates from the co-op. This is a great way to stay informed. Go to Facebook and search for Graham County Electric Cooperative and click on the "Follow" button below our banner photo. Share articles on Facebook with your friends to help others stay informed.

Step 5. Once you have completed steps 1 through 4, the last step to receive your $10 incentive is to go to www.gce.coop and click on the "Contact Us" link at the top of the page. Complete all the information, including your name and account number on your bill. Include a comment in the message box that you have completed the five steps and are requesting the $10 incentive.

Once we receive your email and verify you have completed all the required steps, we will process your incentive as a credit on your utility bill. The deadline for completing these steps to receive the incentive is March 31, 2020. In a matter of minutes, you will have made communicating and doing business with the co-op a little easier and made a difference in the community in which we all live. ■

Visit our website at www.gce.coop to be more informed and start saving time

FKEC replaces an old transmission pole with a stronger self-supporting structure in Islamorada at mile marker 77.5.
PHOTO BY BRIAN TIEDEMANN

Every Pole Plays a Critical Role

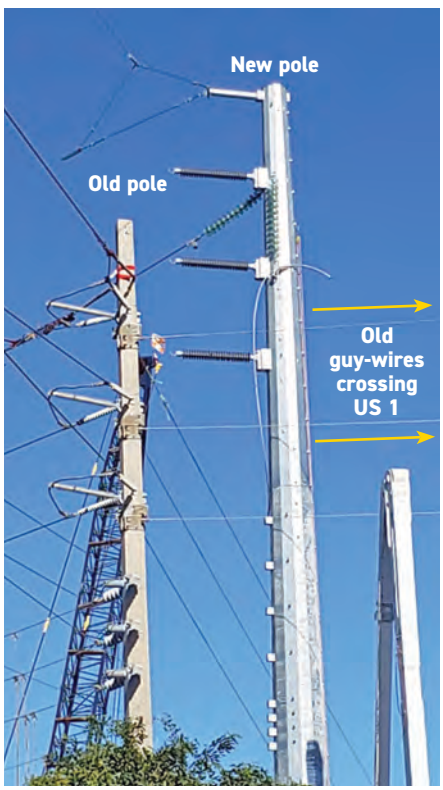
Our transmission system —which carries power from the mainland throughout our service territory— is the backbone of our power system. Meaning one fault within the system could lead to a wide-spread outage. To prevent this, FKEC constantly works to foresee and address any potential issues before a problem occurs.

To improve our system's strength, FKEC recently replaced an old transmission pole that relied on guy wires for stability with a stronger, self-supporting structure. To support the old pole located at mile marker 77.5, guy-wires ran to two guy stub poles.

"In our corrosive environment, any time we can eliminate guy-wires we are improving reliability," explained Tom Anthony, Director of Power Supply and Delivery. "This particular pole showed significant potential for problems. If the guy-wires were to break they could damage nearby power equipment, while of course, also jeopardizing the stability of the transmission pole. It was time to upgrade the structure, and I'm happy we have."

In addition to being self-supporting, the new 80-foot tall galvanized steel pole meets our extreme wind load criteria.

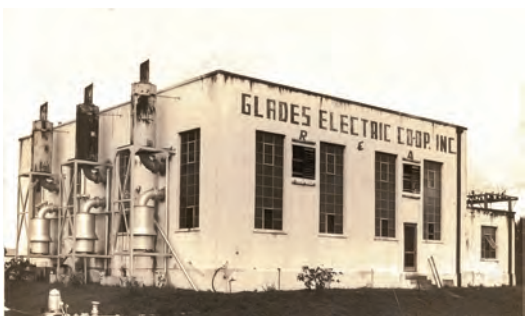
FKEC contracted Pike Electric, a leader in transmission construction, to install the new structure and remove the old equipment. To avoid any disruption to power service, all work was done while the 138,000-volt transmission line remained energized.



