

M I N N K O T A

MESSENGER



JANUARY - FEBRUARY 2024



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Cooperatives across North Dakota and Minnesota spent their year-end holidays cleaning up after an ice storm that destroyed miles of electric infrastructure. See how Minnkota and others used collaboration to safely restore power to thousands.

On the cover: Cass County Electric Cooperative lineworker Bret Dolan breaks inches of ice off a fallen conductor, left behind from the historic Dec. 25 freezing-rain storm.

Minnkota Messenger is published six times a year by Minnkota Power Cooperative. Its mission is to communicate Minnkota's perspectives and concerns to its members, elected officials, employees and other business audiences. For editorial inquiries, call (701) 795-4282 or email bfladhammer@minnkota.com.

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Minnkota Power Cooperative is a generation and transmission cooperative headquartered in Grand Forks, N.D. It supplies wholesale electricity to 11 member-owner distribution cooperatives, three in eastern North Dakota and eight in northwestern Minnesota. Minnkota also serves as operating agent for the Northern Municipal Power Agency, an association of 12 municipal utilities in the same service region. Together, the Joint System serves more than 162,500 consumers.

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Minnkota's region is connected by hockey as tightly as it's connected by power lines. We got a front-row seat to all the work the northern town of Warroad put into bringing Hockey Day Minnesota to their community.



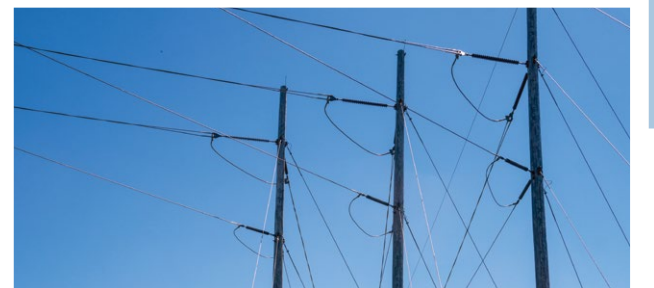
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Electric grid reliability risks are increasing with each passing year. Recently, many of the nation's grid operators and regulators have begun speaking out about their concerns.



Cass County Electric crews dig through ice and mud to set a new power pole, replacing one of more than 1,200 poles damaged in the storm.

NO TIME TO FREEZE

Minnkota, Cass County Electric Cooperative battle effects of rare Christmas ice storm

By **Kaylee Cusack** /// Photography **Michael Hoeft**

The morning of Dec. 28, Darrell Discher took his time driving the gravel roads of southeast Cass County, N.D. A frosty fog was starting to lift off the fields, the ghost of a three-day ice storm that began on Christmas and weighed down miles of power lines to their breaking point. Discher's grandson (a Cass County Electric Cooperative member) had been out of power for three days at his Davenport-area farm, the same farm Discher had called home for years before.

A lifetime in Cass County – and he had never experienced this level of destruction.

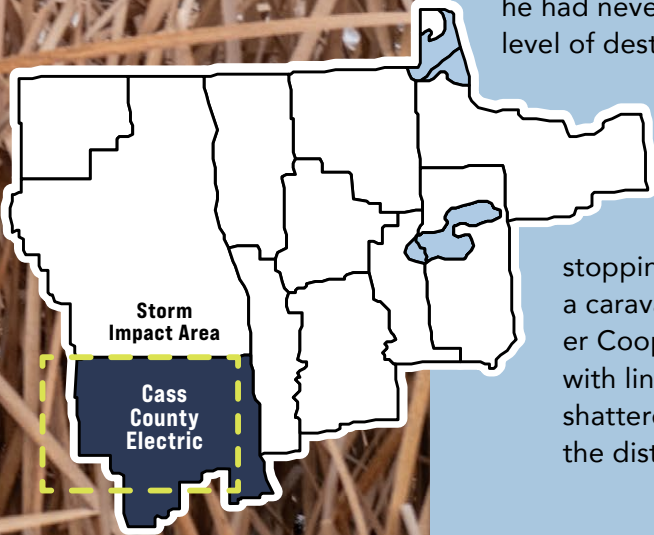
bad, but I don't think that was as bad as this."

