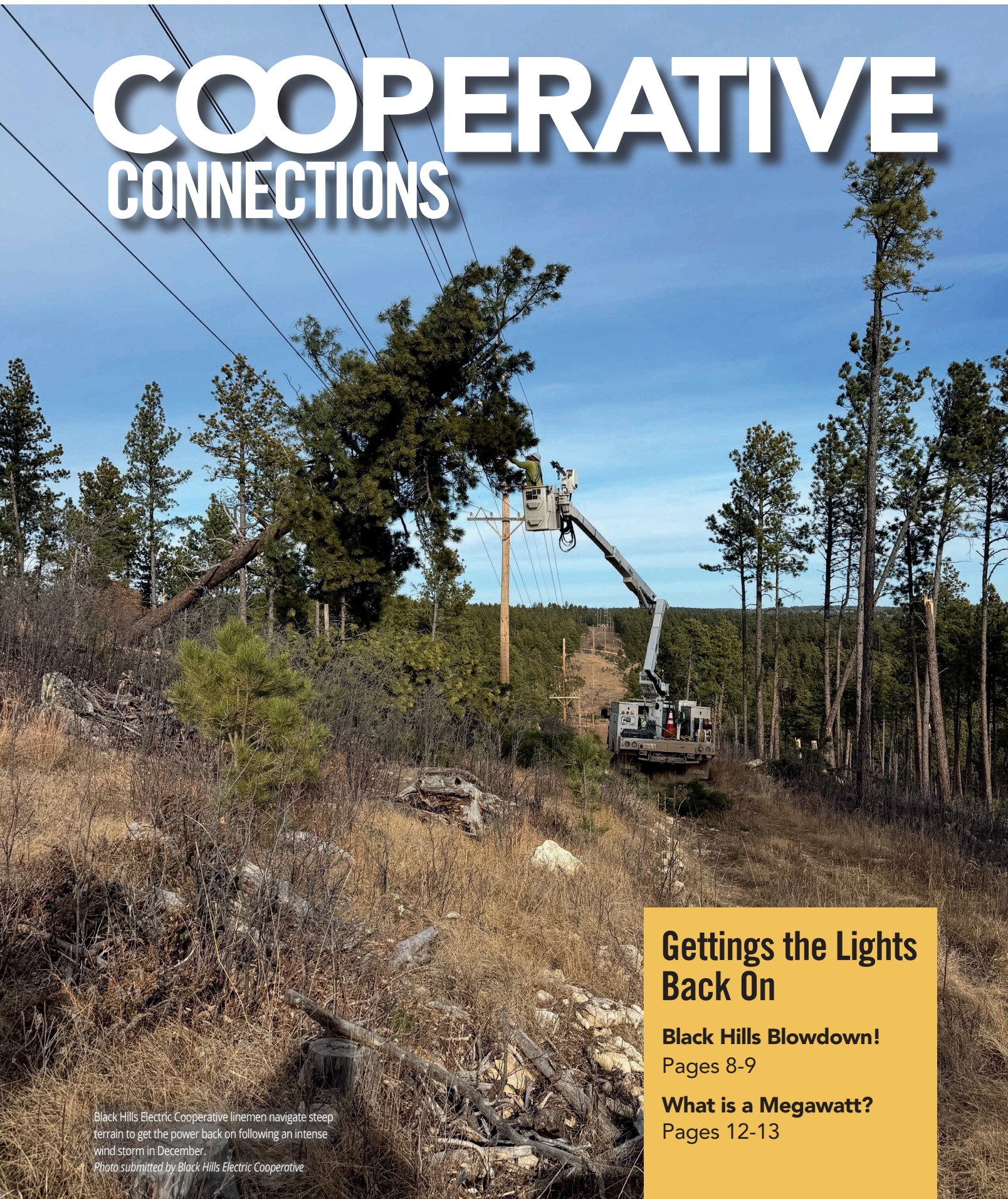


COOPERATIVE CONNECTIONS



Gettings the Lights Back On

Black Hills Blowdown!
Pages 8-9

What is a Megawatt?
Pages 12-13

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

DATA CENTERS



Jeremy Lindemann
CEO/GM

Hello Lake Region Members,

This winter started out calmly, but the fiercely cold temps and winds hit us mid-January and, just as the Farmer's Almanac predicted, the snow and cold came in waves. As we look into March, I'm not sure if we will get the lion or the lamb, so we will prepare for both!

