February 2018 Share Package
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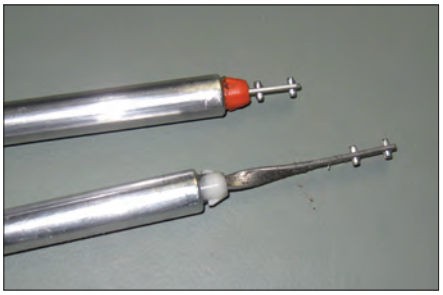
Repair Window Springs on Your Own and Save



Top, tilt-in, double-hung window sashes may need spring adjustment to stay up.

Above, the color of the torsion spring tip indicates the sash weight it can handle.

Photos by James Dulley

To ask a question, write to **James Dulley**, Energy Report, 6906 Royalgreen Dr., Cincinnati, OH. 45244, or go to **www.dulley.com**.

Q: *The sashes on our older tilt-in, double-hung windows stay only partially open or not at all for ventilation. Can I fix them myself without an expensive service call?*

A: This is a common problem with older standard or tilt-in double-hung windows, especially heavy ones with efficient double or triple panes.

It is not only an annoying issue for ventilation. If someone is not expecting the sash to come sliding back down, it can seriously injure fingers between the frame and the dropping sash.

Repairing and adjusting all your windows so the sashes stay open and slide easily in the frame is a simple do-it-yourself project. Other than some screwdrivers, there is just one special tool: a spring charger, which makes the job easier.

Spiral counterbalance springs inside the window frame support the weight of the sash when it slides up. Shoe blocks hold the sash in the frame channel so it can move up and down. For tilt-in windows, the shoes include a pivoting socket for the sash end pins.

Shoe blocks wear through the years. This reduces the friction to help hold the sash open, which means the counterbalance springs no longer provide enough additional support to hold the sash open. As the sash is pushed up farther, the springs exert less force. This is why they may stay open only part way.

On the windows where the sash does not stay up at all, the counterbalance spring has probably broken and must be replaced. Typically, the small plastic end—which makes the spiral spring rotate and tighten—has cracked. You may have heard a snap sound when it stopped staying up. There are two springs per window. They cost about $6 each.

A sash without good springs to support it can be heavy, so wear substantial work gloves. Place a wood block or something thick on the window frame under the sash to protect your hand from being pinched in case the sash slides down while you are working on it.

To replace the spiral springs, raise the sash a few inches and put the wood block under it. Release the sash tilt latches and tilt it in as if for cleaning. Rock one side upward so the sash pin slips out of the shoes, and place the sash on the floor. The plastic sash stops and spring cover should snap off easily from the window frame.

Inspect the small shoe blocks and the pivot centers in them. If they feel loose, replace them. Two new shoes cost about $3. They range in width from ⅝ of an inch to ½ inch, so order the correct ones.

The color of the broken plastic tip of the spiral spring indicates how strong it is. The colors are white, red and blue. They can handle sash weights of 4 to 12 pounds, 6 to 18 pounds and 10 to 26 pounds, respectively. Replace old springs with the same color springs or the next stronger one if your sash weighs near the spring upper limit.

Measure the diameter and length of the old spring aluminum tube only—not including the tip—and order this length. New spring tube diameters are either ⅜ of an inch or ⅝ of an inch in diameter.

Screw the new springs into the frame at the top. Push the spiral spring rod up into the tube. Hook the charging tool to the rod end and pull it down. You will feel the spring tighten. Give it an extra turn or two, and hook it into the shoe block. Put the sash back into the shoe block, push it level and snap it back into the frame. ■

You Are the Heart of Public Power

When it comes to public power and your community, what's not to love?

As store shelves overflow with heart-shaped sweets and cards, February seems a good time to share a local love story: you and public power.

I have never seen a poem written about public power. I doubt many electric co-ops, municipal districts or public/people's utility districts get valentines from consumers (or vice versa), but there is no denying the attraction.

Working side by side, consumers and public power utilities use local leadership and innovative energy solutions to become more powerful together. That phrase—More Powerful Together—is a message I hope you take to heart.

You are more than a number to your public power utility. Your utility wants to deliver—and can deliver—more than just energy. Together, you can do wonderful things.

Local Love

Public power is more than one electric utility or a few people. When I think of public power, I see a vibrant network of economic development and support across our region.

Utilities do more than wait for businesses to join the neighborhood. They work side by side with local chambers of commerce, and city and county governments to attract new jobs and opportunities. At the same time, public power leaders keep the electric system reliable with up-to-date, innovative technology. Thanks to their planning, we have safe, reliable and affordable energy when we need it.

Next time you are driving down the road, keep an eye out for local line crews. They are doing more than replacing poles, installing underground wire or building a new substation. Each step invests in our future. For example, new poles and wires mean greater reliability for homes and businesses. That solid foundation provides a launch pad for future economic growth to keep our communities strong and vibrant.

But growth isn't everything. We can use the public power framework to do more—to take care of each other. When neighbors are in need, many local utilities offer help through community-funded grants. Long before the crowdfunding website GoFundMe.com was built, public power gave communities a way to pool resources to help with everything from local high school scholarships and canned food donations to building ramps to improve access for senior citizens in need.

Public power gives a community tools to reach local goals. What's not to love?

Here's another reason to love public power: Your utility helps you meet your goals with all of the new technology available in today's world.

Want solar power? You can tap the sun by joining a community solar project, or work with public power staff to find rebates and reliable solar panel installers. Public power partners with you every step of the way, helping you find the right solution for your family.

Many utilities offer time- and money-saving apps. Pay your bill, report problems and unlock new ways to work with public power to keep your home efficient. With a focus on innovation, you get more than an app for paying bills. You have a mobile key to savings.

We Are in This Together

One of 49 million public power consumers across the nation, you are the most important part of public power. You are more than a customer. You are a partner.

Your utility wants to work with you to find ways to reduce energy at home and work. Teams of energy professionals stand ready to help, armed with information, programs and rebates to lower the cost of upgrades. This helps you in the short term. After all, who wants to pay more for energy than they need to? It also helps utilities manage long-term energy costs and contracts.

But this partnership only works if everyone takes advantage of it. Take time this month to reach out to your public power staff. Ask about free audits and rebate programs. Find out if there's an app you can use to manage your energy costs. Attend the next business meeting at your utility.

Meet the men and women working hard to support your growing community. Let them know what matters to you, and be ready to help if they ask you to become an ambassador. Engaged consumers like you are the heart of public power.

We are public power.

We are more powerful together. ■

Anita Decker is executive director of the Northwest Public Power Association in Vancouver, Washington, which represents more than 150 public power utilities in nine Western states and Canada


Photo by drubig-photo

Share a Little, Receive a Lot

Customer-assistance programs offer heartwarming ways to help others in need

By Beth Schroder and Jennifer Brown

Across the United States, programs have been created to assist customers of utilities—whether public utilities, cooperatives or municipalities—who are struggling to pay their bill. Some programs are cooperatively run by multiple utilities or an outside agency. Others are managed by a single utility.

The thing these programs have in common is the premise of neighbors helping neighbors. Each program receives at least part of its funding from utility customers making donations to the program to assist other utility customers.

It is a working example of the Golden Rule: "Do unto others as you would have them do unto you."

Many customers making donations express gratitude that the programs exist. Should they ever find themselves in a position to need temporary assistance, they will find others have given to help them, just as they give to help others.

"Having these programs available to help those in need is invaluable, especially during the cold winter months when utility bills are higher," says Brandy Myers, customer service supervisor at Klickitat PUD in Goldendale, Washington.

Many assistance programs provide help to those who cannot pay their utility bill because of a temporary change in their financial situation. Often, people needing help do not qualify for other forms of assistance. The programs supported by their neighbors' donations are their only resource for making it through an unexpected circumstance.

Each program has its own criteria to qualify for assistance. Each also has its own method for utility customers to be a part of the program via donations.

Consumers often can select a flat amount to be added to the utility bill each month to go to the program. Some utilities provide the option to round up the utility bill to the next whole dollar, while others give the option to add any amount to the utility payment.

Generally, customers are asked to call the utility to make arrangements, fill out a section on their bill to donate or make arrangements through their utility's online bill-paying system.

The generosity of the utility's customers is what

makes programs work. And, often, the donations provided by fellow customers are tax deductible.

Utility assistance programs exist under various names across the country, such as Neighbors Helping Neighbors, Utility Assistance Program or Neighbor Aid.

The emergency assistance program at Klickitat PUD is called Operation Warm Heart.

"Generous and caring Klickitat PUD customers have given to this fund since 1989 to help their neighbors in Klickitat County," says Brandy. "All funds raised by Operation Warm Heart stay in the county to help local families who are experiencing a temporary financial hardship."

During the past five years, Operation Warm Heart has given more than $100,000 to help hundreds of families in financial crisis. These situations arise for various reasons: health emergencies, change in employment or some other extenuating issue.

"At KPUD, the donation process mirrors many across the country," Brandy says. "Some customers add $1 or $2 to their bill each month. Some make an annual contribution. Others participate in Operation Round Up, where they have elected to have their utility bill rounded up to the nearest dollar, with the difference going to the Operation Warm Heart fund. Regardless of the method they choose, the willingness of customers to help others in need is impressive."

Big Bend Electric Cooperative in Ritzville, Washington, has established a nonprofit organization called Caring Neighbors.

"Whether it's a lifesaving tool needed by your local emergency response provider or help for a nonprofit medical agency, Caring Neighbors assists communities with getting supplies and services they otherwise could not get on their own," says Manager of Member Services Dale Anderson. "A five-member board meets quarterly to decide how funds should be disbursed."

The cooperative keeps track of how much is forwarded to Caring Neighbors and reports it to members on their bill statement. Since Caring Neighbors is a nonprofit charitable organization with a 501(c)(3) designation from the IRS, members are allowed to deduct their Caring Neighbors contribution on their federal tax return.

The cooperative's staff volunteers time to handle administrative requirements so all funds received can go directly to Caring Neighbors.

"Since Caring Neighbors was started in early 2002, we have distributed over $510,000 to schools, fire districts, ambulance districts, food banks and other 501(c)(3) and municipal organizations," Dale says.

"I wanted to create an opportunity and an avenue for our members to help other members."

