A Touchstone Energy® Cooperative

WEST CENTRAL ELECTRIC
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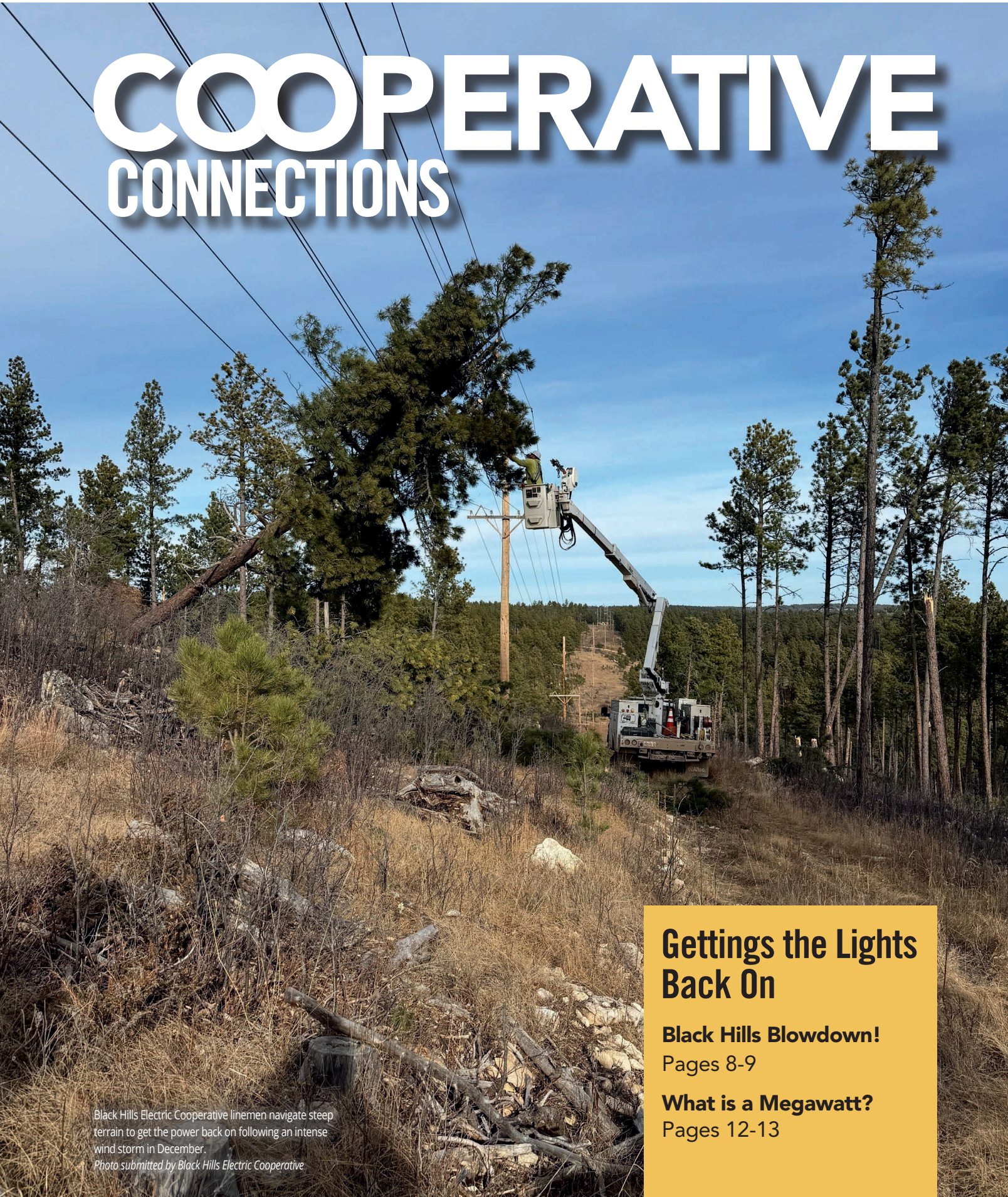
COOPERATIVE CONNECTIONS



Black Hills Electric Cooperative linemen navigate steep terrain to get the power back on following an intense wind storm in December.
Photo submitted by Black Hills Electric Cooperative

Gettings the Lights Back On

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DATA CENTERS

Jeff Birkeland
CEO

This month, I thought I would touch on a topic that is a buzzword in the news: data centers. So, the first question is, what is a data center? A data center is a facility that houses large numbers of computer servers and networking equipment used to store, process, and transmit digital information. These facilities support everyday services such as cloud computing, online banking, streaming media, medical records, and business operations. Data centers are designed for reliability and security, operating 24 hours a day with redundant power supplies, advanced cooling systems, and robust physical and cyber protections.

From a community perspective, data centers offer several potential benefits. One of the most significant advantages is economic investment. Data centers often represent hundreds of millions – or even billions – of dollars in capital investment, which can expand the local tax base and support schools, infrastructure, and public services. Construction activity also provides short-term employment opportunities, and while permanent staffing levels are relatively modest, the jobs created are typically skilled and well-paying.

Data centers can also strengthen local electric infrastructure. To meet the reliability requirements of these facilities, utilities often invest in upgraded substations, transmission lines, and system redundancies. These improvements can enhance service quality for other members and businesses in the area.