Once power service is transferred to the new galvanized steel pole, the old concrete pole and guy-wires will be removed.
PHOTO BY TOM ANTHONY

75 Years
GEC Then and Now

This month, Glades Electric Cooperative celebrates 75 years of serving our members in Florida's Heartland. In the fall of 1944, a few families banded together to create an electric cooperative to take advantage of President Franklin D. Roosevelt's 1936 Rural Electrification Act, which provided federal loans for the installation of electric distribution systems to serve rural areas of the United States. In January 1945, the first members met in Moore Haven to hold the first meeting of members and formally establish Glades Electric Cooperative. We hope you will join us Saturday, March 21 at Moore Haven Middle-High School to help us celebrate the 75th anniversary of our first annual meeting. We began in 1945 as Neighbors Working for Neighbors, and continue that commitment to our members today.



GEC's power plant was built in 1948 and demolished in 1989.

GEC Board President O.N. Sykes presents a plaque to Richard Archbold, one of GEC's first members, recognizing his 25 years of efforts to bring electricity to the rural areas of Highlands, Glades, Hendry and Okeechobee counties. GEC's founding members pioneered the way for a better quality of life for future members and our communities.

June 24, 1948
GEC's power plant is completed, and two 840-kilowatt generators are put into service.

1949
GEC builds its first power lines in Okeechobee County.

1954
GEC's generating plant is put on permanent standby because the operating cost of the plant exceeds the cost of power purchased from other sources. It is occasionally used to supplement other power sources in times of increased load demand. By this time, Seminole Electric Cooperative had been formed to improve buying power by aggregating demand for distribution cooperatives.

1960
The first office building at the current Moore Haven location is built.

Fall of 1944

People begin working to get an electric cooperative started to serve parts of Glades, Hendry and Highlands counties.

January 25, 1945

179 membership applications are collected. Applicants meet at the courthouse in Moore Haven to select a co-op name and elect a Board of Directors.

January 29, 1945

The state of Florida grants a charter to Glades Electric Cooperative Inc.

May 12, 1945

A request is submitted to the Rural Electrification Administration to build 132 miles of line and a generating plant.

July 30, 1945

Bids are opened for construction of 150 miles of line to serve 240 members.

January 1947

The first completed lines are energized, covering the area from west of Clewiston to just south of Road 70 in Highlands County.

December 21, 1947

The next phase of Highlands County lines are energized and services connected by midnight December 24. GEC energized lines now total 220 miles, with 323 members receiving service.

Seminole Electric provides GEC power using natural gas, solar, and coal generating facilities with state-of-the-art environmental control technologies.

GEC still leads the way in Moore Haven, bringing together a group of private and public stakeholders to invest in an economic development plan to revitalize Moore Haven. Community members are pictured in a visioning session with McClure Placemaking team members to discuss the future of Moore Haven.

September 16, 1963

GEC has a total of 724 miles of line serving 2,111 members.

1975

The generating plant is permanently retired.

1989

GEC's power plant is demolished.

1991

Current Lake Placid office is built.

2020

GEC now serves more than 16,000 accounts, with nearly 2,600 miles of lines.

Meet Your GEC Team Member

Glenn Stimson

Q. What led you to work at Glades Electric?

A. I had been doing aluminum work building screen rooms with my dad, and a guy working with us got a job at GEC. He suggested that I go to work there, too, since it was better pay than working with my dad.

Q. What was your first position at GEC?

A. I started on a tree-trimming crew. Back then, Glades had their own tree crews. I was based in Lake Placid, but we did jobs all the way down in Big Cypress.

Q. What other positions have you held?

I was on the tree crew for about a year, a warehouse man for a year, then moved into engineering in 1986. In the warehouse, I pulled materials for crews to take out on jobs, and sorted and restocked any materials brought back to the warehouse at the end of the day.