—General Manager Bob Perry, West Oregon Electric Cooperative

West Oregon Electric Cooperative in Vernonia, Oregon, rolled out a new customer-assistance program called PowerUp last April. The program funnels money to the Oregon Energy Fund—a statewide nonprofit that has assisted Oregonians in times of unexpected financial crisis for almost 30 years.

"This is something I have wanted to do for quite some time," WOEC General Manager Bob Perry says about the new round-up program. "We very often see a need in our community, especially in the winter time. I wanted to create an opportunity and an avenue for our members to help other members."

PowerUp is just one way WOEC helps its community. The cooperative also participates in the Low Income Energy Assistance Program, and Care-to-Share, an employee-sponsored event that invites children to have their photos taken with Santa Claus.

"That program generates about $800," Bob says. "It's not a big contribution, but it's fun nonetheless."

Get Involved

The tradition of giving is an important one to continue. Check with your local utility to see if it sponsors or participates in an assistance program.

"Unexpected things happen and can cause a temporary hardship," Brandy says. "Having resources available through the utilities that provide power, water and wastewater services to our communities to help customers through those times makes everyone better."

Those struggling to make a utility payment should contact the assistance program their utility participates in. Some programs also offer the opportunity for customers to request assistance for someone they know is struggling, but who may be too proud to ask for assistance themselves. It may provide the helping hand needed to get through a tough time. ■

The Value of Electricity Continues to Shine

By Derrill Holly

The cost of electricity remains one of the best values around. As other staples increase in cost by 3 percent or more a year, electricity increases averages 1 percent a year.

How many of us remember dropping into a Consumers Power office with our parents and grandparents to pay the light bill? Whether you do that today in person, by mail or online, paying your monthly bill does a lot more than just keep the lights on.

Electricity keeps us connected to our modern world. Consider all the necessities and conveniences we enjoy in part because of the power lines running to the electric meter outside your home.

Count up your televisions, desktop, laptop and tablet computers, printers, your gaming consoles, music and video players and personal assistant devices.

Whether they get used every day or just occasionally, the electricity that keeps them working comes from Consumers Power.

Have you looked around your kitchen lately? Between the coffee maker, toaster, microwave and electric skillet, a lot of us have added several modern small appliances.

If you have a craft nook or workshop, the power tools and machines you use to cut and shape your projects are either plugged in or recharged from the outlets connecting your household wiring to Consumers Power.

You use electricity to run all these devices, and we still keep the lights on, use the stove, heating and air conditioning, and get hot water from the tap. Even as we rely more on electricity, it's still a bargain—especially compared to other things we pay for regularly.

Since 2011, medical care, residential rental rates and education have increased at rates of 3 percent or more per year. Butter, meat and egg costs have been up by more than 1 to 2 percent annually, and even bread costs have risen more than a half point, on average.

Electricity costs rise about 1 percent a year, but co-ops across the country have reported a decline in average residential use per household since 2010.

That means we are doing more things with less energy.

Kilowatt-hour use per household dropped by 8 percent between 2010 and 2016—slightly less than the 9 percent decline reported by all electric utilities nationwide.

When it comes to value, electricity is a clear winner. Consumers Power is always looking for ways to work with you to make it even better. That's why We urges energy efficiency, encourage you to look for Energy Star appliances and promote technology designed to give members more control over their electricity use.

That's good for families, couples and individuals trying to live within their budgets.

It's going to become even more important as digital devices and internet-connected technologies become a bigger part of our lives.

The average home now has 10 Wi-Fi connected devices. That number is expected to explode to 50 by 2020.

Technology and the gateways that keep it working use electricity, so you will depend on Consumers Power for more than the power that keeps the lights on.

That is why we're always working to provide service that is reliable and affordable, and make it even more valuable to our members—you, your family and your neighbors. ■

UEC UMATILLA ELECTRIC COOPERATIVE
A Touchstone Energy® Cooperative

SCHOLARSHIPS

UEC wants to help make college accessible to our young members. We hope you apply. For more information visit our offices in Hermiston or Boardman or our website: UmatillaElectric.com. You can also call us at 541-567-6414 or OSAC at 1-800-452-8807.

Umatilla Electric is offering the following scholarships for the 2017-18 school year:

ACADEMIC

Twelve $2,500 scholarships are available for members of UEC and/or their dependent children who are enrolled or planning to enroll in a full-time graduate or undergraduate program at a two- or four-year college. Apply online at: **www.oregonstudentaid.gov** by March 1, 2018.

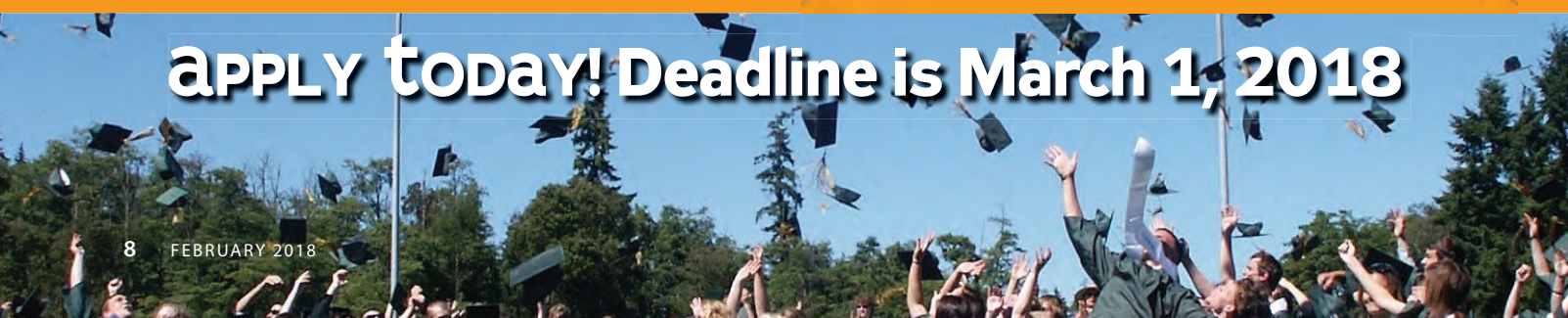
ELECTRICAL ENGINEERING

A $5,000 scholarship is administered to a college student who has completed their freshman year and is interested in pursing a degree in Electrical Engineering-Power Systems. Apply by March 1, 2018 at **www.oregonstudentaid.gov**.

LINEMAN TRADE

A $2,500 scholarship is available to members and/or applicants whose parent or guardian is an active member, and are interested in the Line Construction trade and will be attending an accredited Line College. Go to: **www.UmatillaElectric.com** to download the application. Apply by March 1, 2018.

APPLY TODAY! Deadline is March 1, 2018



It's Money In the Tank

The payoff for heat pump water heaters

By Courtney Cobb

In the market for a new water heater? Save money on your monthly energy bill when you switch to a high-efficiency heat pump water heater.

According to Central Electric Energy Services Supervisor Ryan Davies, water heating typically accounts for 25 percent of your overall electric bill for a total electric home.

A heat pump water heater is more efficient than a standard water heater, he says. If a homeowner switches, they could see their water heating costs cut in half.

Standard vs. Heat Pump Water Heater

HPWHs are twice as energy efficient as standard models and operate differently. HPWHs pull air in from the space around them, extract the heat from that air and exhaust the cold air.

With a standard electric water heater, the water is constantly heated in the tank by heating elements at the bottom and top. When you turn on your hot water tap, the hot water is released from the top of the tank. The water you use is replaced by cool water entering the bottom of the tank.

Another difference is the sound of the compressor and fan when the HPWH is running. Ryan says some people worry it will be too noisy, but the sound is as loud as a quiet dishwasher. Standard electric water heaters make no noise.

Unlike standard water heaters, an HPWH requires a place to drain water that condenses from the air when the unit is running.

Placement

Members should ask CEC's energy specialists about the placement of their HPWH. Depending on the model, they work well inside the home or in the garage.

Ryan says members need to be aware HPWHs can be larger than their old electric water heater, and need more room to operate.

"The HPWH needs to have sufficient space around them so they can extract the heat from the surrounding air," he says. "Placing your new unit in a small closet might not be feasible without the addition of air vents or a louvered door."

Does Size or Brand Matter?

There are technically three tiers of HPWHs. Ryan

says the most common is Tier 2. The most efficient is a Tier 3.

"The difference is the efficiency," he says. "The higher the tier, the higher the efficiency of the product."

"Lately in our office, we have been seeing mostly Tier 3," Ryan says. "It's the most cost effective that companies are making right now."

A variety of companies make HPWHs, from AO Smith to Rheem. For a list of qualifying products, visit www.cec.coop.

Some members question if a HPWH can keep up with their demand. Ryan says they can accommodate larger households.

"All models today are hybrid, so they have a backup electric heating element in them," he says. "If you are consuming more water than the unit can keep up with, it will revert back and kick on the heating elements."

If you have questions about sizing, contact an energy specialist.

Installation and Rebates

CEC offers rebates for HPWHs. Models are identified on an approved product/qualified product list.

"Anyone can install a HPWH as long as it's done to our program specifications, and that includes a homeowner install as well," says Ryan. "All the information is located on our website."

No preapproval is required for a rebate. Members can request a rebate after the unit is installed. However, members must fill out an application and include an invoice or receipt showing proof of purchase, date of installation, brand, model number and cost.

Ryan says the pricing for a HPWH is a little higher than standard units, but CEC's rebates can help offset costs.