However, data centers also present challenges that communities must carefully consider. One concern is their substantial electricity demand. Data centers consume large amounts of power, often equivalent to thousands of homes, which can place pressure on generation resources and transmission systems if not properly planned. Ensuring that these costs are allocated fairly – so that existing members are not subsidizing large new loads – is essential

The size and scope of data centers are mind blowing. A small data center is 100 MW, megawatts. To give you an idea of how much energy 100 MW is, West Central peaks at 41 MW and all the Rural Electric Cooperative in Western SD peak at 305 MW. So by my terms, a small data center is huge. Now, when we discuss a "large" data center, we are talking about 1,000 MW and larger. Somebody wanting a 1,000 MW data center is essentially telling you that they need to build an electric power plant.

We are obviously talking about a lot of electricity being generated and consumed by a data center, so we should discuss the costs associated with this. The cost to build electric generation to power a 100 MW data center is $270 million, and the cost for a 1,000 MW data center is $2.7 billion. These costs do not include transmission lines or substations to deliver the power.

This is the dilemma and question across the United States: who pays for their electric infrastructure? We have taken the stance that if a data center wants that much electricity, then they will have to pay for it. We are not going to take the chance of making that kind of investment, having a data center go bankrupt, and leaving our members holding the bag. That is also the main reason why we haven't seen any data centers getting built in South Dakota.

This is a very high-level overview of a data center and what it means to our members. If you have any questions, please contact me.

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FEDDERSEN AND LOTTMAN JOIN WEST CENTRAL ELECTRIC

West Central Electric is proud to announce the hiring of two new employees. Both started on Dec. 15, 2025.

First up is Cooper Feddersen, an apprentice lineman at the Philip outpost. He was raised in Murdo and graduated from Jones County High School. He then enrolled at Mitchell Technical Institute (MTI) and graduated in 2025 with a Power Line Construction and Maintenance degree.

He worked various jobs in high school, including summer help at West River Lyman Jones Rural Water, lifeguarding at the local pool, and fencing. Most recently, he worked for West River Electric in Rapid City. However, small-town life was calling him back. “Life in a small town can’t be beat,” said Cooper about living in Philip.

Cooper says the best part of working for West Central is the culture and his coworkers. He had this to say, “It’s like a big family. Everyone is willing to help each other out. It’s a fun group of guys to work with.”

In his spare time, Cooper likes fishing, hunting, and spending time with his friends and family. He also enjoys golf and playing city league basketball in Pierre.

Cooper’s family includes his parents, Chris and Beth, and his sisters, Erica (and husband Shane) and Taylor, and his brother, Morgan (and wife, Jocee).

Next up is pole tester/groundsman Holden Lottman. He is based out of Murdo. He will be continuing his training and education to become a journeyman lineman. Holden graduated from Kadoka Area High School and furthered his education at Mitchell Technical Institute (MTI), earning a Power Line Construction and Maintenance degree in 2025.

While in high school, Holden worked for the Jackson County Highway Department, and while at MTI, he worked at Menards. Before joining West Central, Holden was a contractor for a powerline company in Minnesota. This job kept him on the road building transmission lines. He learned a lot, but being on the road and living in motels soon lost its charm. “It was fun for the first six months, but it got old pretty quickly,” Holden stated.

“Being at home every night and working with a great group of guys,” was the answer Holden gave when asked about what he likes most about his new job. He is looking forward to the warmer months ahead, as he would like to improve at golf. Other hobbies include fishing, and in the winter, he enjoys coyote hunting and participating in coyote tournaments.

Holden’s family includes his parents, Denny Lottman, Candace and Chad Smith, twin brother Hunter, and younger sister Rylee.

Welcome to West Central, Cooper and Holden!

Ensuring Drone Safety Near Power Lines

As drones continue to gain popularity for recreational and commercial use, their integration into our daily lives should not lessen the consideration of safety – particularly when it comes to flying near power lines. The intersection of drone technology and electrical infrastructure necessitates adherence to safety protocols, regulations, and best practices to protect both pilots and the integrity of electrical systems.

Power lines are essential components of our electrical grid, delivering energy to homes and businesses. However, they can pose serious hazards for drone operators. Collisions with power lines can cause significant equipment damage, leading to costly repairs or replacements. More critically, such incidents can disrupt service for hundreds of members, creating outages that could last for hours or even days.

The Federal Aviation Administration (FAA) has established regulations governing drone use, including restrictions on flying in proximity to power lines. According to FAA guidelines, drone pilots must always maintain a visual line of sight with their aircraft and avoid flying over people. When operating near electrical infrastructure, it is crucial to adhere to the regulations pertaining to altitude and no-fly zones.

Drone operators should also be familiar with state and local laws, as some municipalities have designated specific areas as no-fly zones, particularly near critical infrastructure like power facilities. Understanding these regulations is not only a legal requirement but also an essential step in ensuring the safety of all involved.

