News & Views
from Lincoln Electric Cooperative, Inc.

HIGH-VOLTAGE TRAINING

LOCAL SAFETY SESSION HAD OVER 50 FIRST RESPONDERS ATTEND

ON September 18, Lincoln Electric Cooperative hosted a high-voltage safety training for local first responders in our warehouse. Over 50 first responders were in attendance to learn how to best handle emergency situations involving electricity. They attended from various organizations, including Eureka Volunteer Fire Department, TFS Volunteer Fire Department, West Kootenai Volunteer Fire Department, Eureka Ambulance Service, U.S. Border Patrol, Lincoln County Sheriff's Office and the Eureka Police Department.

We began by discussing our service area so first responders know where they could expect to see our lines. First responders were given information on Lincoln Electric facilities in general, from our operating voltage to how protective devices work.

One of the key aspects of the training was a discussion of the direct hazards of electricity. Using a high-voltage safety demonstration trailer jointly owned by Montana electric cooperatives, we were able to show the dangers of contact with high-voltage electricity. We demonstrated how electricity reacts when a fault is introduced into the system.

We gave information on the potential hazards first responders might face in an emergency. These include trees in the line, vehicle accidents, damaged equipment and the possibility of electric-caused fire. Also relayed were best practices of how to handle situations involving electricity to keep first responders and the public safe until Lincoln Electric crews arrive on scene. First responders were cautioned on the dangers associated with underground facilities, which can sometimes be more dangerous as the hazard can be less visible than overhead lines.

Over 50 first responders and community members attended a high voltage safety training at Lincoln Electric on September 18. | **LINCOLN ELECTRIC PHOTO**

First responders were given an opportunity to ask questions and lead a discussion of what they would like to see from Lincoln Electric and our interactions with them. We had a great conversation on dispatching and responsibilities during an emergency.

Since no other cooperatives need the safety demonstration trailer until the spring, Lincoln Electric will be making some improvements to it as we store it over the winter. Before we send it along to the next cooperative, we will be offering another high-voltage safety training in the early spring. First responders and others interested will be welcome to attend. Once a date is set, details will be announced using our typical methods – *Rural Montana*, *www.lincolnelectric.coop* and our Facebook page.

We are also working with Eureka Public Schools to offer a similar high-voltage training with the trailer to junior high students. This will be an expansion of the basic tabletop training and safety demonstration we currently provide to the fifth-grade students each year.

If you are interested in scheduling electrical safety training or demonstrations for your group or organization, please contact us at 406-889-3301 or *memberservices@lincolnelectric.coop*.

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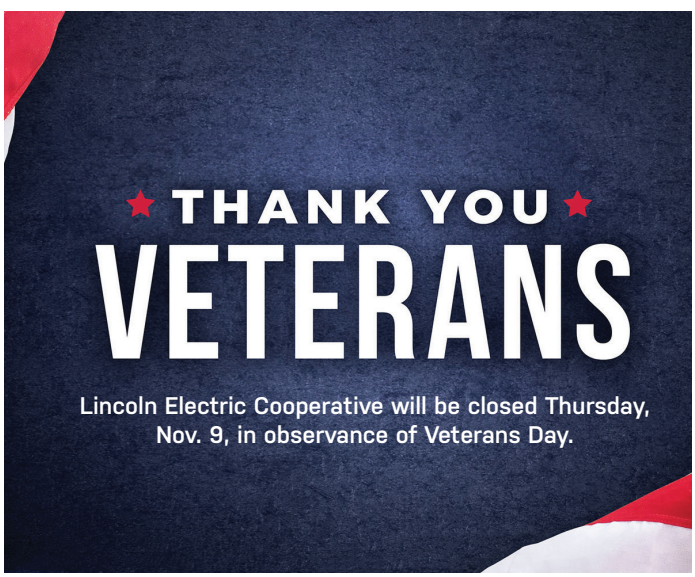
BUSINESS AND BOARDROOM BRIEFS

The regular meeting of the board of trustees was conducted on September 18. A quorum of trustees was present and the board took the following action:

- Authorized remaining a member of PNGC until rescinded.
- Accepted the amended and revised PNGC Member Requirements Purchase Power Agreement.
- Appointed the following Montana Electric Cooperatives' Association committees: Marianne Roose – Legislative and Resolutions; Rick Peterson – Safety; Tina Tauman – MetsPool; Sandi Mason – Communications and Audit; Myra Appel – Education.
- Adopted a New Trustee Orientation packet.
- Approved a donation of $400 to Log Jam.
- Approved Rodney Kane to fill the open trustee seat.
- Approved Myra Appel to attend the PNGC Annual Meeting in October.