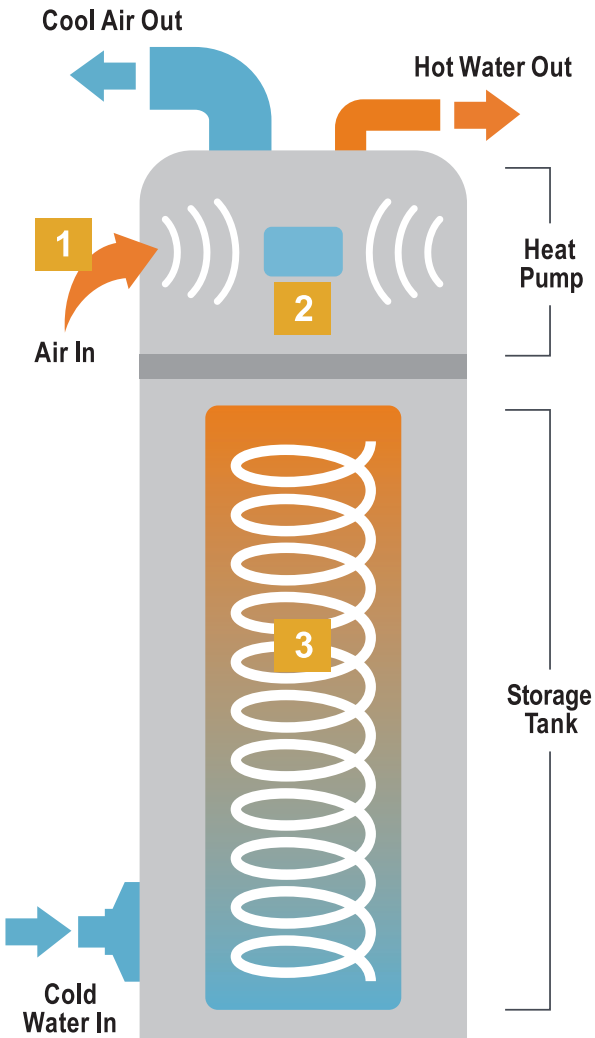
"Members need to think about the savings over the life of the product," he says. "Plus, some products have new features with advanced controls where the unit can be turned off and on remotely, as well as a moisture sensor. If a tank leaks, it can alert you, which might be good for vacation homeowners." ■

For more information on the Heat Pump Water Heater program, visit www.cec.coop or contact an energy specialist at (541) 548.2144.

How Does it Work?

By transferring heat rather than creating it, heat pump water heaters deliver hot water twice as efficiently as standard electric water heaters.

1. The heat pump pulls warmth from the air, even if the air is cool.
2. Warm air is compressed, increasing its temperature.
3. Heat flows through condenser coils that transfer heat to the water.



When Elected Officials Feel the Heat, They see the Light!

Stop by any Coos-Curry Electric Cooperative office today and let us brighten your home with a FREE 4-pack of LED bulbs when you join our grassroots advocacy team, ORECA-Action.

When you sign up as a member of ORECA-Action, you are joining thousands of other Oregonians and rural Americans nationwide who have banded together to make our voice heard about legislative issues that impact the cost and reliability of the electricity we use to power our everyday lives.

Visit www.ccec.com for more information.

ORECA
OREGON RURAL ELECTRIC COOPERATIVE ACTION

Two Icons Retire From Lane Electric

Pair leaves with combined 53 years of experience at the co-op and 76 years in the field

By Craig Reed

Many years of electric cooperative experience walked out of the Lane Electric Cooperative office last month and into retirement.

Wayne Schvaneveldt, 57, bowed out January 8. Dave Davanzo, 62, followed January 31. Both had 38-year careers in the electric cooperative industry.

Wayne spent all of his career with Lane Electric, working the past 21 years as a serviceman for the Cottage Grove, Row River and Upper McKenzie areas.

Dave worked for four electric co-ops. He has been the member services manager for Lane Electric for the past 15 years.

"I'll definitely miss it," says Wayne. "I'll miss it very much. It's been a great career and I would definitely work here again. The best part of my job was talking with the members, especially the older ones who know the electric cooperative history."

Dave expresses similar feelings.

"It's been a wonderful career," he says. "It's a people-based business that has provided relationships with the members, with co-workers and with many others in the industry. The co-op is not privately owned, so we've gotten to be part of the community through interviews, attending different meetings, sitting on community boards and being involved in school events."

Wayne Schvaneveldt has spent all of his 38-year utility career at Lane Electric Cooperative.
Photo by John Murray

Tony Toncray, the co-op's manager of engineering operations, has worked with both Dave and Wayne for many years.

"Wayne has been a cornerstone and a face of Lane Electric," Tony says. "He's been solid in his work and in representing Lane Electric. I know he has thoroughly enjoyed his interactions with our members, and I'm sure he'll miss that.

"Dave is an awesome guy who is well respected in the entire industry. He'll be missed."

Wayne, a 1978 Bandon High School graduate, started working for Lane Electric part-time while attending Lane Community College. He earned a degree in diesel mechanics and was hired full time by the cooperative in 1981. He worked at the home facility until 1984 when he became a groundman equipment operator.

"My goal was to become an apprentice lineman and then a journeyman lineman," Wayne says.

He earned the apprenticeship position in 1986 and began the three-year on-the-job training program, earning journeyman status in 1989. For the next eight years, he worked on a crew, setting poles and maintaining the lines.

In 1997, he became a one-man crew, working as a line serviceman. He had his own service vehicle and on a 24/7 basis was the first responder for any electrical issues in his service territory. Those issues included power outages, voltage problems, connects and disconnects, and underground locates.

"I think I speak for all the linemen when I say storms are always a challenge," Wayne says. "When you work a 12- to 16-hour day for seven or eight days in a row, you know it is all about getting the power back on for the members."

Wayne says that in his career, the longest outage in an area he was involved with

Dave D'Avanzo is a big Elvis fan and kept a large collection of memorabilia in his office.

Photo by Mike Teegarden

was 12 to 13 days. His longest stretch of work without a day off was 13 days.

"It can be hard work and it can be challenging, but you know the majority of people very much appreciate everything we do out there," he says. "People often stop in their vehicles, roll down the window and say thank you. People are always offering coffee, cookies, snacks, even when homes have no power."

Wayne says during those long hours of work following wind, ice and snow storms, the linemen make it a point to look out for each other to make sure everybody remains safe while on the job. Tony says Wayne had an impeccable safety record during his years of work for the co-op.

"You face many challenges as a first responder," Tony says. "Wayne has been stellar in his decision-making throughout each situation. You never had to worry about Wayne being out there in regards to safety."

While Wayne spent most of his co-op years in the field, Dave spent his career working from an office. A graduate of Hermiston High School in 1973 and then of Eastern Oregon University in La Grande in 1977, Dave started his co-op career in 1980 when he was hired as a drafts person by Umatilla Electric Cooperative in Hermiston. He spent 10 years there and was soon doing energy audits, public relations, writing for Ruralite magazine and participating in community service.

To move up to a manager position, in 1990 he moved across the country and became the member services manager at Claverack Rural Electric Cooperative in northeastern Pennsylvania. But he was there only for a year because Bill Kopacz, whom he knew from Umatilla, became the general manager at Midstate Electric Cooperative in La Pine and offered Dave the job of member services manager at Midstate. Dave accepted and worked in central Oregon until 1999, when he worked a few years as a distributor for a new piece of heating and cooling equipment that was being developed and introduced to the electrical industry.

Dave returned to electric cooperatives in 2002 when he was hired as manager of member services for Lane Electric.

"We've gotten some fun things done, some changes done to our systems," Dave says of the past 15 years at Lane.

He was the project leader for the introduction of the original automated meter reading system for the co-op.

"We've upgraded our processes, our procedures, we've really enhanced our community service involvement," he says. "Our goal was that the communities we serviced understood we were their company. We wanted people to know it is a member-based, a person-based co-op and not just another business down the street."

John Murray, energy services representative at Lane Electric, says Dave built his legacy at the co-op on hard work, determination and caring for others.

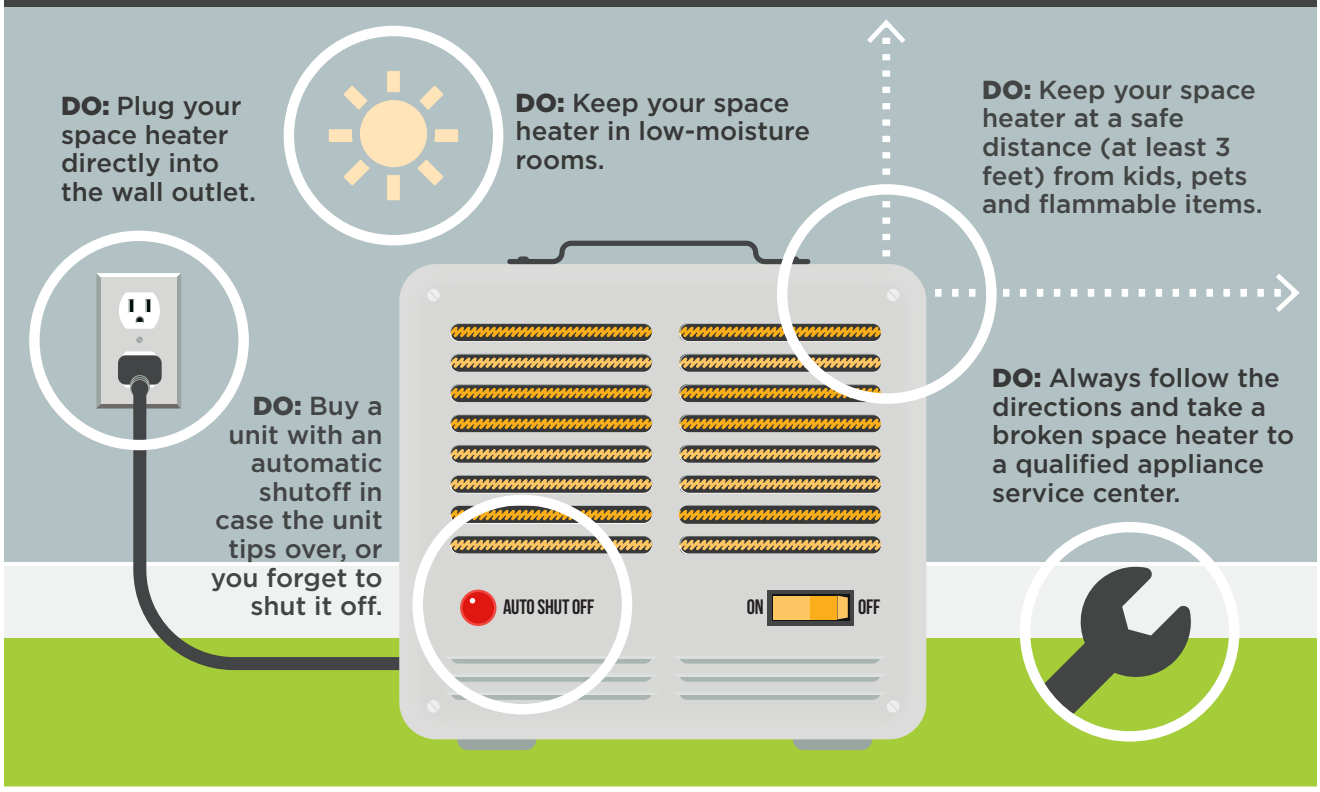
"If there was ever a need among our members, our community or from the employees, he was there for all of us," John says. "He was always helping in any way possible and finding solutions in tough situations with compassion and sensitivity. His positive attitude and true character will truly be missed by everyone."