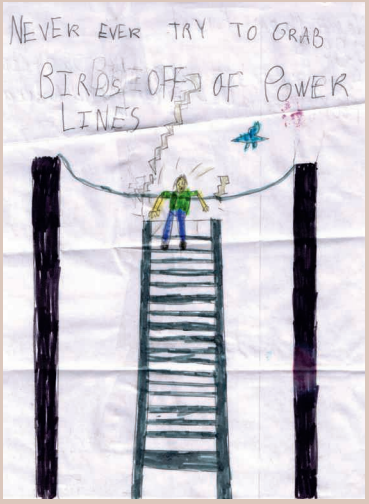
Best Practices for Safe Operations

To minimize risks when flying drones near power lines, operators should adopt several best practices:

1. **Pre-Flight Planning:** Before taking off, thoroughly assess the flight area. Identify the location of power lines, potential obstacles, and any relevant no-fly zones. Consulting local maps and aerial photography can aid in understanding the landscape.
2. **Maintain Safe Distances:** When operating near power lines, always keep a safe distance. The FAA recommends a separation of at least 500 feet from energized power lines to avoid potential collisions. Keeping a safe buffer not only protects the drone but also mitigates risks to nearby electrical infrastructure.
3. **Use Technology Wisely:** Many modern drones come equipped with GPS and obstacle avoidance systems that can aid in safe navigation. Utilize these features and ensure that your drone's software is updated to reduce the likelihood of malfunction.
4. **Operating in Controlled Conditions:** Avoid flying drones in poor weather conditions such as high winds, rain, or reduced visibility. Harsh weather not only affects flight stability but can also lead to loss of control over the drone, increasing the risk of accidents.
5. **Emergency Procedures:** In case of a malfunction or loss of control, having an emergency plan in place is vital. Be prepared to communicate with local authorities if a drone becomes entangled in power lines or presents a safety concern.

As the popularity of drones continues to soar, awareness around safety protocols, especially near power lines, has become increasingly critical. By understanding the risks involved, adhering to regulations, and implementing best practices for safe drone operations, pilots can ensure the protection of themselves, others, and vital electrical infrastructure. Responsible drone use fosters innovation while ensuring safety remains paramount in our evolving technological landscape.

"Never ever try to grab birds off of power lines!"



Naomi Krcil, Age 8

Naomi warns readers to never EVER grab birds off of a power line. Great picture, Naomi! Naomi's parents are Andrew and Andrea Krcil from Dante, S.D.

Kids, send your drawing with an electrical safety tip to your local electric cooperative (address found on Page 3). If your poster is published, you'll receive a prize. All entries must include your name, age, mailing address and the names of your parents. Colored drawings are encouraged.

Scrumptious SALADS

Picture submitted by Laurie Wernke.

MACARONI SALAD

Ingredients:

2 cups macaroni (cooked, drained, rinsed and cooled)
2 or more cups of carrots (chopped or shredded)
1 small chopped onion (optional)
1 cup chopped green pepper (optional)

Dressing

1 cup mayonnaise (Hellmans)
1/4 cup vinegar
1/2 cup sugar
7 oz. sweetened condensed milk
1/4 tsp. salt
1/4 tsp. pepper

R. Gregg Fritz
H-D Electric

KARI REDER'S POTATO SALAD

Ingredients:

7-8 lbs. potatoes, Yukon gold or red
1 dozen eggs
1 med. sweet onion
2 cups Mayo
1 tbsp. cream
1/4 cup of apple cider vinegar
1/2 cup of sugar or splenda
1 1/2 tbsps. mustard
2 tbsps. celery seed
Celery salt, salt and pepper to taste

Method

Boil potatoes and eggs, peel and dice. Add the chopped onion. Mix together mayo, cream, apple cider vinegar, sugar, mustard, celery seed, celery salt, salt and pepper. Mix all together well and refrigerate.

Kari Reder
Northern Electric

SUMMER GARDEN PASTA SALAD

Ingredients:

1 lb. thin spaghetti, broken into 1" pieces
1 pt. cherry tomatoes, halved
2 med. zucchini, peeled & diced
2 med. cucumbers, diced
1 green pepper, diced
1 red pepper, diced
1 – 16 oz. can sliced black olives, drained

Dressing:

1 – 16 oz. bottle Italian dressing
1/4 cup parmesan cheese
1 tbsp. sesame seeds
1 tsp. paprika
1/2 tsp. celery seed
1/2 tsp. garlic salt

Method

Cook pasta; drain. Drizzle with 1-2 tsps. olive oil. In large bowl, combine pasta, tomatoes, zucchini, cucumber, peppers and olives.

Whisk dressing ingredients together. Pour over salad ingredients and toss to coat.

Cover and refrigerate for three hours.

Jane Ham
Cam Wal Electric

Please send your favorite recipes to your local electric cooperative (address found on Page 3). Each recipe printed will be entered into a drawing for a prize in December 2025. All entries must include your name, mailing address, phone number and cooperative name.

How Energy Efficiency Rebates and Incentives Work

Miranda Boutelle
Efficiency Services Group

One of the most common questions I get about energy efficiency rebate programs is, "Why would the company that sells me energy want me to use less of their product?" It's a good question.

Rebates provide financial incentives for people to use less energy in their homes by reducing the costs of efficiency upgrades, such as insulation, new HVAC systems, water heaters or other appliances. This helps your electric cooperative save money by eliminating or delaying the need to buy additional power or build new power generation facilities. Using less energy also helps lighten the load on existing generation and transmission infrastructure that delivers power to your home through your electric cooperative.

Helping consumers save energy is a powerful tool for electric co-ops. Instead of building or paying for more power generation to meet rising needs in the local community, co-ops create programs that help people save energy in their homes and businesses.

Your cooperative and other local organizations may offer efficiency programs with special incentives for home upgrades, such as rebates paid after a project is completed. State and federal tax credits may also allow you to reduce the amount of taxes you owe for completing eligible home purchases or upgrades. Federal energy efficiency tax credits ended Dec. 31, 2025. If you completed any upgrades before that date, you can apply for credits on your 2025 federal filings.

Energy efficiency programs are funded through a variety of sources, including surcharges on customer utility bills, grants, and state and federal funding. Some states and regions are required by law to provide energy efficiency programs.