Just as the temperature was dropping and snow and wind were picking up, I headed to Pierre for South Dakota Rural Electric Association's (SDREA) annual meeting. As part of that meeting, we host a legislative dinner where we invite our legislators to sit down to a meal with us and we get a chance to discuss the issues concerning members of our electric cooperatives. It was a well-attended event! We met with all the representatives from our area and we discussed many issues that are important to the members of LREA. One of the hot topics was data centers. I am sure many of you have heard a lot of talk about this subject. I would like to share some of the concerns people have shared with me and my insights on data centers with you all. Some of the concerns I have heard about are: they are noisy, they use a lot of water, and that they will drive up the cost of power for the member owners of the cooperative.

To address the first concern: I am not a water guy, I'm an electricity guy, but I have learned a few things about how data centers work and why there are concerns about water consumption. Data processing takes power, and this generates heat. Just think of it as if you are using your laptop while sitting in your recliner; it heats up because it uses electrical components to process data while in use and if it gets too hot, it shuts down. A data center is like your laptop multiplied by a million (Ok, maybe not the most accurate representation, but you get the idea!) Data centers need water for their cooling systems in order to keep the computers processing at high speeds 24/7. Some centers use closed loop cooling systems to conserve water. Some are using refrigerant-based cooling systems, but this can be more costly to operate. The cold winters in the upper Midwest make the region more appealing for data centers due to their need for cooling.

"So," you may ask, "what about the noise?" Well, the construction and location of data center sites address those concerns. Data centers are built from thick

concrete walls with no windows. Developers look for sites that are not typically considered residential areas and for many reasons they build in industrial parks or out in the country, away from homes.

One of the most prominent issues expressed is that all these data centers will drive up the cost of electricity. As I explained in our January issue, Basin Electric has addressed the power cost increase concerns by requiring large loads like data centers to pay aid to construction for their share of the generation that they need. This keeps those costs off the shoulders of the legacy members of the cooperative like you and me. These data centers are made aware that they will need to pay their share of the costs, and it is part of the planning process for these facilities.

One question that has been asked by our legislators and our members is, "Why do we need all these data centers?" I recently attended a meeting where several data center developers presented and explained how data centers work and what resources are needed to power them. A visual example of how data centers work is this: imagine the data center is a strip mall but instead of several stores and restaurants connected, the "stores" are your favorite app from your phone such as Facebook, weather apps, banking apps, or even your My Chart app for your health care center. One data center developer posed the question "If you do not want data centers, which app on your phone would you be willing to get rid of?" What an interesting question, I thought. As for myself, I use apps every day. Here at LREA, we have Smart Hub; an app that lets you check your usage and pay your bill online. It is very convenient and user friendly! Data centers are being built around the country and are being used for everything from powering Facebook to AI (artificial intelligence) and all of your medical and banking records. We will see major infrastructure construction to power these data centers in the next five years. No matter what side of the fence you are on, as long as people keep using data there will be a need for them. The people at your electric cooperatives are working hard to make sure those costs don't fall on you.

So, as legislature wraps up and we look to see if March comes in like a lion or a lamb, rest assured that no matter what comes our way, we will keep the lights on for you!

Jeremy Lindemann
CEO/General Manager

COOPERATIVE CONNECTIONS

LAKE REGION ELECTRIC RIPPLES

(USPS 018-904)

Board of Directors

- Kermit Pearson, President
- Rodney Tobin, Vice President
- Thomas Steiner, Secretary
- Andrea Kilker, Treasurer
- Amy Kuecker
- Cody Paszek
- Mark Wismer
- Danny Smeins, LREA Attorney

General Manager

Jeremy Lindemann

Staff

- Donna Sattler, Director of Finance/Office Services Manager
- Dan Williams, Line Superintendent
- Brett Kwasniewski, Manager of Member Services
- Tim Gaikowski, Manager of Technology Services



Lake Region Electric Association, Inc. is an equal opportunity provider and employer.

Like us on Facebook:
Lake Region Electric Association Inc.

LAKE REGION RIPPLES COOPERATIVE CONNECTIONS is the monthly publication for the members of Lake Region Electric Association, Inc., PO Box 341, 1212 N Main St., Webster, SD 57274. Lake Region Electric Cooperative Connections' purpose is to provide reliable, helpful information to members on electric cooperative matters and better living.