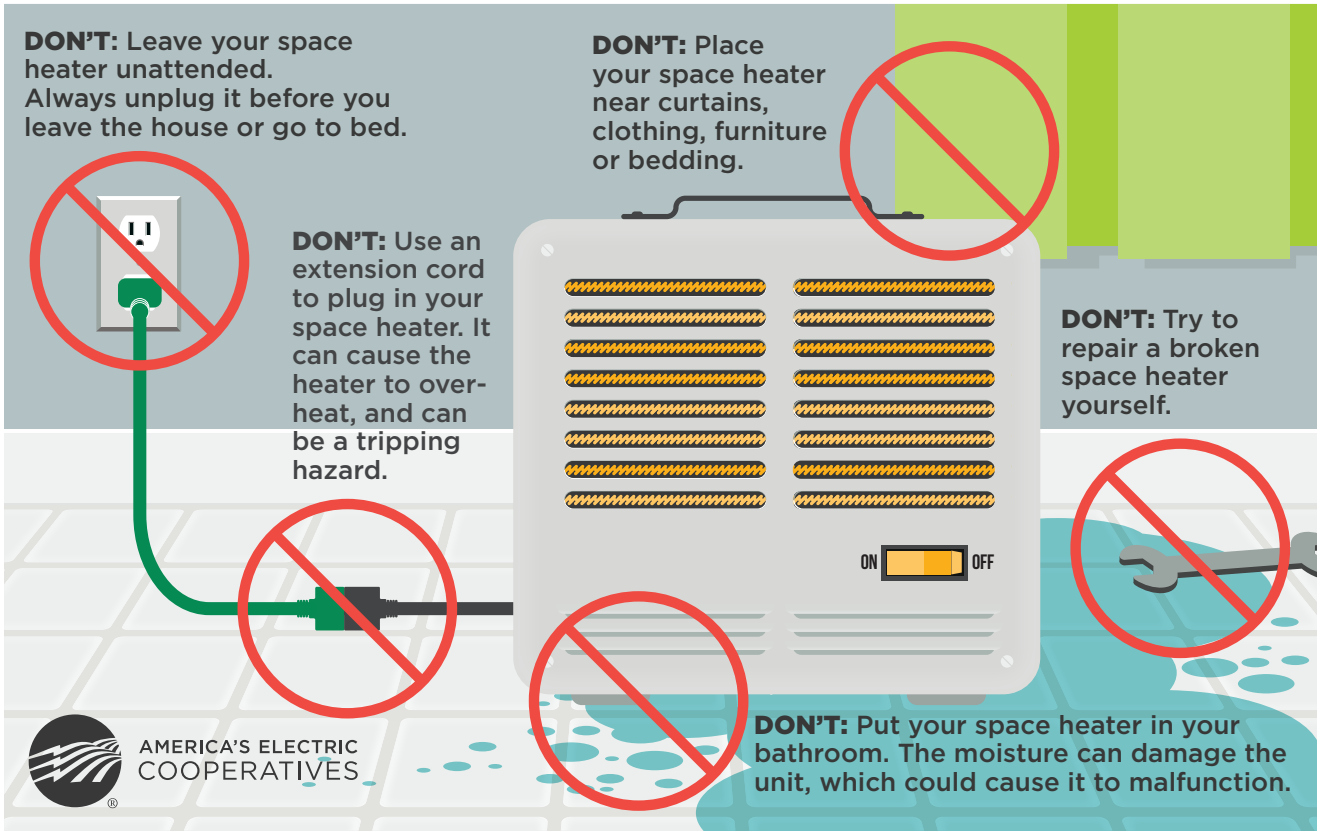
Of his decision to retire, Dave explains that the time is right to spend more time at home and more time doing new things. He says announcing his retirement was bitter sweet.

"It's a new beginning," he says. "I'm not sure what lies ahead, kind of like my first day at Umatilla Electric on June 16, 1980. I wasn't sure what was in store for me then, but I was pretty sure it was going to be OK, and it was thanks to countless friends, partners and counterparts." ■

Space Heater Safety Tips

Space heaters are a great way to warm specific rooms in your home without having to crank up the thermostat, but using space heaters doesn't come without risk! Use the tips below to keep your home safe.





Attention, Photographers

Your photo could be on the cover of Ruralite magazine

Harney Electric Cooperative is hosting a Ruralite cover photo contest, with winning entries earning $25 power gift certificates.

- **Each member may submit up to five photos.**
- **All submissions must include the photographer's name and location of the photo.**
- **All submitted photos must be taken within the HEC service territory.**
- **Contest is open only to HEC members.**
- **Submissions must be high resolution, vertical digital images in jpeg format sized to approximately 8-by-10 inches.**
- **Prints will not be accepted.**
- **The contest will be judged by Ruralite editors.**

Email your high-resolution photos to **heather.bailey@harneyelectric.org** or deliver a CD with high-resolution images to the Harney Electric Cooperative office. One winning photo will be featured on the cover of an upcoming HEC edition of Ruralite magazine. Second- and third-place photos will be printed inside the magazine. The first-place winner also will receive a poster print of the cover with their winning photo.

Deadline to submit photos is February 26, 2018.

By submitting photos to this contest, you agree to give Harney Electric Cooperative the right to use submitted photos on the cover of Ruralite magazine and on the HEC website and Facebook page.

Tips to Improve Your Photography

- **Read the contest rules carefully.** Make sure your photos meet the resolution standards required. No horizontal photos will be accepted.
- **Check your focus.** Even slightly out-of-focus images will not make the cut.
- **Look for the light.** Wait to shoot when the sun is low in the sky, either at sunrise or sunset.
- **Practice.** Professional photographers practice their craft, so why shouldn't you? Experiment with the settings on your camera and lenses, read a book, take a class. The more photos you shoot, the better odds you have of making one that will be a winner.

The Tillamook PUD Light Brigade was formed in 1993, formalizing a tradition of giving since 1963. Tillamook PUD staff and family take part to make ensure as many families as possible have a wonderful holiday.

Tillamook PUD Volunteers Help Make the Season Brighter

Tillamook PUD Light Brigade volunteers warm hearts and homes with their seasonal giving in the community

Tillamook PUD employees have been donating to local children in need since 1968. Over time, a more formal and broad structure evolved. In 1993, the Tillamook PUD Light Brigade was formed.

The Light Brigade is a volunteer group of PUD employees and family members who help bring a little extra joy to local families during the holidays. Through contributions of employees and community partners, the Light Brigade buys and assembles food and gifts for those who might otherwise go without.

"I've had the wonderful opportunity to participate in Tillamook PUD's Light Brigade program for several years, and I've been amazed, overwhelmed and touched at what our employee volunteer program accomplishes," says Linda Kjemperud, the group's co-chairwoman.

Volunteers prepare boxes filled with food, toiletries, cleaning supplies and ingredients for a complete holiday meal, as well as buy and wrap gifts for children and seniors.

The food and gift boxes are delivered to families in need the week before Christmas.

The Light Brigade works with the Tillamook Ecumenical Ministries Christmas Basket Program to select families each year. The bulk of the funds for Light Brigade activities comes from voluntary payroll deductions. In addition, individuals and businesses contribute gifts,

Left, PUD staff, from left, Tammy Rodrigues, Shirley Scott, Valerie Hagan, Laura Hurliman and Danielle Ryan wrap and organize gifts for families. Below, PUD staff member Randy Foshee and granddaughter Lilly Weber load items on delivery day.

Above left, PUD staff, from left, Mark Weber, Crissa Alexander and Tammy Rodrigues prepare household supply boxes for families. Above right, PUD staff Laura Hurliman, left, and Valerie Hagan present a donation check to Nestucca Valley Elementary School students Joe and Ty Foster for the schoolchildren in need fund.

food and other items.

The long-standing tradition of employees giving contributions to schoolchildren continues. The Light Brigade donates $1,500 to $2,500 each years on a rotating basis to one of the three Tillamook County school districts. Donation amounts depend on the number of schools in each district. The donations are used by the schools to provide coats, shoes, school supplies and medical transportation for any child who has a need.

In December, the Light Brigade provided food and gifts for 18 Tillamook County families, including 22 children and six seniors. Volunteers also raised enough money to help pay the electric bills of three struggling families, and $500 was given to each of the Nestucca Valley School District schools.

Volunteers are eager to ensure every Light Brigade recipient receives a Christmas they won't forget.

"On delivery day, after months of planning and hard work, employees and their family members are filled with excitement as they load their vehicles with holiday food and gifts to meet the families adopted that year," says Linda. "Experiencing firsthand the way faces light up with joy and the look of relief and appreciation from the adults is a memory that will live on for a long time." ■

How You Can Help

For more information about the Christmas Basket program and how you can help, contact Dave Stuck at the Tillamook Ecumenical Ministries Community, (503) 842-6192.

TILLAMOOK COUNTY CALENDAR OF EVENTS

February 1

Tillamook County Republicans meeting, 7 to 9 p.m., Tillamook PUD Carl Rawe meeting room, Tillamook.

Contact Tom Donohue, (503) 965-9970.

February 1–February 12

Art Expression for Youth in fourth grade and up, 3:30 to 5 p.m., OSU Extension Office. Register at http://bit.ly/Tillamook4-H.

Contact the OSU Extension Office, tillamookextensionoffice@oregonstate.edu or (503) 842-3433.

February 1–February 17

Downtown mural project for middle and high school students, 10:30 a.m. to 12:30 p.m., OSU Extension Office. Register at http://bit.ly/Tillamook4-H.

Contact the OSU Extension Office, tillamookextensionoffice@oregonstate.edu or (503) 842-3433.

February 1–22

Take Off Pounds Sensibly meeting, every Thursday, 10 to 11 a.m., IOOF Hall, 9330 4th St., Bay City.

Contact Pat Neman, (503) 801-2229.

February 1–28

Pinochle, Friday and Tuesday, 10 a.m. to 2 p.m. Bunco, first Wednesday at noon, second Wednesday at 11 a.m., Tillamook Senior Center, 316 Stillwell Ave.

Contact Barbara, (503) 842-8988.