If you are planning to purchase new appliances, equipment or complete an efficiency upgrade, do your research first. I recommend starting with your electric cooperative to see if they offer energy efficiency programs. Also check with your state energy office, which might have additional programs to help. The Inflation Reduction Act allocated federal funds to state-administered programs, including home efficiency rebates and home electrification and appliance rebates, to help residents with retrofits such as windows, insulation, air sealing, HVAC equipment and appliance upgrades.

There are also income-eligible programs available for energy assistance and weatherization, such as the U.S. Department of Energy Weatherization Assistance Program, typically administered by a local community action agency.

Once you identify a rebate, tax credit or financing option you're interested in, review the criteria carefully. Criteria can vary by program, so make sure you know the eligibility requirements before making a purchase to avoid missing out on energy-saving opportunities.

Some programs require preapproval before you begin a project. Proof of existing equipment or conditions may be required, such as insulation levels or window types. You may also need to schedule an energy audit conducted by a program representative or photo documentation.

Once you know your project meets the requirements of any available programs, you can proceed with installation. You will likely need to fill out an application and submit a final invoice to prove the project is complete. You may also need to submit pictures or have an inspection from a program representative.

Once approved, your rebate will typically be issued as a bill credit or check, depending on the source.

Participating in a rebate program can help you lower your energy use, save money and improve comfort in your home. It can also help your energy provider and the electric grid. Contact your local electric cooperative to learn more about available rebates and incentives.

The People Who Keep The Lights On

How Member Services Staff Connect Co-ops With Communities

Jacob Boyko
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There's more than meets the eye when it comes to providing safe and reliable electricity to co-op members in South Dakota. One of the key cooperative principles is commitment to community, and for co-ops' member services staff, it's all in a day's work.

Community Impact

Mike Dangel is the member services advisor for Charles Mix Electric Association, an electric cooperative based in Lake Andes serving members across Charles Mix County in southeast South Dakota. For Dangel, getting out in the community and being the face of the co-op comes naturally; he helps with 4-H, volunteers for the fire department and serves on the local school board.

"Concern for Community is one of cooperatives' core values, and it is part of my role to promote that," Dangel said. "Our participation in community events and charity fund-raisers gives our co-op more of a 'human' feel. It's important to be visible within the community so the co-op has a face and is not just another generic corporate entity."

Dangel started at the co-op in 1994 shortly after earning his power line construction diploma from Mitchell Technical College. He started as a 1,000-hour temporary worker, and after proving himself in the field, Dangel was hired full-time in 1997 as a journeyman lineman. His new role taught him all about energy, utilities and the electric grid we all depend on every day to keep the lights on. Dangel was a lineman for 18 years before being promoted to member services advisor after the previous person in the role, Russell Gall, took on the general manager title at Charles Mix Electric.

Along with his years of diverse experience, Dangel's expertise is further strengthened as a member of the cooperative, making him a valuable resource to answer members' questions and promote the responsible and efficient use of electricity.

"I find the most rewarding part of my job is communicating with our members and helping them understand how their wise use of electricity can make a big difference in their lives," he said.

Co-ops in the Classroom

Dangel brings some of that expertise into area classrooms as he talks to students about energy efficiency, safety around electricity and co-ops' Youth Tour, where South Dakota co-ops send qualifying students on a trip to Washington, D.C. There, they network with other young co-op members from around the country, meet with South Dakota's federal delegation and learn about the people's role in democracy. Dangel finds his efforts to promote Youth Tour especially rewarding.

Addie Walstad, a high school senior from Platte, was Charles Mix Electric's 2025 Youth Tour student. She was selected by the tour chaperones to be the Youth Leadership Council representative from South Dakota, an honor which brought her back to the nation's capital to learn more about the National Rural Electric Cooperative Association and participate in professional development courses. She was also selected to give the opening address at NRECA's annual conference in front of hundreds of co-op leaders from around the country.

Dangel said stories like Walstad's remind him of the outsized impact co-ops can have within their communities.

Member Services Career

Electric cooperatives offer many rewarding, purposeful careers, and member service roles are no exception. Dangel recommends the role to organized, patient and communicative individuals who want to make a positive impact within their community.

"Co-op employees talk about being part of a family, and it's definitely true," Dangel said. "I'd recommend this career path to anyone with a desire to help others. That's really the heart of it."

As a member services professional, You may be asked to:

- Be the face of your co-op in the community and at events.
- Answer members' questions and assist them with issues.
- Be an expert in the field – attend conferences and seminars to increase your knowledge and understanding.
- Cooperate among cooperatives; co-ops work together statewide and nationally to share knowledge and experience.
- Educate members on electrical safety and the co-op mission to provide safe, reliable and affordable power.
- Assist your co-op in a range of areas, like IT support, event planning, newsletter writing, marketing and educating the next generation of co-op members and leaders.

Mike Dangel gives an energy safety demonstration to the Platte/Geddes FFA.
Photo submitted by Charles Mix Electric

Intense wind left the crossarm of a broken three-phase pole hanging after a holiday storm.
Photos submitted by Black Hills Electric Cooperative

GETTING THE LIGHTS BACK ON

Black Hills Electric Cooperative Works Tirelessly Following Holiday Storm

Frank Turner
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In the early morning hours of Dec. 18, powerful winds swept across western South Dakota, leaving much of the Black Hills without electricity. The outage included the home of Bill Brisk, manager of operations at Black Hills Electric Cooperative.