Subscription information: As part of their membership, Lake Region Electric members devote 50 cents from their monthly electric payments for a subscription. Nonmember subscriptions are available for \$12 annually. (USPS 018-904) Periodicals Postage Paid at Webster, SD 57274 and at additional mailing offices.

POSTMASTER: Send address changes to: Lake Region Ripples Cooperative Connections, PO Box 341, Webster, SD 57274. Telephone 605-345-3379; Toll Free 1-800-657-5869; Fax 605-345-4442 E-mail: lakeregion@lakeregion.coop

24 hour Dispatching/Outage Line 1-800-657-5869

TELL US WHO POWERS YOU!



We're excited to announce the launch of our #WhoPowersYou contest!

Let's celebrate the people making a difference in our co-op community. Nominate someone you think deserves to win up to \$3,000 for their cause.

Once again, we have partnered with KELOland Living and will honor 20 individuals or organizations across the region who are making an impact. Finalist features will take place over 10 weeks, and at the end, our panel of judges will select three winners who will be awarded cash prizes of **\$500, \$1,500, and \$3,000**. Nominations will open on February 1 and will close mid-April.

Go to WhoPowersYouContest.com to submit your local hero.




WELCOME TO OUR NEW MEMBERS!

Deb & Craig J Anderson	Gerardo Reyes
Jayne Reihe	Kassi Jones
Rebecca Jorgenson	Nicole Jones
Logan R Block	Fletcher Eagle
Wayne Guthrie	

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

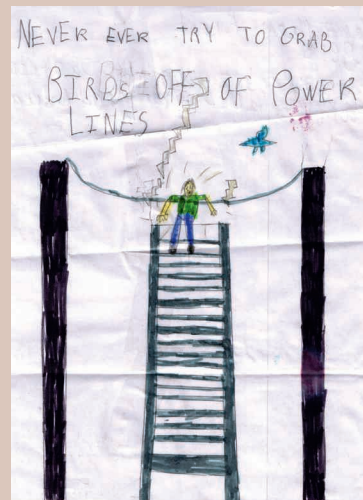
To minimize risks when flying drones near power lines, operators should adopt several best practices:

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

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 tps. 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.

BUDGET BILLING

Helping You Keep Your Electricity Affordable Year Round



MANAGE YOUR FINANCES WITH BUDGET BILLING

Fluctuating temperatures in Lake Region territory can lead to fluctuating and often surprising electric bills. One way to keep your electric bill from shocking your pocketbook after the temperatures decrease is by signing up for budget billing.

Lake Region offers budget billing as an option to help its members manage their monthly finances and ease the burden of larger bills during the winter months. Budget billing does not regulate the amount of electricity you use or the cost; rather, payments are spread equally over the span of a year. Individual budget bills are compiled using an average of the last twelve months' bills plus an additional cushion to accommodate possible rate increases and potential additional usage. According to Lake Region's Consumer Accounts Representative, Autumn Spiering, "We do monitor our accounts enrolled in the budget bill program and may periodically send a note along with their monthly billing statement to let members know if they need to make an adjustment to their budget bill amount due to higher than average usage."

- Applicants must have received service from LREA and have a minimum of one-year history with a satisfactory credit rating.
- LREA will determine monthly payments based on prior use.
- Monthly payments will be calculated annually and commence with the June payment, due July 15th. The consumer must pay any balance due by the June 15th due date. Any credit remaining on the account will be re-calculated into the next year's budget balance.
- If the kilowatt hour usage changes substantially during the year, the Cooperative may change the monthly payments. The consumer is responsible for notifying the Cooperative of any significant electrical load additions during the year that could impact the Budget Billing amount.

- Budget Billing will have a sign-up period from the April billing cycle to the August billing cycle each year.
- Account must be paid in full prior to qualifying.
- Members who fail to meet their agreed upon payment amount for a period of two (2) months, will be taken off the budget plan. Any remaining balance may be subject to the disconnection of the service.

Anyone interested in budget billing should contact Lake Region Electric Association by calling: 605-345-3379 or by e-mailing: lakeregion@lakeregion.coop.

TIPS TO AVOID ENERGY SCAMS



Scammers and cyber criminals look for weak points to exploit before software companies can fix them. Update software programs on your computer, tablet and mobile phone as soon as possible when a newer version becomes available. Software updates often contain critical patches and protections against security threats. Turn on automatic updates to automatically update your security software, internet browser, operating system and mobile apps.