This was day four of restoration efforts following the historic ice storm, which brought down at least 60 of Minnkota's transmission structures and more than 1,200 poles in Cass County Electric's distribution system. Outages affected thousands of CCEC members, some of whom were out of power for nearly two weeks as repairs and replacements progressed.

The regional damage was devastating. But the work of more than a hundred co-op lineworkers from across the tri-state area would make it right. The dangerous conditions, exhaustingly long days, and pressure to get the power back on didn't hinder these crews. Quite the opposite.

"Linemen love this," Minnkota line foreman Butch Tester yelled, just before joining his crew to set new poles. "Every lineman loves this."

"This time of the year? Never. Never this bad, ever," Discher said after stopping on the road near a caravan of Minnkota Power Cooperative vehicles, with lineworkers removing shattered power poles in the distance. "1997 was





Minnkota crews use heavy tools and teamwork to remove and replace a broken transmission pole south of Valley City, N.D.

The first days

On Dec. 25, Minnkota lineworkers initially responded to three downed transmission poles in Ransom County. When line foreman Nick Bye heard his phone ring the next morning, he knew the numbers had climbed. His team loaded 20 poles to bring from Grand Forks, N.D., south to CCEC territory. After assisting with several ice-related challenges in the area, from frozen line switches to downed wires on the road, Bye and two of his lineworkers responded to another line break.



"As we were bringing it up, things started cracking and creaking," Bye said. They would have to remove ice from the lines to prevent more damage. "We've had to beat ice up in Langdon, N.D., before – hoar frost where you just tap it and the whole span clears. Here, you would tap it and you'd get a foot or 18 inches. With three of us, it took 30-45 minutes to clear one span."

Three Minnkota line crews continued triage through the day and night, taking care of broken

poles as more continued to fall. The temperature hovered around the freezing point. As the rain continued, it polished and added to the ice that had formed. The ice became thicker than it was during the historic 1997 storm that crippled the region.

"Ice was built up so much that you couldn't wrap your hand around the wire. If you had any sort of wind, it would be mass chaos," Bye said. "We got lucky."

The work was dangerous, but just getting to each site proved to be a small miracle. The ice that coated lines also covered highways and gravel roads. It was so slick that roads were being closed and people were advised to stay home. Power delivery crews didn't have that luxury.

In one case, a Minnkota crew was bringing a 40-ton crane to a work site in the middle of the night when they stopped to assess their location. The driver got out and looked around, and as he did, the parked crane started to slip to the edge of the gravel road.

"As they were trying to figure things out, it slid all the way down into the ditch," said Harold Narlock, Minnkota's Power Delivery Operations Manager. "It took off again by itself. It was so slippery you couldn't stand. So now what do you do?"

With the combined help of county officials with a sanding truck, a local towing company with a large wrecker, and a nearby

farmer with a plow-equipped tractor, they were able to get the truck back on the road and out to the middle of the field to make line repairs. Not a single person would accept payment for the assistance. The farmer even stayed around in case he was needed again.

"That was the interaction we had with the public. I haven't seen anything like it in my years. It was that way everywhere," Narlock said. "That gave the guys the extra shot of adrenaline to want to put in the extra time. If that's the way they're acting toward us, we're going to go the extra mile to get this taken care of and get everything back to normal."

During that week, Minnkota line crews far extended their normal hours. Some even logged days pushing 24 hours in the initial wave. That wasn't sustainable, and the response quickly became all hands on deck, with tasks rippling through several departments. Power delivery superintendents made nonstop calls to organize crews and prioritize efficiently. Area lineworkers patrolled and assessed lines.



(Left) Line crew foreman Nick Bye works with his team to clear a damaged pole. (Right) Bye uses a plumb bob to ensure the new pole is set straight.

Power system operators were glued to their control center screens. Electricians and utility workers were sent to support lineworkers in framing new poles and clearing sites. Everyone from procurement to IT to engineering stepped up – and every minute was appreciated.

"We got a lot of help from the electricians, and that was huge," Bye said. "We couldn't have done it without the help of the electricians."

By the weekend, Minnkota crews were able to take a breath and spend the New Year's Day holiday with their loved ones. Bye had to be away from family a lot those first few days, but he says that's a part of the job. He points to an exchange his wife had with their daughter's basketball coach while he was in the midst of storm repairs.