Through wild winds, Brisk set out for his office at the cooperative at 3 a.m., where he discovered that the windstorm was unlike anything he had seen in his 36 years with the cooperative.

"We get wind in the Hills," Brisk said. "But nothing like that. In all of the time that I've been at the cooperative, I've never seen wind that strong."

Wind gusts were later estimated at more than 100 mph, tearing through the Black Hills with unprecedented force.

When Brisk arrived, the scope of the damage became clear. Nearly the entire system was down, and more than 11,000 of the co-op's approximately 11,500 meters were without power. By daybreak, more than 96% of Black Hills Electric Cooperative's system was dark, the largest outage event in the cooperative's history.

Although an influx of outage calls from members came in around midnight, Brisk made an early and critical decision; crews would not be sent out while the storm was still raging.

"We began receiving calls around midnight, but I did not have our crews go out, just for the fact that it was just too dangerous," Brisk said. "Trees were breaking off, conditions were hazardous, and I didn't want to put our crews in any dangerous situations."

Instead, crews waited for daylight, when conditions allowed for safe assessment – the first step of getting the lights back on.

Assessment almost always begins with reporting from the community. Due to an overwhelming call volume during storm events, local reports of outages are forwarded to Basin Electric Power Cooperative's Security and Response Services. These services relay important updates to electric cooperatives. Dispatchers communicate with linemen via push-to-talk radios and cell phones, tracking linemen from the time they leave the shop until the outage has been restored.

In addition to local reports, linemen also conduct their own assessments. That morning, linemen reported countless uprooted and snapped trees, downed poles and even wires lay broken across forest floors and roadways. In some areas, trees fell into other trees, creating dangerous conditions for anyone working below.

"I believe this was one of the worst storms in our cooperative's history, including winter storm Atlas," said Brisk.

As the assessment was underway, line

crews worked to bring downed substations back online first, then main three-phase feeders, followed by smaller distribution lines that bring power directly to homes and businesses. That order helps restore electricity to the greatest number of members as quickly as possible.

In the Black Hills, terrain adds another layer of complexity. Many lines run through dense forest, steep canyons and areas far from maintained roads.

"This isn't square-mile territory," Brisk said. "You might have to drive five or six miles just to get around a canyon."

By midday Dec. 18, it was decided the damage was too widespread for Black Hills Electric to tackle alone. Brisk reached out to Mark Patterson, South Dakota Rural Electric Association's manager of loss control, to request mutual aid from neighboring cooperatives – reinforcing a long-standing cooperative tradition built on neighbors helping neighbors.

Within hours, assistance began mobilizing. Crews, trucks and equipment arrived from across western South Dakota. Six electric cooperatives and a contractor ultimately sent help, bringing 55 additional linemen to the Black Hills. Those crews came from Butte Electric Cooperative, Cherry-Todd Electric Cooperative, Lacreek Electric Association, West Central Electric Cooperative, West River Electric Association, Rushmore Electric Power Cooperative and Kainz Power Lines, a local contractor based out of Custer.

"I had each operations manager of the responding cooperatives call me and ask what we needed," Brisk said. "We asked for bucket trucks, digger trucks, chainsaws, attachments for skid steers, and extra line crews, and they sent everything we asked for."

Days began early and ended late with crews often working 12 to 16-hour shifts. Brisk emphasized safety repeatedly to the crews as they worked among unstable trees, high winds and rugged terrain.

Behind the scenes, the restoration effort extended beyond the field. Office staff coordinated logistics and prepared meals. Lunches were packed daily for crews heading out before dawn. Supplies were tracked, equipment was staged and communication updates were shared with members.

"It wasn't just the line crews," Brisk said. "Everybody stepped up."

As crews continued working and Christmas approached, it appeared unlikely that power would be fully restored in time for the holiday. The visiting crews made it clear they were willing to stay through the holiday.

"All the outside crews said they weren't leaving," Brisk said. "They stayed to help us finish."

By Christmas Eve, most members had power for the holiday and visiting crews were able to return home. Even still, Black Hills Electric crews continued limited work through the holiday, work that continues today.

"To be truthful, we are still cutting trees, setting poles and repairing lines from this storm," said Brisk.

The storm was later designated a FEMA-eligible event, requiring detailed tracking of labor, equipment and materials.

Looking back, Brisk said the restoration efforts relied heavily on cooperation and dedication among crews from the assisting cooperatives.

"It's good to know you've got great neighbors," he said. "When you need help, they come."

An assisting lineman from West River Electric Cooperative installs a ground on the line to be further worked on.

Damage from the storm not only affected poles, but also uprooted trees.

Bill Brisk, manager of operations at Black Hills Electric Cooperative, gives a morning briefing, updating the cooperative and assisting crews with storm recovery assignments.

Line crews performing hot work to change out a pole.

2026 PROJECTS

Scott Kittelson
Operations Manager

Even though it is late January, temperatures are starting to be colder, but we've had a pretty mild winter so far. As I said for the last three years, I am happy to say we are not presently doing any storm cleanup and are continuing with regular wintertime maintenance and construction activity. I hope the weather stays mild and we have a wet spring as I write this.

With the milder winter, the crews have been working on OCR change-outs, line retirements, line patrol, meter readings, tree trimming, line maintenance, pole change-outs, electric heat connects, service upgrades, pole testing, infrared testing, and a few new overhead services.

We are looking forward to another busy construction season this year. We will convert another 23.25 miles (detailed below) of the original overhead line built in the early 1950s to underground. Most of these lines were constructed with 30' class 7 poles, long spans, and with #4 ACSR conductor.