February 1–March 1

Preserve@Home online food preservation training. Register at http://bit.ly/TillamookFoodPreservation.

Contact Nancy Kershaw, (503) 842-3433, nancy.kershaw@oregonstate.edu.

February 1–March 3

Express Yourself! With Acrylics class for adults, 10:30 a.m.-12:30 p.m., OSU Extension Office. Register at http://bit.ly/TillamookFamilyHealth.

Contact the OSU Extension Office, tillamookextensionoffice@oregonstate.edu or (503) 842-3433.

February 1–March 8

Knitting workshop for youth in fourth grade and up, 3:30 to 5 p.m., Latimer Quilt & Textile Center. Register at http://bit.ly/Tillamook4-H.

Contact the OSU Extension Office, tillamookextensionoffice@oregonstate.edu or (503) 842-3433.

February 1–March 30

Strong Women & Strong People programs (strength training for mid-life and older adults). Register at http://bit.ly/TillamookFamilyHealth.

February 1–April 5

Master Gardener Training, 9 a.m. to 4:30 p.m., OSU Extension Office. Register at http://bit.ly/TillamookMG2018.

Contact Joy Jones, (503) 842-3433 or joy.jones@oregonstate.edu.

February 1–April 15

Frances Stilwell collection of paintings, "Oregon's Botanical Landscape: An Opportunity to Imagine Oregon Before 1800," 10 a.m. to 4 p.m. Tuesday to Sunday, Tillamook County Pioneer Museum.

Contact Tillamook County Pioneer Museum, (503) 842-4553.

February 2 – February 4

Nehalem Winterfest Music Festival. Times for performances and events vary. Performing Arts Center, 36155 9th St., Nehalem.

Contact North County Recreation District, www.ncrd.org or (855) 444-6273.

February 8

Parkinson's support group meeting, 2 p.m., Adventist Church Community Service Center, Tillamook.

Contact Michael & JoAnne Love, (503) 355-2573.

February 9

Senior Center potluck, 11:30 a.m., Tillamook Senior Center, 316 Stillwell Ave.

Contact Barbara, (503) 842-8988.

February 10

"Your Art's Desire" benefit for art literacy in local elementary schools, 6:30 to 9:30 p.m., Kiawanda Community Center, Pacific City.

Contact Nicola Harrison, communityartsproject101@gmail.com or (503) 550-9655.

February 11

Unity Rebekah 51 breakfast, 8 to 11 a.m., IOOF Hall, Fourth Street and Hays Oyster Road, Bay City.

Contact Bonnie Ketchum, (503) 801-0453.

February 13

Shrove Tuesday Pancake and Sausage Dinner, 5 to 7 p.m., St. Alban's Episcopal Church, Tillamook. Adults $8, children under 12, $5.

Contact St. Alban's Church, (503) 842-2070.

February 13

Tillamook County Historical Society meeting, 11 a.m., Tillamook Bay Community College.

Contact Sally Rissel, (503) 781-4102.

February 13

Tillamook County Beekeepers Association meeting, social 6 p.m., meeting 6:30 p.m., OSU Extension Office, 4506 3rd St., Tillamook. Open to the public.

Contact Claire Moody, claire@vanirmail.com or (503) 318-9149.

February 13

Healthy Families Enrollment Fair, 1 to 3 p.m., Department of Human Services, Tillamook.

Contact Healthy Families, (503) 842-2773.

February 18

All-you-can-eat pancake breakfast, 8 a.m. to noon, Bay City Arts Center.

Contact (503) 377-9620.

February 19-March 5

Tillamook County Pioneer Museum closed for annual maintenance.

February 27

Healthy Families Enrollment Fair, 1 to 3 p.m., Champion Park Apartments, Tillamook.

Contact Healthy Families, (503) 842-2773.

To list items in the calendar, contact Joana Stelzig at (503) 815-8602 or jstelzig@tpud.org

Fiber Construction Begins to Sandy Valley

Members one step closer to high-speed broadband

By Vern Hee

SANDY VALLEY, Nev. – The last remaining hurdle before fiber-optic cable could be hung on Valley Electric Power lines into Sandy Valley was cleared Jan. 8 during a meeting between officials from Valley and the Federal Bureau of Land Management.

While other members of Valley began broadband service in 2016, Sandy Valley member-owners have waited 19 months for the fiber-optic cable. The delay involved obtaining construction approvals to hang fiber on already existing power poles in sensitive areas containing protected species of plants and animals, including the desert tortoise, which is hibernating this time of year. BLM and VEA officials had to devise a plan to minimize harm to plants and animals as trucks and other equipment used to hang cable on the poles, traveled across the desert.

The final agreement was met with sighs of relief from Sandy Valley residents.

"I am the secretary for the County Advisory Council here in Sandy Valley, which is the town board, and we are so looking forward to more reliable Internet," said Electra Smith. "I do everything online, and for the town board I have a small window in which to get the agendas of the meeting to the county. Recently our current Internet has been popping in and out, and that has happened more than once on the day that I had to send the agendas."

To get fiber to Sandy Valley, VEA must hang cable on poles from Highway 160 through 12 miles of BLM land, said Kristin Mettke, VEA Executive Vice President of Engineering, during the construction meeting. "The work will be entirely aerial work with no underground cable, and there are very few times where we will have to leave the access road."

On Jan. 8, representatives from Valley Electric and BLM gathered in Sandy Valley to iron out construction plans for stringing fiber-optic cable across desert lands. From left, Glen Church Jr., and Victor Gibbs, both of B&E Consulting; Kristin Mettke of VEA; Cassy Albush of BLM; and Richard Villagran of K&LA Consulting, an environmental consultant working with VEA.

Photos by Jeff Scheid

Work began Jan. 8, the same day the agreements were signed, said Bear Merritt of Par Electric, the contractor that will be doing the work. The work was expected to continue through most of February with homes and businesses being connected toward the end of February or the beginning of March, said Kathie McKenna, Chief Operating Officer of VCA.

"We are thrilled for the people of Sandy Valley that the process of bring broadband to them can proceed," said Kathie. "Broadband is a critical service for everyone, and we are grateful that the wait is finally over."

Because there will be no underground cable and no grading in the desert, only minimal impact to the land was expected. Also, VCA will work on an existing access road that will minimize any disturbance to the environment.

Wendy Seley, BLM Realty Specialist, said that besides the hibernating tortoises, anything of historical significance found along the way, including prehistoric artifacts, would be on the "do not disturb" list.

Glen Church, the Project Manager for Biological & Environmental Consulting, a company contracted by VEA for the Sandy Valley project, outlined during the meeting how two field biologists would assist the VCA fiber team in navigating through the desert tortoise habitat.

It is illegal to touch, disturb, harass, harm or poach a desert tortoise.

"Fines could be upward of $50,000 for taking a tortoise from its habitat, and there could be as much as two years in prison," Glen said.

Even though the tortoise is hibernating now, the BLM biologists will ride ATVs ahead of the construction vehicles as they install the cable and they will be steering the construction workers clear of any tortoises, their burrows and even vital plants that the tortoise feed on for survival.

"The biologists are there to make sure that no biologics are harmed or killed," Glen says. "They will travel ahead of you and clear various areas as you go from pole to pole. They are out there to help you stay off all the biologics, making sure nothing is harmed or killed in any shape or form that could cause you a problem of being in noncompliance."

In addition to the biologists, all VEA personnel and contractors on the jobsite have to go through desert tortoise training. ■

Victor Gibbs talks with Kristin Mettke.

Radio towers like these will bring high-speed broadband to homes and businesses.

As it has for other communities in VEA territory, broadband will be significant for schools, businesses and residents.

A Star Is Born

VEA's digger truck has role in film about Dick Cheney

By Ginger Meurer

Valley's Electric's 1943 digger truck "adds authenticity" to "Backseat," produced by Brad Pitt.

One of Valley Electric Association's own is set to join Christian Bale, Amy Adams, Steve Carell, Alison Pill, Sam Rockwell, Bill Pullman, Shea Whigham, Adam Bartley, Tyler Perry, Stefania LaVie Owen and more big stars in the film "Backseat."

Reuniting much of the cast and crew from the critically acclaimed "The Big Short" – including director Adam McKay, actors Bale and Carell and producer Brad Pitt – the film is scheduled for a 2018 release.

According to the Internet Movie Database, "Backseat" is set to share "the story of Dick Cheney, the most powerful Vice President in history, and how his policies changed the world as we know it."

To do that, filmmakers needed to recreate a scene depicting Cheney (played by Bale) working with an International Brotherhood of Electrical Workers crew on electrical transmission lines in Wyoming, Utah and Colorado. Key to that scene was VEA's big star, its historic 1943 pole digger truck.

Butch Caple, Manager of Support Services for VEA, says moviemakers were excited to find the vehicle.

"They started doing a search on the internet, and they saw the truck, and they tracked us down," he says. "They thought it would add a little authenticity to the movie."

The Chevrolet truck, used to drill power line poles until 1969, is the co-op's first mechanized piece of equipment. In 2013, the truck was restored to pristine period condition after years rusting on display in a field at the Pahrump Valley Museum.

Nowadays the truck enjoys celebrity vehicle status with appearances in parades and car shows.

"We always have it going somewhere," Butch says. "It's our community truck. It's our co-ops truck. So, we try to let the members see it. I think they appreciate it."

Just like any actor, the digger truck had to go into makeup prior to filming north of Los Angeles in late September.

"They had to make it look dirty because when we got it there it was, of course, pristine," Butch says.

The crew considered three treatment techniques before arriving at a spray that would make the truck look authentically grungy without hurting the finish.

"We are very careful with it," Butch says. "We want to really protect it."

Butch says the art director came by to see what the truck's capabilities were, asking if they could articulate the auger.

"We told him that we could, and that lit up their eyes a little bit to help authenticate what they were doing. It went from a static truck to a moving truck in the scene," Butch says.

The truck isn't the only VEA talent that may make it into the film. Mechanic Joe Bolan, who was in the back operating the truck, may make his silver screen debut, and then there's Butch, or at least his elbow.

"I was in the truck, and I had my elbow out the window," he says. "So that's my claim to fame there."

This could be just the beginning of the digger truck's film credits.

"They know us now," Butch says. "I'm sure they have a photo journal they keep of all their equipment they've ever used, so I wouldn't be surprised in the future if we don't get a call." ■

Co-ops: We Come in All Shapes and Sizes

By Abby Berry, National Rural Electric Cooperative Association
and Amy Murphy, AVEC

Village residents eager to have electric power helped install distribution and generation facilities in the late 60s and mid 70s.