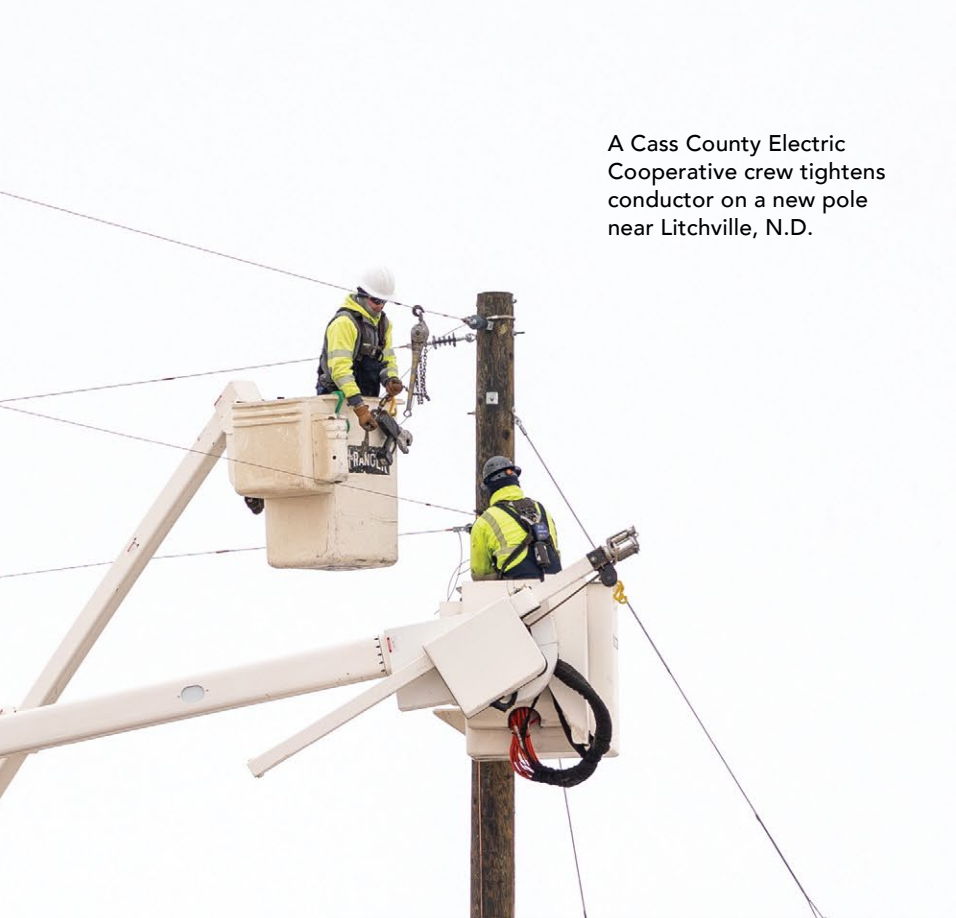
"She was like, 'Yeah, my husband's been working a lot this week, because he's a lineman.' And the coach said, 'Oh, it's like harvest time for them!'" Bye recounted with a grin.



“

“Everybody had an upbeat attitude the entire time ... All it takes is one or two guys with a bad attitude to bring everyone down, but we didn't have any of that. Which is amazing.”

Nick Bye
Minnkota line crew foreman



A Cass County Electric Cooperative crew tightens conductor on a new pole near Litchville, N.D.