Q. What kind of training was required to become a staking engineer?

A. I started from the bottom and was trained on the job. I also had three steps of classes to go through. That was before we had classes on the computer, so I went to off-site trainings at Peace River Electric Cooperative and one up in the Panhandle in Marianna. To be a staking engineer now, you need good computer skills, but the most important thing is common sense.

Q. Have you always worked at the GEC office in Lake Placid?

A. I started in Lake Placid before the current office building was built. The office was in the back in the current warehouse. I did work in Moore Haven for two to three years but became based in Lake Placid again when I became a senior staking engineer.

Q. What do you enjoy about your job?

A. I enjoy designing and building things. I like being outside much better than working with computers. It's been a good fit for me. (Side note: Glenn recently built an amazing playhouse for his grandkids, of which any kid would be envious.)

Glenn Stimson pushes the measuring wheel staking engineers use on smaller, tighter spaces. Glenn is the longest-serving employee at Glades Electric. He has been with the cooperative for 36 years—nearly half of the 75 years GEC has served members.

Q. What is one of your most memorable experiences on a staking job?

A. A famous publishing heir had a piece of property in Okeechobee that had to be staked for a new service. Two guys in suits drove me around in a Wagoneer showing me where the line would go, while I sat in the back seat.

Q. What are some of the biggest changes you've experienced through the years?

A. When I started, we didn't use computers. Everything was done by hand: the drawings, the staking sheet and the material list. Computers have made the mapping process better. Before, we had to get degrees and footage, and the mapper would hand draw everything on Mylar paper. Measurements are also electronic now. We use GPS and a special counter on our truck to measure large distances, but we still use a measuring wheel for smaller distances and tighter spaces. ■

Business Spotlight

NAME: Miller's Paint & Body

ADDRESS: 17193 Hwy 102, Jennings, LA 70546

HOURS: Monday through Friday, 8 a.m. to 5 p.m.

PHONE NUMBER: 337-824-6467

FACEBOOK: Miller's Paint & Body

KEY PERSONNEL: Casey and Keegan Davis, owners

What are products and services?
Miller's Paint & Body is your one-stop shop for collision repair, alignments, frame repair, refinish, spray-in bed liners, aluminum repair, paintless dent repair, glass replacement and more.

What makes your business unique?
Our office staff works closely with all insurance companies making sure you, as our customer, are completely taken care of and satisfied. We are a direct repair service shop for many major insurance companies. We are also GM certified and I-CAR certified. We look at every detail to give you the best service. Miller's process puts everything back to factory specs and we even warranty it.

How long have you been in business, and what inspired you?
Miller's Paint & Body is an established business that has served Louisiana since 1976. Casey and Keegan Davis bought the shop in 2015. Casey was an employee of Miller's for several years prior to purchasing it. One of the many reasons we've been around so long is we make sure our customers are always satisfied. We realize sometimes it feels like it can be a long wait, but your wait is well worth it. Casey became I-CAR certified when he attained his degree from UTI in Houston, Texas. Their Road to Gold program has served as his inspiration.

ABOVE: Owners Keegan and Casey Davis say that no job is too small or too big for Miller's Paint & Body. They have repaired RVs, school buses and vans. PHOTO COURTESY OF THE DAVISES

BELOW: Both Keegan and Casey were born and raised in Jennings, and are raising their family here. PHOTO COURTESY OF THE DAVISES

Anything you want people to know about your business?
We use only OEM parts, which come directly from the vehicle manufacturer. We always put safety first, and strive for the best in quality and customer satisfaction. Miller's Paint & Body supports our local teams, schools, clubs and organizations.

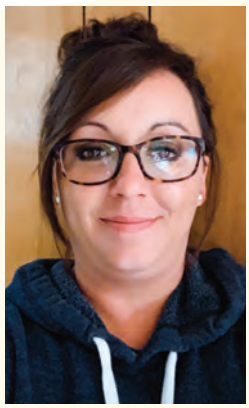
Any plans for expansion or new hires?
We welcome expansion in the near future. Finding qualified collision technicians can be a challenge, but with the SOWELA Collision Vehicle Maintenance & Repair Technology Program nearby, we hope to be able to hire additional techs as needed.