FINANCIAL OVERVIEW	YEAR TO DATE AUGUST 2023	YEAR TO DATE AUGUST 2022
kWh SALES	86,076,322	85,310,943
REVENUE	$8,815,768	$8,418,291
COST OF POWER	$3,355,108	$3,942,134
OPERATING EXPENSE	$3,218,943	$2,811,618
MARGINS	$11,169,411	$560,116
NUMBER OF MEMBERS	5,178	5,053
NUMBER OF METERS	6,504	6,474
MILES OF LINE	1,011	1,000
TOTAL UTILITY PLANT	$39,066,030	$37,770,172
MEMBER EQUITY	$14,218,527	$12,574,762
AUGUST AVERAGE RESIDENTIAL USE (KWH)	896	883
AUGUST AVERAGE RESIDENTIAL BILLING	$107.89	$117.93



LINCOLN ELECTRIC COOPERATIVE, INC.

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OFFICE HOURS
Monday - Thursday
7:00 AM - 5:30 PM

BOARD OF TRUSTEES

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President
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Lincoln Electric's Board of Trustees holds regular monthly meetings at the boardroom in the cooperative office. These are typically scheduled on the third Monday of each month at 6 p.m. Members are encouraged to attend. If you have any items of interest, please contact the general manager prior to the meeting.

NEXT MEETING DATE:
MONDAY, NOVEMBER 27, 2023

Lincoln Electric Cooperative, Inc.

HAVE A STORY SUGGESTION?
SEND YOUR IDEAS TO:
memberservices@lincolnelectric.coop

A LINEWORKER'S TIMELINE:

RESTORING A POWER OUTAGE FROM A LINEWORKER'S PERSPECTIVE

"**How** *long is it going to take?"* Those are familiar words to all who work in the electric industry. It's a phrase I've been asked thousands of times in my career. I've been asked over the phone, through car windows, from front porches, sidewalks, bicycles, gas pumps and restaurants. I'm pretty sure I've even been asked by children in car seats. It's the first thing people think when the lights go out. It doesn't take long sitting in the dark to realize how dependent we are on electricity. How much it makes our lives better and easier.

As a lineworker, it's always a good feeling to help people get those lights back on. I can remember times when I've been on a storm or extended outages re-energizing neighborhoods and heard people in their homes cheering as their lights came on for the first time in days. No matter how tired I am or how long I've been working, that feeling will always make it worthwhile.

But what does it take to get those lights back on? Why does it sometimes take so long? Most people will never get to experience or witness the work that goes into ending outages. Hopefully after reading this, you will have a better understanding of the process and the work that Lincoln Electric Cooperative line crews do to restore your power.

The electricity you use travels a great distance and goes through several steps to get to your home. It starts with a Bonneville Power Administration (BPA) hydropower dam. The hydropower plant produces electricity that needs to be "stepped up" so it can travel a long distance to Lincoln Electric's substations. In BPA's hydro substation, a transformer will step the voltage up to 115,000 volts and send it out on a transmission line to Lincoln Electric.

At Lincoln Electric's distribution substations, the electricity is stepped down with a transformer to 14,400 volts to travel to our members' homes and businesses. Once it arrives outside your home or business, it is stepped down a final time by another transformer to 120/240 volts, the voltage required to operate the devices that power your life.

All that infrastructure is hundreds of miles of line and thousands of poles. That's a lot of exposure for something to happen and cause an outage. Just like your home, our system has breakers to allow us to split our system into sections. This helps limit the size of the outages so we can keep as many people on as possible. Breakers also help to protect equipment on the line. Ever wonder why your lights blink a few times before going off? That's the breaker. They operate a few times trying to give the fault a chance to clear the line before they open for good.

Now the lights have blinked, your breaker has opened, and the power is off. So, what happens next?

The Outage Begins:

6:35 p.m.: Your local lineworker gets a phone call.

When I answer the phone, I'm told that we have an outage and learn the extent of the outage. If it's a line outage, I get information from dispatch on the service out closest to a substation. If I'm told the closest reported outage is at pole G55, I'm mentally sectionalizing the line in my head. I know that there is a breaker at pole G53. The service out at G55 tells me that most likely the breaker at pole G53 is open and whatever caused the outage is beyond that location. So, pole G53 is where I'm heading first.

Heading toward the outage:

7 p.m. The drive

An after-hours outage requires your lineworker to respond from home. Depending on where the outage is, the drive alone can sometimes take an hour.

7:45 p.m. Arrival and line inspection

I often see people outside when their power is off, sitting on their porch or working in the yard. Sometimes I drive by several times. I often wonder what they are thinking when they see me multiple times. Do they think I'm just cruising around and wonder why I'm not restoring their power? But that's exactly what I'm doing.