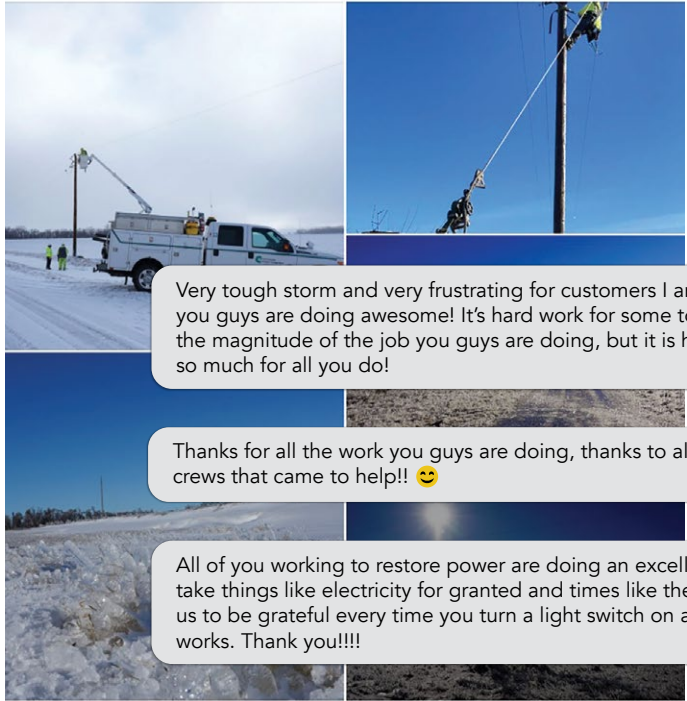


Cass County Electric Cooperative
December 29, 2023 · 🌐

Friday Update:

As of noon today, there are 2,745 members without power.

Kindred Service Center: 415 members out of power. Crews are working on the Warren substation underbuild and should have that completed today. Crews are also working in the Chaffee and Leonard areas, restoring power.... See more



👍❤️🔥 336

81 240 ➡

Very tough storm and very frustrating for customers I am sure, but you guys are doing awesome! It's hard work for some to understand the magnitude of the job you guys are doing, but it is huge! Thanks so much for all you do!

👍❤️ 2

Thanks for all the work you guys are doing, thanks to all the other crews that came to help!! 😊

👍 3

All of you working to restore power are doing an excellent job. We take things like electricity for granted and times like these remind us to be grateful every time you turn a light switch on and it just works. Thank you!!!!

👍 3

Supporting each other

As Minnkota Vice President of Power Delivery Brendan Kennelly reflected on the storm – one that will go down as the second most destructive in the last 20 years – he marveled that all crews were able to keep safety at the forefront in nearly impossible conditions.

“Yes, we had some things slide around, but we didn’t have any major safety incidents or anything of that nature. The guys really look out for each other,” he said. “I’m very proud of them for that.”

Support for Minnkota and CCEC poured in during the two-week window of restoration. When CCEC called for mutual aid, line crews from 15 cooperatives in North Dakota, South Dakota and Minnesota responded. Over several days, CCEC lineworkers labored alongside 99 co-op counterparts.

Additionally, crews received a flood of support from the public, including those patiently waiting for days for their power to come back. Folks brought handmade goodies and snacks or just stopped by with words of encouragement. Handmade signs of thanks popped up at CCEC service centers. But the most impressive support came from social media, which could have easily turned into a platform of complaints.



CCEC lineworkers navigate an iced-over gravel road to assess the position of the next downed pole.



CCEC lineworker Levi Johnson clears a fallen pole in Barnes County.

“We used all our communication channels to share information about the event several times daily with our members and the public. The support we received by keeping our members informed was incredible,” CCEC President/CEO Marshal Albright said. “More than a thousand comments were posted on our social media to support the crews for their efforts to restore power, and the comments gave us all the drive to work tirelessly to get the power back on.”

Although Minnkota was able to restore power to all CCEC-connected substations by Dec. 27, the road for complete resto-

ration to end-users extended longer.

After 25,000 working hours rebuilding miles of line with the help of the larger cooperative family, CCEC reenergized its final member on Jan. 5.

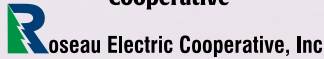
Mother Nature is tough. But rural electric cooperatives are tougher.

“I am incredibly proud of all the employees who helped in a coordinated effort to restore power to Cass County Electric’s members,” Albright said. “This is the co-op principle of ‘Cooperation Among Cooperatives’ at its finest.”

Thank you to these cooperatives for their help in restoration efforts!



Your Touchstone Energy® Cooperative



THE PUCK STOPS HERE — IN HOCKEYTOWN USA®



NorthStream Fiber joins community of Warroad in preparations for Hockey Day Minnesota 2024

By Kaylee Cusack /// Photography Michael Hoeft

Over five days in January, the population of Warroad, Minn., swelled from just over 1,800 people to nearly 15,000. Hockey Day Minnesota had finally come to Hockeytown USA® after 15 years in other Minnesota communities. For those who call Warroad home, every day is hockey day. But this is the hockey day they've been waiting for.