What has been your biggest success to date?
After buying the business in 2015, we realized we had big shoes to fill. As any small business owner can attest, there are many ups and downs, but we are happy that we have had more ups and business is steady. Since 2015, we have bought some of the latest and greatest equipment in collision repair technology. Our shop uses a high-tech computerized electronic measuring system that relies on ultrasound technology for major repairs. Other improvements include a state-of-the-art plasma cutter, a pulse welder, a riveter and frame tools for aluminum repairs.

Do you have a slogan or motto?
You wreck it, we fix it! ■

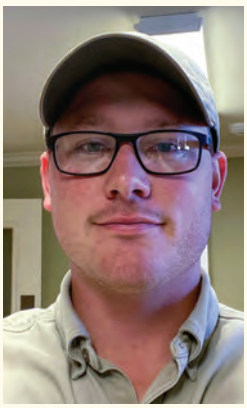
A Salute to Our Own

Jeff Davis Electric Cooperative shines a spotlight on a few of the employees who provide you with exceptional service



Emilee LeBleu

- Emilee has been with Jeff Davis Electric 18 months.
- Emilee's current position is Warehouse Technician.
- Emilee works in the Warehouse Department.
- Emilee enjoys spending time and doing activities with her kids.



Cade Delcambre

- Cade has been with Jeff Davis Electric 5 years.
- Cade's current position is Substation Technician.
- Cade works in the Engineering Department.
- Cade enjoys barbecuing with family and friends.

Kain Miller

- Kain has been with Jeff Davis Electric 10 years.
- Kain's current position is Operations Superintendent.
- Kain works in the operations department.
- Kain enjoys working with his animals, and hanging out with his wife and kids.

Tina Monceaux

- Tina has been with Jeff Davis Electric 14 years.
- Tina's current position is Work Order Associate.
- Tina works in the Engineering Department.
- Tina enjoys spending time with the grandbabies, and going to the deer lease.

JDEC BY THE Numbers

7,185
members

10,399
meters

Winnie Farris

- Winnie has been with Jeff Davis Electric 14 years.
- Winnie's current position is Administrative Assistant/Benefits Coordinator.
- Winnie works in the Administrative Department.
- Winnie enjoys exercising, shopping, and taking naps.

Ryan Crochet

- Ryan has been with Jeff Davis Electric 19 years.
- Ryan's current position is Operations Forman.
- Ryan works in the Operations Department.
- Ryan enjoys working out, mud ridding and restoring old three wheelers.

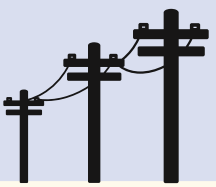
Sharla Prejean

- Sharla has been with Jeff Davis Electric 27 years.
- Sharla's current position is Office Manager.
- Sharla is in the Front Office Department.
- Sharla enjoys antiquing and working in her flower beds.

Kevin Seagraves

- Kevin has been with Jeff Davis Electric 31 years.
- Kevin's current position is Staking Coordinator.
- Kevin is in the Engineering Department.
- Kevin enjoys keeping up with his favorite sports teams.

1,552
miles of distribution line



47
employees

Jeff Davis Electric Co-op, Inc.
We're Connected to You.

Save Time! Pay Your Bill With SLECA's App

SLECA is proud to announce the launch of a new way to pay utility bills using Android or iOS devices

The past few months, SLECA has worked with Google and Apple to develop apps engineered to give you more control when it comes to processing your utility payments, viewing your bill, signing up for alerts and reminders, viewing your payment history and more on smartphones and other mobile devices.

To download, search "SLECA" in your mobile app store. Before you can log in, you must set up a user name and password for your account. That can be done on SLECA's customer portal page at www.sleca.com. 105356001

Below are answers to frequently asked questions. If you have other questions or concerns regarding the app, please contact a member service representative at 985-876-6880 in Houma or 985-631-3605 in Amelia.