What is a co-op, exactly?

When you hear the word "co-op," what comes to mind? We hope you think of your friends here at Alaska Village Electric Cooperative (AVEC), but maybe you think of a credit union.

You might be surprised to learn that co-ops, or cooperatives, can be found in many industries—and they offer a variety of services, each designed to serve their members in the best way possible.

A cooperative is a not-for-profit organization owned by its members. Across the globe, cooperatives remain steadfast, annually generating more than $500 billion in revenue and providing more than two million jobs.

AVEC is a not-for-profit electric utility established under the Rural Electrification Act of 1935, part of President Franklin Delano Roosevelt's New Deal which was intended to put Americans to work building lines to serve rural communities that were not connected to electricity. AVEC was established in 1967 to bring electricity to village Alaska, very few of which had electric service in the 1960s. We energized our first communities in 1968.

Electric cooperatives were created to provide at-cost electric service. Unlike investor-owned utilities, cooperative members can earn capital credits. Each year that AVEC earns a margin (revenue collected that is not needed to cover the cost of providing service), it is assigned to members in proportion to the amount they were billed for electricity during that year. These funds, called capital credits, are retained by the co-op as a source of working capital for approximately 17 years and are refunded at the discretion of the Board.

As a member of AVEC, you also have a voice - in other words, you're not just a customer. Every year delegates you elect at the local level represent your community at AVEC's annual meeting. And each spring every member has the right to vote for the cooperative's board of directors. We also encourage you to contact AVEC with questions or suggestions year-round.

Local Support

AVEC strengthens our communities by supporting economic development and upgrading infrastructure to improve generating efficiency and keep electric rates as low as possible. As our service area grows, our distribution system grows, which makes it easy to see why strengthening the local economy makes sound business sense.

We are involved in various local projects, such as hiring locals to work on our construction projects; working with local entities to apply for grants for various energy-related projects, like new LED streetlights and stainless steel meter bases; providing scholarships so students can pursue higher education to develop skills and careers they may be able to engage in locally or regionally; and providing donations for numerous events like spring cleanups and various festivals.

Co-ops offer a variety of services

So what other kinds of co-ops are out there? Co-ops fall under a variety of categories and services, including agriculture and forestry; consumer and retail; banking and credit unions; health and wellness; and utilities, to name a few.

Here are a few other national co-ops you might recognize.

- REI: What began as a group of 23 mountain climbing buddies is now the nation's largest consumer cooperative, specializing in quality outdoor gear.
- Sunkist: This not-for-profit company's membership is comprised of numerous growers located throughout California and Arizona.
- Best Western: Owned by independent operators of more than 4,000 hotels in 80 countries, Best Western is one of the world's largest hotel chains.

The list of cooperatives goes on and on, and as you can see, we come in all shapes and sizes. At AVEC, our mission is to provide you with safe, reliable, and affordable electricity.

For more information about the services we offer, visit our Website (www.avec.org) or our Facebook page, or call us toll-free at 1-800-478-1818.

50 Years: 1968 - 2018

Historical Tribute to Plant Operators

Former Plant Operator Joe Jerue of Anvik.

AVEC has overcome countless obstacles since it first started providing power to a few remote villages in 1968. The cooperative philosophy of providing at-cost electric power required members and staff to work together to build the infrastructure and then operate and maintain it.

Last year AVEC added its 58th community, expanding our service territory and membership even more. None of our success would have been possible without the efforts of our dedicated power plant operators. Below is a story about a former multi-talented plant operator that was first printed in the October 1973 issue of "The Village Voice," a newsletter that was an informative joint effort of Rural CAP, CEDC and AVEC.

"Joe Jerue – Our Man in Anvik

The Alaska Village Electric Cooperative is a cooperative in every sense of the word; meaning it takes all the Cooperative members and staff working together to bring continued electric service at the lowest possible cost to its 48 member villages. Every person connected with the Cooperative is important in that sense, but if one position were to be considered more vital than the other, it would be the position of the power plant operator.

This man, the plant operator, is responsible 24 hours a day, seven days a week for an electrical installation averaging at a cost of about $100,000 for each installation. All of these men are capable, while doing only their required duties, of keeping down high maintenance costs and preventing costly accidents. One such man is Joe Jerue, AVEC's plant operator in Anvik, an Indian settlement on the Yukon River.

Joe, a 62-year-old Athabascan Indian, has been AVEC's plant operator since AVEC first came there in 1971. Although Joe has had little formal education (fifth grade), his work experience and natural aptitude for mechanics has gained him the respected reputation as one of AVEC's best plant operators.

In his younger days, being a very ambitious man, he supported his family with a nine-day trapline, for eight years. He then worked eleven years at the mines in Stuyahok and Flat, which is about 80 miles southwest of McGrath. When World War II broke out he worked at the Galena airfield, then got a job rafting oil drums down the Tanana River from Nenana to Tanana for the Army. In 1947 Joe started his own sawmill which he operates to this day in the summer months. As a result, he has built his own two-story home, which has a beautifully varnished hardwood planked floor and dark-stained interior trim.

Since 1957, he has been the maintenance man for the village school. Until Anvik received AVEC power three years ago, an important part of his job was to keep the school generators running. The school still employs Joe. "He's fantastic, it's amazing what he can fix with nothing," an Anvik school teacher remarked. "Before we got plant, it was awful bad," commented Joe. "The school had the only reliable source of power. Some families had small generators, but they wore out fast."

During the springtime, Joe copes with annual floods that overturn fuel tanks and flood the generators. "Once the generators stood underwater for five days. I blowed and dried them out, it took seven or eight hours and my alternate helped. They still worked," said Joe. "The meters went underwater, but drained out and never gave no trouble," he added. In fact, one house was saved from being carried down the Yukon by the lines connecting it to the meter box, although it now faces a different direction.

In the winter when temperatures often drop to 60º below or better, the plant must still be checked three times daily, meters must be read and recordings made, even emergency repairs on snapped buried powerlines from frost heaves must be made. Joe's ability to continuously match wits with machines and Mother Nature, and usually win, is amazing, but to Joe it's just part of the job. Speaking of his job, Joe routinely describes his prowess, "that's all I did all my life. Ever since I was old enough, I worked on engines and generators. There were always instructions to go on."

Joe Jerue, like many of AVEC's plant operators, does not waste time cursing misfortune. They are men who capably rise to the occasion when needed, and needed they are in this cooperative sense: The Alaska Village Electric Cooperative is not just a utility being operated by a management staff, but a Cooperative whose success depends on every individual member sharing, and helping to carry the load."

A big thank goes to all of our "Joes" throughout the years.

Let's Power Value

Think about how much electricity contributes to your life—and for just pennies an hour

Everyone knows what the value of electricity means to our lives. But do you know it has a monetary value, too?

Electricity makes our lives better and easier. It provides the energy that lights our homes, cooks our meals, keeps us cool in the summer and warm in the winter, allows us to watch television, and charge our smartphones and laptops. It powers our clocks, our household appliances and our power tools.

You get the picture. Electricity is a common thread in the fabric of our everyday lives that is often overlooked and taken for granted. So is its bargain cost. For all it does and the numerous ways it enhances our lives, electricity costs pennies an hour.

The average American spends less than $4 a day on electricity—less than the cost of one of those fancy coffees you may have bought recently. The $4 a day is also well below the cost of many other items, such as $7 for a burger and fries, $8 for popcorn at the theater and $40 for a pair of jeans.

Escambia River Electric Cooperative strives to maintain affordable energy costs for its members. Affordable electricity rates are not mere happenstance, but achieved through EREC's vigilant efforts to keep pricing as affordable as possible while delivering electricity safely and reliably.

EREC buys electricity from PowerSouth Energy Cooperative, which is owned by 20 electric distribution systems in Alabama and Florida. PowerSouth helps control costs by using a diverse mix of coal, natural gas and hydroelectricity to generate your electricity. This diversity allows PowerSouth to choose the cheapest resources for power generation.

Other factors also affect the cost of generating and delivering power to our members. We have invested millions of dollars in infrastructure to meet the demands of a growing population base. The expense to build substations and install power lines impacts the bottom line. Because we are a cooperative, all the expenses are shared by you, our members.

While much has changed through the years, one thing has not: EREC's commitment to safely and reliably provide electricity to you at the lowest possible cost.

We value your membership. We value you. ■

Top, from left, Scott Blackmon, Jason Bedsole, Tyler Prescott, Tony Moody and Wesley Clark (on the Bobcat) work together to lay conduit for underground electric service at a new subdivision. Bottom left, Jason applies pipe glue to the conduit that will house electric cables. Bottom right, Tyler and Wesley install conduit in the trench.


Bobcat
E42

Keep It Safe

Exercise Caution With Power Tools

Develop a culture of safety when using any device powered by electricity

Power tools require skilled use and safety sense. Operators should carefully read the product instruction manual and take precautions before use.

Here are some tips from the Electrical Safety Foundation International.

What to Do

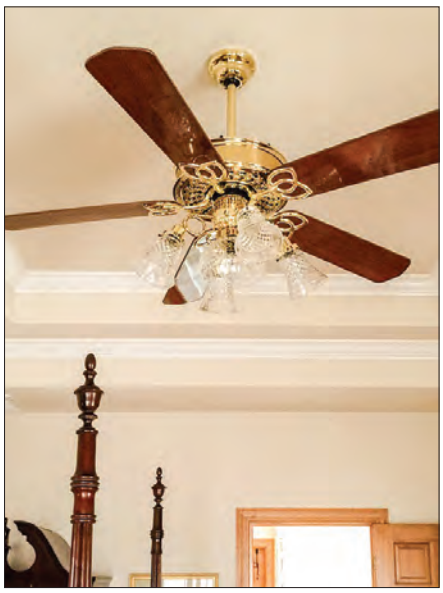
Tools always should be:

- Held by the insulated gripping surface to avoid electrical shock.
- Used with safety goggles and other safety gear: a face shield, dust mask, hard hat, ear protection, gloves and safety shoes, as recommended by the manufacturer.
- Used with a ground-fault circuit interrupter—either permanently installed or a plug-in type.
- Plugged into a three-pronged outlet known to be grounded, unless they are double insulated.
- Used with a three-wired extension cord, if an extension cord is needed.
- Used in a dry area away from explosive fumes such as gasoline or naphtha, dust or flammable materials.