1. Replace 1.75 miles of single-phase overhead with underground 2.5 miles west of Philip.
2. Replace 4 miles of single-phase overhead with underground north of Kirley Road, 23 miles NW of Hayes.
3. Replace 3 miles of single-phase overhead with underground 1 mile east of Belvidere.
4. Replace 7.5 miles of

2026 Projects, continued

single-phase overhead with underground 15 miles west of Ft. Pierre.

5. Replace 3 miles of single-phase overhead with underground 1 mile east of Vivian.
6. Replace 4 miles of single-phase overhead with underground 5 miles west of Presho.

One of our bigger projects this past year was to start burying our 48 overhead Highway crossings along Highway 34 from Ft Pierre to Bridger, and along Highway 63 from 4-Corners north to the Cheyenne River, to underground. We completed 15 of these crossings this past year. We will continue these crossings over the next 3 years, which will help considerably with high-loads traveling east and west across the Oahe Dam north of Pierre.

We still have a few line retirements left to complete as part of our overhead-to-underground conversions from last summer's projects.

As a carry-over project from last year, we will continue system improvements in the Reliance area, including sectionalizing changes and converting three-phase to single-phase. This will reduce line exposure to that area, reducing momentary blinks and outage times.

Since 2013, we have been doing our "In-House" pole testing. Previously, we used Osmose Utility Services Inc., based in Georgia, for our annual pole testing. As reported from our inspection process regarding our aging plant and weather-related pole damage, we have several pole replacements scheduled this spring and summer, mainly in the Philip and Kadoka areas. These poles are classified as non-priority poles and can be changed out later. We schedule priority poles (danger poles) immediately for replacement.

This year, we have several SDDOT road projects, the first one is on Highway 248 between Draper and Vivian. Before they can start the road work, we will have to temporarily move the line out for five culvert and bridge replacements; we will move it back after completion. Others will be Highway 248 in the Belvidere area, Highway 47 near Ft Thompson, Highway 14 east of Philip, Highway 1806 SE of Ft Pierre, Highway 1806 NW of Lower Brule, Highway 73 south of Kadoka, and on the I-90 Business Loop east of Oacoma.

We have two substations to finish upgrades with:

- Cheyenne Substation (Kirley Area)
- Murdo Rural Substation

With our busy work schedule planned and material available for this summer, please try to contact WCE well in advance for any new service requests or work you may want WCE to do. Please remember to call SD One-Call 48 hours before digging at 1-800-781-7474 or dial 811.

Crews working on a line retirement.

What Can You Do With 1 Megawatt?

Big Box Stores

1 MW will power a typical large retail store.

Factory

Facilities with heavy machinery can draw 1 MW of power.

Office Building

1 MW can power several medium-sized office buildings.

Hospital

1 MW will power a small hospital.

Power Plant

Typical outputs:
Coal: 500 MW to 1 GW
Gas: 50 MW to 1 GW
Nuclear: 500 MW to 1.5 GW

1 MW is 1 million watts of power.

School

0.5 MW will power a medium-size public school.

EV Charging

1 MW can power four Tesla Supercharger V3s simultaneously.

Data Center

1 MW will power one small data center.

Other facilities that can draw up to 1 MW of power:

- High-speed rail
- Large farms
- Wastewater treatment
- Stadiums

Residential

1 MW can power 750 to 1,000 homes.

Source: NRECA; Design: Jerry Mosemak

WHAT IS A MEGAWATT?

Jacob Boyko
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If you're a regular Cooperative Connections reader, you've probably seen the term "megawatt" countless times. From articles about new power generation facilities, energy-saving tips, major infrastructure projects or energy policy, megawatts come up again and again. But what does a megawatt actually mean?

Watts, Kilowatts, Megawatts & More

A megawatt is a unit of power that measures the speed at which energy is generated or used at a given time. A megawatt is 1,000 kilowatts (KW), or 1 million watts.

You may recognize watts from the labels on everyday household items like light bulbs and phone chargers. These numbers indicate the amount of power the device draws while operating.

Here are the wattages for some common household items:

- LED Light bulb – 5-20 Watts
- Refrigerator – 350-800 Watts
- Desktop PC – 100-800 Watts
- LED Television: 30-300 Watts
- Microwave – 700-1,200 Watts
- Hair Dryer – 1,500-2,000 Watts
- Clothes Dryer – 1,800-5,000 Watts

At East River Electric Power Cooperative, the generation and transmission cooperative that sells power to member co-ops in Eastern South Dakota and Western Minnesota, Jennifer Gross uses a modified bicycle to help put power into perspective.

1 Million Watts
=
1,000 Kilowatts
=
1 Megawatt
=
1/1,000 Gigawatt

The bike is stationary – the pedals power a small generator wired to several different kinds of light bulbs. Gross, who is East River's education and outreach coordinator, says the "pedal power bike" demonstrates energy use in a tangible way and highlights the difference of energy-efficient products.

"It's actually quite difficult for the person pedaling to generate electricity consistently for more than a few minutes," Gross said.

Jennifer Gross demonstrates energy generation and consumption. *Submitted Photo*

"When they're pedaling to power the inefficient, old-school incandescent light bulbs, they can pedal for about one minute and not even keep it at 200 watts the whole time."

The electric grid experiences the most strain during peak demand times – the hours before and after work and school when most people are home doing laundry, watching TV etc.