Source: consumer.ftc.org



DATA CENTERS BRING CHALLENGES AND OPPORTUNITIES TO CO-OPS

Cathy Cash

NRECA

Data centers, with ravenous appetites for land and electricity, are top of mind in rural America and for good reason.

Expected to lift new U.S. energy demand by 30% by 2030, data centers are setting their sights on electric co-op country, where power is affordable and reliable, and they have acreage to spread out.

Overall, data centers connect the world through digital networks and that requires a significant and steady flow of electricity without pause.

Their job is to electronically store, manage and transmit tons of internet-based information 24/7 to ensure the fast, uninterrupted operation of Amazon, Microsoft, Google, artificial intelligence and the World Wide Web with all its digital businesses, shopping, streaming and social media sites.

A typical data center can require 100 megawatts of electricity, which could serve nearly 100,000 households every day. A growing number of data centers are much larger. Known as a hyperscale campus, these centers demand upwards of 600 MW – enough to power Washington, D.C.

So, can electric co-ops take advantage of data centers' gigantic demand and protect consumer-members at the end of the line?

The short answer: Yep. "Co-ops are uniquely positioned for this work," says Allison Hamilton, markets and rates director for the National Rural Electric Cooperative Association. "Their commitment to serving all members – not just the large load – means they approach these projects with care, collaboration and

a focus on long-term community benefit."

Electric co-ops already are serving almost 300 data centers nationwide, mostly in Virginia, Texas, Illinois, Oregon, and Georgia, with another 150 under construction to meet the escalating global needs of AI, digital programs and storage.

Lower land costs plus tax incentives for locating a business in rural areas are very attractive to data center developers. But perhaps the top draw is the reliable, affordable electricity co-ops offer.

With a footprint larger than a football field, these massive concrete, windowless structures house two huge energy consumers: thousands of computers and significant cooling systems to keep them running.

There are many pluses for co-ops serving data centers, too, beyond supporting an always-on digital marketplace and social gathering spots.

Co-op service areas with data centers are experiencing local business boomlets with jobs created around the new facility well after its construction. A data center's addition to the tax base also allows for school and road upgrades.

For the co-op, there can be greater efficiency gains and support for systemwide improvements, including broadband fiber for retail internet service. Having such a constant large energy consumer also offers a means to keep rates steady.

"The predictable, around-the-clock nature of these large loads can create stable revenues and reduce upward pressure on rates for the entire membership," says Hamilton. "For co-ops, data centers offer long-term load growth, revenue stability and potential for broadband and grid modernization. These projects can also bring new tax base, jobs and investment

and attract additional businesses to the area."

To secure these benefits, co-ops are encouraged to develop business strategies, practices and requirements when negotiating with data centers coming into their territory. These can include requiring a developer to pay upfront costs, including engineering studies, deposits and other necessary items before a contract is signed.

Basin Electric Power Cooperative, which serves all South Dakota cooperatives with wholesale power supply, has developed a Large Load Program to deal with hyperscale data centers, or any other very large electric consumer, which includes deposits for engineering studies, generation investments and other requirements to protect legacy consumers.

Co-ops are also developing rate structures, contract provisions and internal policies to mitigate financial risks to serving data centers.

They also are insisting on transparent negotiations and performance assurance to cover potential stranded investment or any default, like letters of credit, deposits and guarantees from a developer's parent company.

"As co-ops make these business decisions based on their own unique circumstances, they are learning from each other," Hamilton says. "Sharing their experiences in addressing the challenges of serving large industrial loads, making sure assets are paid for upfront and their high-capacity demands are met are ways co-ops are avoiding cost-shifts to members."

By working with data center developers, co-ops can leverage system upgrades and innovations that can drive down costs and boost reliability all for the benefit of their members.

"When co-ops take the time to understand and manage the challenges on the front end – whether it's infrastructure upgrades, rate design or contract terms – there can be significant upsides once a data center's load comes online," says Hamilton.



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

frank.turner@sdrea.coop

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.

RESTRUCTURING LEADS TO PROMOTION

Nate Baumgarn Promoted to Director of Engineering and Staking

Jeremy Lindemann

I want to take a moment to share an important update regarding the operations side of our cooperative. As part of our ongoing efforts to improve efficiency, coordination, long-term planning, and providing excellent member service we are restructuring certain operational functions within the cooperative. Nate Baumgarn has been promoted to Director of Engineering and Staking. This adjustment is intended to increase efficiency and to serve our members more effectively.