What Not to Do

Tools never should be:

- Used while wearing loose clothing or jewelry that can get caught in a moving part.
- Used near live electrical wires or water pipes—especially when cutting or drilling into walls, where they could be accidentally touched or penetrated.
- Used after they have tripped a safety device such as a GFCI. Take the tool to a manufacturer-authorized repair center for service if that happens.
- Used when you are angry or in a hurry, since you may not be focused enough to follow directions.
- Used without guards or with an extension cord longer than 100 feet.



In the winter, reverse the spin of your ceiling fan and set it on the slowest speed to help send warm air into the room.

Use Energy Wisely

Heat Up Energy Savings This Winter

During winter months, about half your monthly power bill goes to heating your home. Thankfully, you control the amount of energy you consume, giving you the power to lower your electric bill.

Change Your Behaviors

You do not have to spend money to save money. If you change your energy-use habits, you will reduce your energy consumption and your power bill. Here are some simple things you can do.

- Lower your thermostat. Each degree you reduce it in the winter lowers your bill up to 4 percent. A 5-degree reduction could save 20 percent. Set your thermostat at 68 during the winter or at a temperature where you feel comfortable with a sweater on.
- Lower the temperature when you are not at home and when you are sleeping. Extra covers on the bed will keep you warm. Helpful tip: Put a hook in the wall beside your thermostat and hang your keys on it. When you get your keys to leave home, that will remind you to turn the temperature down.
- Close window shades and drapes at night to conserve heat and keep cold air out. Open them during the day to let the sunshine help heat your home. You can use blinds to block out the cold while still letting light in. Try tilting the slats at a 45-degree angle to the window.

Because power washers use water with electricity, extra precautions should be taken.

Be Cautious With Other Products

Other outdoor electrical products also include manufacturer-recommended precautions in the packaging.

Take time to read and follow instructions with devices such as fans, bug killers, holiday or party lights, heaters, music systems, power paint rollers and these additional products:

- Power washer. This product uses water with electricity. Make sure you read the directions carefully.
- Barbecue grill. Read directions to find out if it can be stored outdoors or used on an apartment balcony, patio or deck. Also check with your apartment building manager for use rules and/or local ordinances or regulations.
- Electronic charcoal igniter. Do not store outdoors. ■

- Add humidity. Humid air feels warmer than dry air. Keep plants indoors and leave the bathroom door open after a shower to add humidity to your home.
- Use your bathroom exhaust vent sparingly. It can draw out an entire house full of heated air in about an hour.
- Keep doors and vents closed in unused rooms. Don't heat empty rooms.
- Reverse the spin of your ceiling fan. Set it on the slowest speed to help send warm air down into the living area.
- Close your fireplace damper when not in use. Keeping it open is like having a full-sized window open all winter, letting warm air out. A fireplace is not an efficient heating source. Heat escapes through the chimney with the smoke. Minimize this by closing doors to the room with the fireplace and lowering the thermostat.

Invest in Efficiency

Several low-cost investments can make your home more energy efficient:

- Keep filters clean. A dirty filter makes your heating unit work harder, costing you money.
- Caulk around windows, doors, the foundation and anywhere pipes pass through walls, sealing all gaps to keep out cold drafts.
- Close attic vents or fans during the winter and check the insulation. Much of the heat escaping your home is lost through the attic. Weatherstrip and insulate your attic hatch or door.
- Install a programmable thermostat. Adjusting the temperature and time settings can save you $100 a year.

Remember: You are the only one who can control how much energy you use. ■

A Word About Water

Conservation Pays Dividends

Think about how often you run the hot water faucet—or an appliance that uses hot water—when you could turn it off or use cold water instead. Every drop of hot water you conserve could add up to savings on your energy bill.

Here are six ways to use less hot water:

- Swap your old showerhead for a low-flow model with the U.S. Environmental Protection Agency's WaterSense label. Typical showerheads deliver 2.5 gallons of water per minute; WaterSense models spray out no more than 2 gallons per minute. Much of that is hot water.
- Set a timer for five minutes. Turn off the shower when the alarm rings. Turn off the water while you lather your hair and turn it back on to rinse out the soap.
- Plug the sink while you are shaving instead of running water the entire time. Rinse your razor in the sink rather than under the spigot. You could save up to 300 gallons of water a month.
- Soak pots and pans instead of scraping them under running water. They will clean up quicker, and you will save water and energy.
- Fix a leaky hot water faucet. Often, it is a simple repair. However, even replacing it will cost less than you pay for wasted water and energy that escapes through a leaky tap.
- Wait until you have a full load in the dishwasher before you run it. ■

A leaky hot water faucet wastes water and costs you money. Fix or replace it right away.

Which Payment Option Works Best for You?

Minimize life's hassles by conveniently paying your FKEC electric bill.

Automatic, Recurring Bill Pay
Ideal for all individual and multiple account holders
Set-up Recurring Credit Card or Bank Draft Payments online via SmartHub OR Complete a Bank Draft Authorization Form and return the completed form to our office, along with a voided check. To be eligible for the Electronic Funds Transfer, you must have a credit history free of returned checks within the past 24 months.

SmartHub Online "Pay Now" Bill Pay
Ideal for individual account holders paying by credit card or check, available 24/7
No registration required or password to remember. All you need is your account number and the last name of the primary member or business name as it appears on your bill.

SmartHub Bill Pay and Account Management
Ideal for individual and multiple account holders paying by credit card or check, available 24/7
One-time registration required. View and pay your bill, access account history and usage, set-up auto pay or paperless billing, submit service requests, and update contact info.

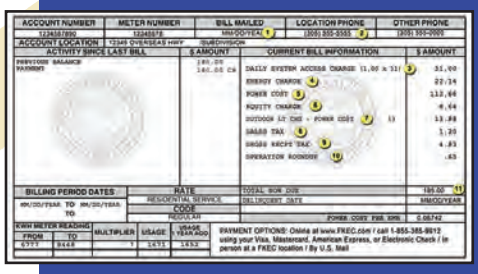
SmartHub Mobile App
Ideal for individual and multiple account holders paying by credit card or check, available 24/7
Pay your bill from your mobile device by downloading the FREE SmartHub application. One-time registration is required and allows you to pay your bill as well as manage other aspects of your account.

By Phone, 855-385-9912
Ideal for individual account holders paying with credit card or check, 24/7
To pay by phone, members MUST call 855-385-9912 and use the automated, secure phone payment system. In compliance with worldwide Payment Card Industry security standards, FKEC employees are no longer permitted to take credit card payments over the phone.

By U.S. Postal Service
Ideal for individual and multiple account holders
Mail payment to: FKEC, P.O. Box 377, Tavernier, FL 33070. DO NOT mail cash. Make checks payable to FKEC, write your FKEC account number on your check, do not forget to sign the check, and when possible use the envelope provided by FKEC and enclose the payment remittance stub from your bill..

Pay at an FKEC Location
Ideal for individual and multiple account holders paying with cash, check or credit card
Visit our Tavernier (91630 Overseas Hwy., Tavernier, FL 33070) OR Marathon Office (3421 Overseas Hwy., Marathon, FL 33050), Mon. - Fri., 8 a.m. to 5 p.m. Credit cards are not accepted at the drive-through (credit card terminals must be used inside).

Understanding Your Electric Bill



Your FKEC bill includes various charges. To better understand your electric bill, visit www.fkec.com/AccessAct/read-RESbill.cfm for a full explanation.

To track your usage accurately, compare your own bills in the same month, but for different years. Consider any FKEC rate adjustments, additional services you have added, and climate or living habits. Access your power usage online at www.fkec.com/AccessAct/.

From left, FKEC Member Service Representative T.J. Patterson and Dr. John Massimilian stand at the Massimilian Marathon home under the newly installed 10,000 kW solar array financed through FKEC's Solar Loan program.

PHOTO BY DOUG FINGER PHOTOGRAPHY

Member Finances Solar Project Through FKEC Loan

FKEC makes home solar generation more accessible to members.

In 2017, FKEC began offering its Solar Loan program to help make solar power generation more accessible to co-op members. In November, FKEC members Dr. John and Jayne Massimillian were the first consumers to complete the installation of a solar array financed through FKEC's Solar Loan program.

The Marathon couple used Florida State certified solar contractor Solar One to install 44, 270-watt panels. The array, which can produce up to 10,000 watts, is also rated to sustain 200 MPH winds.

"We appreciate the opportunity to finance our home solar array through FKEC," said Dr. Massimillian. "Everyone at the Co-op made the process easy, not only for us but also for Solar One, our contractor."

The Massimillian's array is generating approximately 1,500 kilowatt hours of electricity per month.

"The goal of our Solar Loan program is to make home solar generation more feasible and convenient," said FKEC Member Service Representative T.J. Patterson. "Members who finance their solar purchases with us make easy payments along with their monthly electric bills."

FKEC is focused on offering programs and services that address the needs and interests of local members. As solar power has become more practical and possible, the Co-op has expanded its programs to help members harness the power of the sun. If you're interested in solar, the two FKEC services you need to know about are Solar Interconnectivity and the Solar Loan program.

Part of qualifying for the FKEC Solar Loan involves becoming an Interconnected Solar Member. Interconnectivity, which FKEC has been offering to members since 2004, allows a solar home to generate its own power while also drawing power from our local power system as needed.

For more information or to access program applications, visit FKEC online at
www.fkec.com/green/solarloan.cfm –and–
www.fkec.com/Green/interconnectivity.cfm

Or contact FKEC Member Service at
305-852-2431
member.service@FKEC.com
www.FKEC.com

From left, FKEC Member Dr. John Massimillian, FKEC Member Service Representative T.J. Patterson and Solar One Owner Ray Johnson, PE discuss the solar arrays bi-directional meter. This meter allows a home to produce its own energy while also drawing electricity from FKEC.

Solar Interconnectivity

Interconnected members are those generating solar power with their own home solar arrays (photovoltaic PV systems), while remaining connected to FKEC's grid. When a home produces a surplus of electricity, FKEC buys back the power.

It is important to know, homeowners considering installing solar generation to power their entire home should first take all possible measures to make their homes as energy efficient as possible. Solar homeowners who are able to generate enough electricity to meet their needs (or achieve a surplus) have to first invest in reducing their overall energy consumption.