In communities with hundreds to thousands of homes and businesses, electricity demand grows large enough to be measured in megawatts – the unit equal to 1,000 KW.

Your electric co-op's electricity is generated by Basin Electric Power Cooperative, which was formed in the 1960s by electric co-ops in the upper Midwest to generate electricity for co-ops. Serving over 3 million consumers across nine states, Basin generates power from its owned and leased assets, which include coal, natural gas, solar and wind. Basin's generation capability is so massive that it's measured in gigawatts – the unit equal to 1,000 MW.

Basin reports a maximum generating capacity of about 8,427 MW – or 8.427 GW. That figure reflects every available generation resource running at full output, including the oil-fueled peaking units used during times of high demand, along with purchases from the Western Area Power Administration and the Southwest Power Pool energy market.

On an even larger scale, the total installed generation capacity in the U.S. reaches the terawatt level, totalling about 1.3 TW, which is equal to 1,300 GW, 1.3 million MW or 1.3 billion KW – enough to simultaneously run about 1 billion hair dryers!

Your Co-op's Megawatts

As a co-op member, you're a part-owner of Basin Electric's generation resources. Here's a look at several of those facilities.

Antelope Valley Station
Beulah, N.D. • 1984
900 MW • Coal

Bison Gen. Station
Epping, N.D. • 2030
1,490 MW • Nat. Gas

Pioneer Gen. Station
Williston, N.D. • 2013
822 MW • Nat. Gas

Crow Lake Wind
White Lake, S.D. • 2011
172 MW • Wind

Wild Springs Solar
New Underwood, S.D.
2024 • 114 MW • Solar

Dakota Energy Cooperative raises line so the home can pass underneath.
Photo submitted by Dakota Energy Cooperative

MOVING A MOUNTAIN

Co-ops Assist Historic Home On Trek Through Rural South Dakota

Jacob Boyko
jacob.boyko@sdrea.coop

Jeff and Sherri Johnson had been waiting for years to build their dream home on their McCook County land, but with ongoing supply chain challenges, it was becoming increasingly difficult – and expensive – to build on their rural acreage.

When Sherri saw the sale listing for a beautiful historic home in northwest South Dakota, she knew that it was more than a house; it was a dream come true.

"I had a dream a few years ago about a blue house moving, and I saw this house that had been on the market for a while in Lemmon," Johnson recalled. "I saw the house, and then I remembered the dream, because when God gives us a dream, it just goes deep in there and you remember."

She knew she had to act, and soon after, the Johnsons were the proud owners of the 1910 prairie-style home. All they had to do was get it to their land north of Montrose.

Sherri and Jeff contacted Milbank House Movers to figure out just how exactly to transport a 100-ton house over 400 miles.

"For a 37-foot tall loaded, 2 ½ story house, this was one of the longest moves we have done," explained Josh Wendland from Milbank House Movers. "We had to reach out to all of the power companies along the moving route to get their input as to how far they felt we could travel each day with how many power lines we would have to deal with on any give segment of the route. It was determined that the total move of 421 miles should be segmented into seven travel days on the road ranging from 14 miles the first day up to 98 miles on the furthest traveled day."

At Moreau-Grand Electric, crews found the house was too tall to pass under their lines even if they raised them up with their bucket trucks.

"We had to totally just cut some of the lines, the structure was so tall we couldn't lift them up high enough," said JJ Martin, the co-op's member services director.

Martin said power outages were pretty minor in the service territory until the house reached the US 212/SD 63 junction west of Eagle Butte, where the Western Area Power Administration had to cut its transmission line taking the southern portion of Moreau-Grand Electric's service territory offline.

"Once the structure moved through, we put the lines back up, and the outage only took about an hour or two in total," Martin said. "After that, there were a few minor distribution outages until they finally crossed the Cheyenne River."

At East River Electric, the generation and transmission cooperative serving co-ops in eastern South Dakota and western Minnesota, operations dispatch worked in advance to identify power line crossings along the route that would need to be lifted or disconnected.

"We have a lot of our line measurements for these situations, but if it's an odd route, we go and get new measurements of lines that we may not have measured – like if they're trying to go through an area to avoid bigger infrastructure or bridges," explained Clayton Tanner, East River's system operations superintendent. "Depending on how close the load will get to our infrastructure, we decide whether we have to have our guys on scene to watch it go through, or if we have to switch that line out and ground it because there's a chance of it arcing over. There have even been cases where we've dropped the line to the ground and had them drive over it."

The house crossed 12 of East River Electric's transmission lines; nine of the lines had to be de-energized, three of the lines were lifted, and crews watched the house pass underneath in two other locations.

Despite the home's unprecedented journey, spending a week trekking 421 miles across rural highways through eight electric cooperatives, the house arrived in one piece.

The house joins another historic building on Jeff and Sherri's land: a 1903 rural schoolhouse that sat in Turner County for much of its life before being moved to Minnehaha County to serve as a Methodist Church, and finally to McCook County in 2011 when Sherri and Jeff purchased the building to move it and restore it to its former turn-of-the-century glory.

When asked if she had ever thought she'd get this far along with the house moving project, Sherri nodded an affirmative yes.

"We already did it once with the church," she said. "I wished we could have been able to do this about 10 years ago, since it probably would have fit a little better. But you know what? Things work out exactly the way they are supposed to."