In this role Nate will oversee the staking and engineering for the cooperative and will play a key role in the construction work plan process and compliance. He will also be the main contact for members for new services and estimates for construction. Additionally, Nate will now be part of the Cooperative's Management Team.

Please join me in congratulating Nate on this well-deserved advancement.



ATTENTION Trade Students Do you want free money for school?

Apply now for the Charles Johnson Education & Training Trust Scholarship

The scholarship through the Charles Johnson Trust is awarded to persons who intend to further their education in order to return to the area with the knowledge and skills necessary to flourish in the trades industries.

Criteria for Award

- **Qualifying Course of Study** Examples, not limited to: Precision Machining, Welding, Electronics, Robotics, Energy Technology, Engineering, Construction Management, etc.
- **Positive Character Qualities**
- **Future Goals & Plans Align With Scholarship**
- **Reference from educator or employer**

For information and applications:

- Visit: www.lakeregion.coop
- Contact Laura at Lake Region Electric
- Contact your High School Counselor



Applications Due April 1st

Charles Johnson Education & Training Trust, C/O Lake Region Electric Association - P.O. Box 341 Webster - 605-345-3379 - www.lakeregion.coop



EMPLOYEE SPOTLIGHT

LAKE REGION IS HOME FOR NATE BAUMGARN

Laura London

Nate Baumgarn, Lake Region Director of Engineering and Staking, grew up in the Webster area and says that he had a lot of positive influence from Lake Region Electric. “The old LREA guys set a good example. Mike Storm coached my baseball team, and I am still good friends with his sons. As a kid, you would always see Storm and the other LREA guys around town. I remember driving by the REA hill and thinking, “That must be a pretty cool place to work.” Two of Nate’s uncles were linemen, and his brother Mike was a lineman who worked for Lake Region for a while. After graduating from Webster Area High School, Nate attended Northern State University, deciding after one year that it just wasn’t for him; he went to Line School at Mitchell Tech. He said, “It seemed like there were quite a few kids from Webster going to line school for a while.” In fact, coming to work is like a miniature class reunion some days for Nate because he graduated from high school with co-workers Bryce Jorgenson and Jesse Pesall. Nate and Jesse graduated from Mitchell Tech together, then both got jobs at Cam Wal Electric in Selby where they were

roommates. When a position opened up at Lake Region, Nate was able to return to Webster. He began working at Lake Region Electric as an Apprentice Lineman in May of 2012, earning his Journeyman Lineman Certification 2 years later.

Nate moved to the Technology Department at Lake Region in 2018 after he experienced a contact injury from a high voltage power line. The transition wasn’t easy at first, re-acquainting himself with a variety of computer programs and learning new ones was a challenge because he was used to working outside. As a Utility Specialist, Nate was largely responsible for staking and easements among other duties. Put simply, staking sheets are like blueprints for a house, mapping out our lines and assets so that we can determine where things are and what is needed for a job and to make sure that we are building lines in compliance with regulations. It wasn’t long before Nate began using his experience as a lineman to optimize his new position. “When I was a lineman the staking sheets could be really confusing so I try to put it in their perspective,” says Nate. The logistics involved in the staking and engineering process can get frustrating



with all of the red tape and slowness of the process, but Nate has come to love the work he does.

Nate was recently promoted to a newly created position at Lake Region Electric, Director of Engineering and Staking, that keeps him in the office dealing with an abundance of administrative duties, but he still gets a few opportunities to do his favorite part of the job when he works on easements, stating “I always look forward to getting out and meeting with our members!”

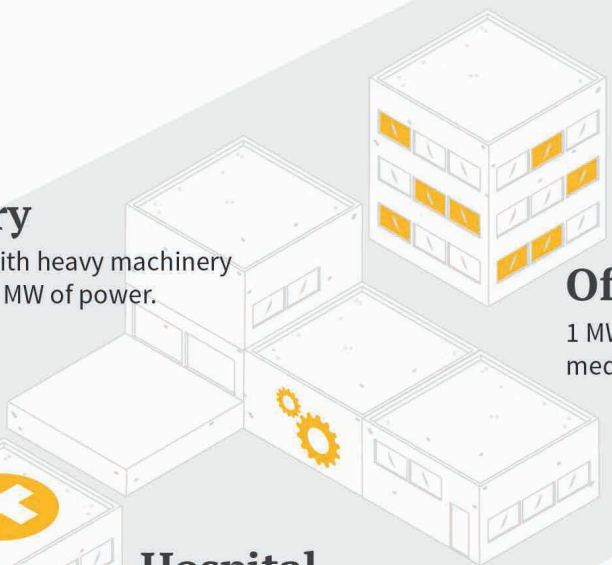
This new position at Lake Region Electric has opened some doors for Nate as he focuses on improving reliability for the members and streamlining work plans for the employees. “It sounds kind of crazy, but some of my favorite memories are going out on those 2am calls with my co-workers to get someone’s lights back on. Nothing will compare to seeing the relief on a farmers face and having him say, ‘Boy, you are a sight for sore eyes!’ after he was out of power for 9 days following a winter storm in 2016.” Nate’s priority is still on the members, but he works a little more behind the scenes focusing on planning and building so that the power stays on and helps the crews restore it more quickly when it goes out.