When a new solar home is interconnected, a bi-directional meter is installed to measure the power flowing into and out of the home. Initially a manual disconnect switch was also required for all inverter-based interconnected solar installations, but FKEC has deemed it not necessary for systems 10 kW or less. FKEC has also eliminated the need to provide proof of liability insurance for these types of installations, although it is still recommended.

In addition to making it easy for solar homes to draw power from FKEC while also producing solar energy, the program allows the Co-op to incorporate more solar power into its system by buying back any surplus generated by the solar homes. Additional solar power is provided by FKEC's two grid-connected solar arrays which continue to surpass output expectations.

As of January 2018, FKEC has purchased nearly one million kilowatt-hours of excess solar-generated power. Currently the Cooperative has 52 interconnected members – 46 residential and 6 commercial – with a combined power rating (potential solar power generation) of 406.3 kW.

Don't Let Airborne Toys Ruin Your Party

This Valentine's Day show linemen and the environment you care by disposing of balloons properly.

FKEC recently responded to an outage caused by balloons getting tangled in a power line. This was a reminder that our members should be aware of things that can cause power outages, including balloons and drones.

Balloons

If you must decorate or celebrate with balloons always keep them tethered and make sure you dispose of them properly. Balloons, particularly metallic inflatables, can easily cause the power to go out when they make contact with power equipment. When a balloon touches a power line or electric equipment it can cause a surge of electricity that short circuits equipment and can interrupt power service, cause fires and possible injury.

In addition to threatening electric reliability, balloons also have a negative impact on our fragile environment. When a balloon is let go, or gets lose, it can float miles before deflating and turning into hazardous pollution.

"Balloons are known to hurt a variety of animals, but they are particularly bad for our marine life, which often confuse the pieces of toxic material for jelly fish and eat the debris," explains FKEC Environmental Manager Sara Hamilton. "When ingested by a sea turtle or any creature, the balloon can block the intestinal tract leading to starvation."

The string or ribbon tied to a balloon can also be dangerous, entangling animals likes birds.

When planning your next celebration, FKEC encourages you to use reusable banners, flags, flowers or other decorations instead of balloons. Avoid turning out the lights or hurting our environment by using alternatives to balloons. If you must use balloons, take precautions to make sure they do not fly away. Always dispose of them properly so they cannot float into power lines or become harmful pollution.

Drones

As drones – unmanned aircraft systems (UAS) – become increasingly popular, all operators should remember to keep the flying devices away from power equipment. If flown into a power equipment, a drone could cause a power outage or worse. Drone accidents can cause downed lines and a dangerous electrical safety hazard.

Always stay away from any downed power line or anything the line may be touching such as a tree or fence. Please report downed power lines to 911 and to FKEC at 305-852-2431, an emergency operator is available 24/7.

"Remember to keep drones away from all electric equipment," says COO John Stuart. "This includes power lines, transformers, as well as substations. No person should ever play near a substation or fly a drone over the high voltage, dangerous electric equipment. Also please never attempt to retrieve anything from inside a substation!"

Before operating a drone, follow federal guidelines for registering your UAS or get business approval, and be aware of and abide by community and state-specific legislation. Also, be sure to read the Federal Aviation Administration's new rules and regulations that drone pilots are required to follow.

Remember, safety first! Stay away from power lines and all electrical equipment.

Sources:
www.faa.gov/uas/getting_started/model_aircraft/
https://safeelectricity.org/public-education/tips/
https://balloonsblow.org

Those who want to retain a print version of Florida Currents may still view the electronic version of the magazine and access archives from the GEC website at www.gladesec.com. Click on the Florida Currents link. Hover at the top of the page to bring up the archive navigation bar. The most recent edition appears

Florida Currents Now Available Electronically

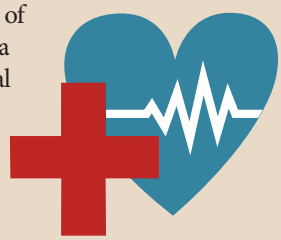
The same magazine you receive in your mailbox every month can now be delivered in electronic format to your email address.

Enjoy every page of Florida Currents online, including Glades Electric Cooperative news and information, articles about electrical safety and energy savings, recipes, Florida feature stories and events, and more.

The electronic publication features an index for quick navigation, or the option to turn page by page. It also features active hyperlinks and an archive to past issues beginning with the August 2017 edition.

If you prefer to receive a paperless version of your magazine every month, call (863) 946-6200 to speak with a member services representative, or email dwhitehead@gladesec.com. The option is free. ■

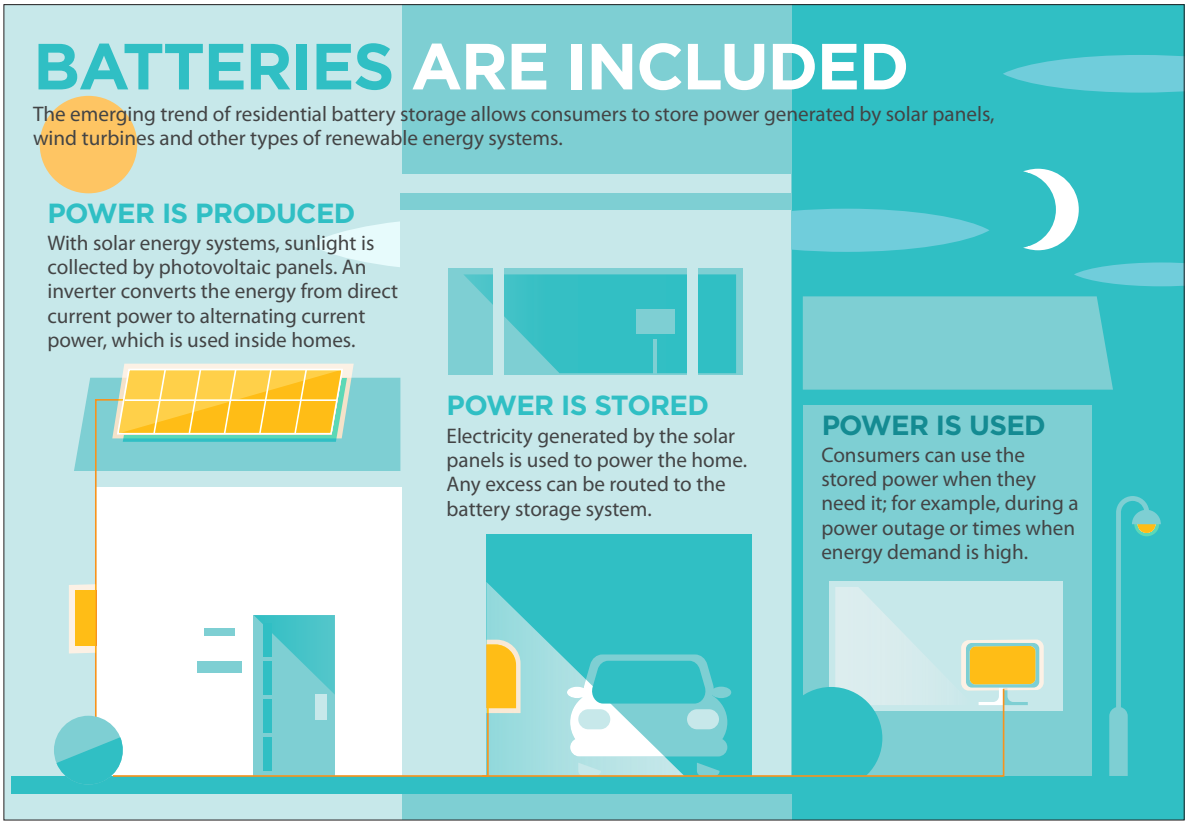
Do You Rely on Electric-Powered Life-Support Equipment?



Having uninterrupted electric service is a luxury most of us take for granted. But for many members of Glades Electric Cooperative, the power coming into their homes is a life-sustaining necessity. If you, a family member or a neighbor depend on electric-powered life-support equipment, medically essential service is available. It ensures members that GEC will attempt to contact them at least 24 hours before a planned outage, including termination of service because of a missed payment.

Having service designated as medically essential does not exempt members from paying their bills, nor does it prevent unplanned outages. Members using life-support equipment in their homes are reminded to have a backup power supply or plan in place in the event of an unplanned outage.

Applications for medically essential service can be found on the GEC website or in the office. It must be completed by the member and the physician of the household member using the life-support equipment. Applications must be updated annually. ■



Residential Storage a Trend to Watch

Batteries give consumers the power to store energy from renewable systems

By Anne Prince

Residential battery storage does not refer to the drawer where you put the extra AA batteries for your flashlight. Instead, it refers to an emerging energy trend.

Batteries and battery storage are evolving, much as LEDs and lumens have transformed how we light our homes.

Rooftop solar costs are dropping, and community solar options are becoming increasingly popular.

In 2017, wind and solar electricity generation set a record by exceeding 10 percent of U.S. energy generation, according to the Energy Information Agency.

News in the automotive world was dominated by announcements of major automakers stepping up production of electric vehicles or, in some cases, phasing out gas-powered engines altogether. As EVs gain popularity, charging stations are popping up in places of business and other public spaces.

What does this all mean? Consumers are looking for more renewable energy options. However, intermittent power from wind and solar sources creates a need for energy storage. This is where batteries come into play.

While the focus of research and development is primarily on commercial applications, the impact on residential use will follow.

We see improvements in the energy efficiency of lithium-ion batteries. Phone, computer and other types of batteries/charging stations hold their charge longer and power more energy-intense devices. There are hundreds of lithium-ion batteries, all with different capabilities and voltages.

Does better battery storage mean you can go off the grid? While consumers who use rooftop solar or other renewable energy sources have the most to gain, it is not easy to go off the grid completely.

Powering the average consumer's home—which includes an HVAC system, lights, appliances and TV—requires a tremendous amount of energy. Significant weather variation is a complicating factor.

Going off the grid would require a solar array and battery storage properly sized based on your energy consumption. Because battery storage technology is evolving and battery banks are not widely available, it is still not cost-effective for the average consumer to buy. ■

If you buy an electric vehicle, please contact Glades Electric Cooperative. Your current electric service was designed and sized to meet consumers' demands when power lines originally were established and connected, which was before widespread use of electric vehicles. We also can advise you about ideal charging times, such as during off-peak hours, which helps manage overall electrical use and, ultimately, saves on the cost of electricity.