Is my device supported?
Our app is supported on the following platforms: iOS 7.0 or later (iPhone, iPod touch and/or iPad) and Android 2.3.x and 4.x.x.

Is the mobile app secure?
Yes! All critical information is encrypted in every transaction run through the app. No personal information is stored on your mobile device. However, mobile devices do offer you the ability to store your login information for apps installed on the device. If you choose to store your login information, any person who has access to your mobile device can access your account.

What are features of the mobile app?
The app gives you the ability to view your bills, accounts and payment history; make secure payments directly from your mobile device; modify or maintain your subscriptions for alerts and reminders; update your billing address or contact information; and contact us via email or phone.

Do I have to buy the mobile app? How do I get it for my phone?
No. It is free to download and install. Search "SLECA" in the app store. If you can't find the app in the Google Play store, it likely means your phone is not supported. See the list of supported operating systems above.

How do I view my bill through the mobile app?
Our app displays PDF versions of your available bills using the PDF reader you have on your smart device. We support and recommend the Adobe PDF reader for best results on Android devices. If you do not have it already installed, our app will prompt you to install it from the Google Play store to ensure you are able to display and view your PDF bills correctly.

I have five accounts. Can I see them all in the mobile app?
Yes. Once you've logged in, you'll be directed to a list of all of your accounts. To see the details for a specific account, simply select that account and the details will display above the list of accounts. If you only have one account, the details for that account will show up as soon as you log in.

Can I make a payment on multiple accounts?
Yes. From the list of accounts, either select the option to pay all accounts or select specific accounts for payment. You can also make a payment to a single account by selecting the payment option when that specific account's details are displayed.

How current is the account information I see in the mobile app?
Information is shown in real time, so it's always accurate. However, if you keep your mobile app open for an extended time, you should refresh the page by selecting a new option to ensure the information is still current.

How do I find your office and payment locations on the app? Do I have to log in first?
You do not have to log in to view addresses or maps to our offices or even to get our contact information. Simply open the app and use the "Locations" link at the bottom of the login screen. ■

A Clear Path for Your Power

Vegetation management in rights-of-way improves reliability.

Rural living is a way of life for an estimated 60 million Americans. For DEMCO, it's the reason we exist.

In the late 1930s, investor-owned utilities did not provide service in rural areas because it was too expensive and less profitable. Thus, electric co-ops formed. (Account number 80276741026)

Back in the day, it was necessary to clear the way for the installation of poles and lines across America. Anyone living along the path of power lines was asked to grant access to their property. Clearing trees and vegetation was integral to the process so everyone living along the power lines could get connected.

This right to continual access along power lines remains a requirement of co-op membership. Getting electricity to people in 1938 and now, neighbors helping neighbors is a foundational premise of America's electric co-ops.

Today, DEMCO maintains and services 8,679 miles of line—enough to stretch back and forth across America from east to west three times. Our co-op provides power to about half-a-million rural and city dwellers—our members—each with equal rights to reliable, safe and affordable power.

With so many miles of line and a hearty mix of members living in the city and rurally, our vegetation management program still calls upon neighbors to help neighbors.

For our members and their families, initial clearings and subsequent regular maintenance ultimately improve reliability and safety for everyone.

The program requires preventive maintenance along co-op rights-of-way every five years. This maintenance includes the clearing and trimming of trees and other vegetation that threaten the transmission and distribution systems.

The vegetation management program sometimes requires that large trees on and around properties be pruned or removed to keep them from threatening DEMCO's electric service and equipment.

In addition to improving reliability, the vegetation management program creates safer working conditions for DEMCO crews. Clear rights-of-way give line crews easier access, which translates to quicker maintenance and repair for our members. ■

BEFORE & AFTER

A before and after picture of a right-of-way shows a safer, more reliable and accessible right-of-way.