Nate and his wife, Meagan, make their home in Webster. This is where their families, friends, and familiar faces are. It’s also the perfect place for some of Nate’s favorite past-times like hanging out at the lake with family and friends, hunting, woodworking, and occasionally fishing. He recently has gotten back into the joy of bird hunting with his yellow lab, Kimber.

What Can You Do With 1 Megawatt?

Factory

Facilities with heavy machinery can draw 1 MW of power.



Big Box Stores

1 MW will power a typical large retail store.

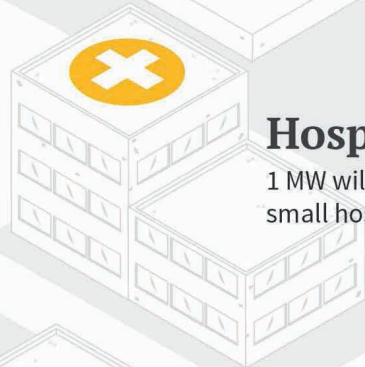


Office Building

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

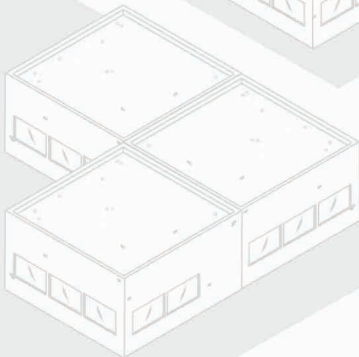
Nuclear: 500 MW to 1.5 GW

1 MW is 1 million watts of power.



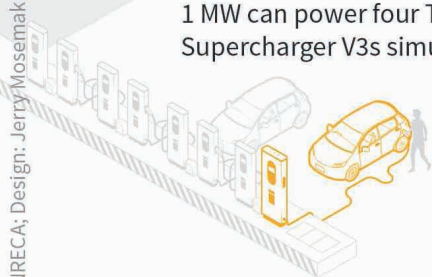
School

0.5 MW will power a medium-size public school.



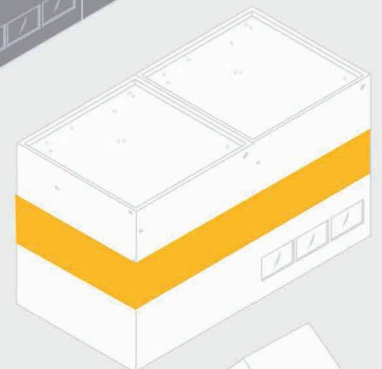
EV Charging

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.



WHAT IS A MEGAWATT?

Jacob Boyko

jacob.boyko@sdrea.coop

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.

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!

$$\begin{aligned}
 &1 \text{ Million Watts} \\
 &= \\
 &1,000 \text{ Kilowatts} \\
 &= \\
 &1 \text{ Megawatt} \\
 &= \\
 &1/1,000 \text{ Gigawatt}
 \end{aligned}$$

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



MOVING A MOUNTAIN

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

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.

FEB. 28
Spay-ghetti & No Balls
 5-8 p.m.
 Shriners – 802 S. Main St.
 Aberdeen, SD

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

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

MARCH 28
Dueling Duo Baseball/Softball Fundraiser
 6-11:30 p.m.
 Legion Post #39
 Groton, SD

MARCH 28
Lion's Club Easter Egg Hunt
 10 a.m.
 City Park
 Groton, SD

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

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

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

APRIL 18
Tri-Valley Chorus 75th Annual Show
 4 p.m.
 Centerville, SD

APRIL 20
The Bronx Wanderers
 7 p.m.
 Johnson Fine Arts Center
 Aberdeen, SD

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.