The first time you see me I'm most likely driving to the breaker to verify that it's open. The second time I'm visually inspecting the line for an outage cause, which can take some time. It's usually the most time-consuming steps we take, but also one of the most important parts of restoring an outage. We can't just simply flip a switch and restore the power, as that can be dangerous for many reasons. The outage could be a line down in someone's yard, or it could have been caused by equipment failure. Re-energizing the line under those two examples would be dangerous to the public and could cause more damage, as well as possibly extending the outage longer. So, it's very important to visually check the line before trying the breaker. Many things can cause an outage. A few examples of things I'm looking for are

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TIMELINE

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fallen trees, tree limbs, old line repairs that have failed, car accidents, lightning, animals and equipment failure.

Another major factor in restoration time is terrain. We try to put poles along the road, but that can't always be accomplished. Electric co-op lines go where they are needed, and that might be in remote places. If it's not along the road, the line must be checked on foot or via small machinery. If it's dark, this job becomes even more difficult and time consuming, regardless of where it's located.

The Process of Repairs:

8:30 p.m. Outage cause located, but first safety.

Once we find the cause of the outage, there are safety steps that must be taken before we can start the work. These safety procedures are vital. It's how we survive in a dangerous job. It's how we ensure lineworkers go home to their families. We perform a safety briefing to discuss all aspects of the job plan and identify hazards. The most important thing we must do is isolate and ground the line. This protects from back feed, especially from home generators. The transformer on your pole that drops the voltage down can also work in reverse. Your home generator, if installed incorrectly, could feed through your transformer and put primary voltage back on the line. To protect lineworkers, we install grounds on both sides of the work location. These grounds connect the neutral wire to all primary wires making them all the same "grounded potential," and safe to work on.

9 p.m. All safety procedures are in place. We can begin the work.

Let's say this outage was caused by a tree that fell through the line. It's off the road, and we got lucky — it broke a crossarm, but the pole is good. The wire isn't broken, but it is under the tree. We have to remove the tree and free the wire, which will take some time. Anyone who has cut up a downed tree will understand the danger. You must pay attention to the tree and how it's sitting on the ground. Downed trees can shift and roll while being cut. And there are also powerlines under tension, adding an extra layer of danger. Sometimes the powerlines must be tied down, so that they can be let up in a more controlled manner once the tree is cut. While we work to clear the tree from the line, new material is on the way. We are going to need a crossarm, crossarm braces, new insulators, bolts and wire ties.

10:30 p.m. The tree has been cleared and the material has arrived.

Since the pole is off the road, we can't get a bucket truck to it. We will have to climb the pole. One of our lineworkers puts on his belt and hooks to climb to the top of the pole. He'll bring with him all the tools he'll need, including a handline. A handline is a rope in a pulley that's long enough to go from the top of the pole to the ground in a loop. It's used to lift material and other objects to the lineworker that were too heavy or awkward to take up in his belt. Once he gets to the top of the pole, he will get to work. He'll start by removing all the broken material. He'll also inspect for damage we couldn't see from the ground. Once he has it cleaned up and the new crossarm bolt installed, we'll start sending up material on the handline. The lineworker on the ground will have already put everything on the crossarm. The crossarm will be tied to the handline in a way that will allow the lineworker on the pole to just guide the arm onto the bolt as it's being lifted. Once the new crossarm is in place with all bolts tightened, the wire will be lifted up with the handline and placed on the arm. The wire ties will be sent up so the lineworker can tie in the wire. After completing all the work in the air, the lineworker will send down the handline and climb down, where he'll remove and pack up his belt and hooks. The lineworker on the ground will "make up the handline," which means he is getting it ready to store until it's needed again. We'll carry the tools that we used back to the truck and get them ready for next time. Finally, we will remove our grounds.

11:45 p.m. Repairs complete

If you still happen to be outside, you will see me drive by again to head back to the breaker. This is good news because you are about to get your power restored. Once I get to the breaker, I'll call dispatch and get clearance to re-energize. I'll let them know who is with me and if they are in the clear. They will verify all other crews are in the clear and consider the line hot before they give me clearance to try the breaker. At this time, I will close the breaker and your power will be restored.

12:05 a.m. Power restored. Outage over.

Keep in mind this is just one scenario; every outage is unique, and you never know what you're going to find when you leave home. Every outage varies in time for restoration. This example outage took around five hours to restore. If the tree had broken a pole, it would have been even longer.

1 a.m. Lineworker returns home, safe and sound.

We've become so dependent on electricity that every outage, whether it is a short or extended one, can be stressful for those affected. The longer an outage lasts, the more stressful it can become. I hope this gives you a better understanding of the restoration process so you have an idea of what's happening while you wait. Just know that your Lincoln Electric line crews are doing their best to get the lights back on as quickly and safely as possible.

Lincoln Electric's employees are members of your community. We live in the same neighborhoods. We shop at the same stores. Our kids go to the same schools. If your lights are off, there is a good chance ours are off, too. We are always committed to serving our members and communities by providing safe and reliable electricity.

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