History of the House

Known as the Ole Quamman house, the 1910 prairie style foursquare house spent the last 115 years on 2nd Avenue in Lemmon. Ole Quamman was one of the first businessmen to arrive in Lemmon, which was founded just three years before in 1907. Quamman created the town's Petrified Wood Park & Museum in 1933 to showcase petrified wood from Perkins County. At its Lemmon address, the house featured two flowerpots decorated with petrified wood on its walkway – those traveled with the home to McCook County.

The South Dakota State Historical Society writes that the interior of the home is "lavishly styled" and features some of the latest design ideology of the time.

It was added to the National Register of Historic Places in 2015, but lost its eligibility after the move. Sherri is applying to get the house back on the list for its architectural significance and level of preservation. She also plans to do the same with her historic church.

Sherri and Jeff Johnson with their new home on its foundation in McCook County. It sits on land that has been in Sherri's family for generations.
Photo by Jacob Boyko

The house crosses the Oahe Dam – officially entering east river South Dakota.
Submitted Photo

The house rounds one of the final corners. Southeastern Electric Cooperative was on the scene to connect power.
Submitted Photo

In the application to add the house to the National Register of Historic Places, the South Dakota State Historical Society writes that the interior of the home has an "elegant Arts and Crafts design."
Submitted Photo

FROM SHERRI'S JOURNAL

The only place I wanted a picture of the house moving along its 400-mile journey was at the Missouri River crossing. I was plenty early on the morning of Nov. 17, 2025, when I parked my car at Oahe Dam Visitor Center. It was cold, windy, and still dark outside as I aimed my headlights at the Oahe Mission School and Chapel historical marker. I started reading the sign, but abruptly stopped when I read '...at Bogue…' Bogue was the maiden name of my 3x great grandma. Not only was I reading a sign about a building being moved as I waited for my historic house to move across the dam, but the name on the sign perfectly connected to a name in my ancestry. Daylight eventually dawned, the clouds broke, and sunlight lit up the house as it crossed the river. I had planned a picture, but God did so much more that morning.
Now to him who is able to do immeasurably more than we all ask or imagine, according to his power that is at work within us. (Ephesians 3:20)

MARCH 7
Ag Day
10 a.m.-2 p.m.
Washington Pavilion
Sioux Falls, SD
605-367-6000

Washington Pavilion Photo

To have your event listed on this page, send complete information, including date, event, place and contact to your local electric cooperative. Include your name, address and daytime telephone number. Information must be submitted at least eight weeks prior to your event. Please call ahead to confirm date, time and location of event.

MARCH 5
SD Jazz Festival
7:30 p.m.
Johnson Fine Arts Center
Aberdeen, SD

MARCH 7
Free Christian Men's Event
The Barn at Aspen Acres
8:30 a.m.-1:30 p.m.
Spearfish, SD
Register: RiseUpMen.com

MARCH 7
Southern Hills Holistic Fair
9 a.m.-3 p.m.
Mueller Civic Center
Hot Springs, SD

MARCH 7-8
The Black Market
Sat. 9 a.m.-5 p.m.
Sun. 10 a.m.-3 p.m.
W.H. Lyon Expo Building
Sioux Falls, SD
605-332-6004

MARCH 14-15
Philip Area Annual Rod & Gun Show
Sat. 9 a.m.-5 p.m.
Sun. 9 a.m.-3 p.m.
American Legion Hall
Philip, SD
605-859-2135

MARCH 14
St. Uhro Finnish Festival
11 a.m. Main Street Parade
12 p.m. Community Ctr. Lunch
Lake Norden, SD
605-881-1758

MARCH 14
SNOLF (Snow Golf) Tournament
Webster, SD
Contact: Buster's Resort
605-345-2787

MARCH 20-21
Badlands Quilters Getaway
Fri. 5:30 p.m. Start
Sat. 8 a.m. Start
Wall Community Center
Wall, SD
605-279-2807

MARCH 20-22, 27-29
Mighty Corson Art Players
March 20-21, 27-28: 7:30 p.m.
March 22, 29: 2:30 p.m.
Corson Playhouse
Corson, SD
www.mightycorson.com

MARCH 21
Central SD Skate Club Presents Ice Jam Drop the Beat
4:30 p.m.
Expo Center
Fort Pierre, SD

MARCH 27
East Dakota Chapter NWTF 33rd Annual Banquet
Ramkota Expo Hall
Sioux Falls, SD
605-940-0702

MARCH 28
Coteau Prairie Masters Gardeners Ready, Set, Grow
9 a.m.-12 p.m.
Codington Cty. Extension Cplx.
Watertown, SD

MARCH 28
VFW Teener Baseball Benefit Vegas Night
Social: 4:30 p.m., Meal: 6 p.m.
Tyndall, SD

APRIL 3
Bachelors of Broadway: Gentlemen of the Theatre
7 p.m.
Johnson Fine Arts Center
Aberdeen, SD

APRIL 5
Easter Sunrise Service
7 a.m.
Mount Rushmore
605-391-9156

APRIL 9
McCrossan Wildest Banquet Auction in the Midwest
Jimmy Buffett Tribute
Polynesian Paradise Dancers
Sioux Falls, SD
www.mccrossan.org

APRIL 9-11
Annual Schmeckfest
German Heritage Celebration
Freeman, SD
605-925-4237
www.schmeckfest.com

APRIL 18
Brookings Quilt Show XII
9 a.m.-5 p.m.
Admission: $10
Dakota Bank Center
Brookings, SD
605-690-3246

Note: We publish contact information as provided. If no phone number is given, none will be listed. Please call ahead to verify the event is still being held.