"We are part of it! We're embedded in it! It's awesome," said Warroad native Robin Marvin, warming herself near one of several fire pits around the community's temporary Hockey Day Village.

Robin is one of the 12 children of Hockey Hall of Famer Cal Marvin, called the Godfather of Warroad Hockey. She was born and raised on the ice. And on the evening of Jan. 27, she would watch her son Murray play during the main event of the week – a decades-long-rivalry game between Warroad High School and its neighbor 20 miles to the west, Roseau High School.

"It's a mountain of history, it's a mountain of heritage, it's a mountain of respect. It's passion," Robin said as friends and family nodded in agreement.

Hockey Day Minnesota is a program of the Minnesota Wild, in partnership with Bally Sports North and Minnesota Hockey. The celebration of hockey started in January 2007 in Baudette, Minn., where a single game was played on Baudette Bay. Since then, Hockey Day Minnesota has grown into a multi-day docket of open-air high school, college and alumni games, and more.

In 2021, after watching the event be hosted in cities like Bemidji, Minneapolis and St. Cloud, the people of Warroad decided it was time to bring Hockey Day Minnesota home.

"There have always been dreams that someday Hockey Day Minnesota should come to Warroad – our hockey town," said Brenda Baumann, co-chair of the Warroad event. "We put together a proposal and ran it in front of the Minnesota Wild and Bally Sports North. They came up, they did a site visit, and I think they liked what they saw."

"They knew they were going to like the story, and I think once they saw the town and saw the people, they were sold," added co-chair Tad Palmquist.



Thousands of hockey fans from across Minnesota and beyond descended on Warroad's Hockey Day Village for skating, music, food and – of course – hockey.

Roseau High School goalie Brayton Levesque adjusts his helmet during the team's Jan. 27 game against Warroad High School.





Warroad's Murray Marvin-Cordes (22) makes a move down the ice against Roseau.



Commentators had the technology needed to broadcast every period of hockey.



Bally Sports North broadcasts Hockey Day Minnesota to more than 150,000 homes across the region.

Pulling the team together

Once their date was set, Warroad organizers went to work finding local partners to help pull off this gargantuan event. They would need sponsors, volunteers, infrastructure, lodging – the to-do list was mighty for a community so mini.

"This town really takes any challenge head on, so there was never really a challenge where we thought, wow, we'll never get past that," Palmquist said. "We got a really strong group together."

One of the challenges presented was a requirement from the Bally Sports North broadcasting team. They would need two gigabits of internet speed, which Warroad did not have at

the time. Thankfully, Wiktel telecom services and Sjoberg's, Inc., with assistance from the team at Roseau Electric Cooperative's NorthStream Fiber, joined together to complete the process of bringing high-speed internet to the community.

Roseau Electric Assistant General Manager Ryan Severson explained that Warroad was already within NorthStream Fiber's upcoming buildout plans. The timing was perfect.

"It just made sense to partner with Wiktel to help bring internet to Warroad and Hockey Day Minnesota, along with another 123 Warroad homes that we connected last summer," Severson explained. He pointed to the jumbo screen at the end of the rink, livestreaming the afternoon game currently underway.

"You see the media, the TVs, all of this – it doesn't just happen. There's a fiber connection in the background that makes a big difference. We're going to be able to strengthen this in serving Warroad for years to come."

NorthStream Fiber, along with Roseau Electric and Minnkota Power Cooperative, also chipped in as proud sponsors of Hockey Day Minnesota 2024. Dozens of local organizations did the same, investing their money, but also labor and goods. A Warroad trucking company plowed the entire site for Hockey Day Village on the high school football field during a storm of rain and sleet. A local wood burning stove manufacturer supplied branded fire pits for Hockey Day Village and boiler heat for the entertainment tent. The high school's sports teams came out to stack firewood, lay down event flooring and hang banners throughout the site. Even the community's senior citizens asked how they could help.

"Whatever the problem was or whatever the need was, it seemed like the community stepped up," Palmquist said.

"Everybody wanted to be a piece of Hockey Day, and that's what makes this so incredible," Baumann added. "Small town stuff – everybody just wants to pitch in."

Rivals and friends

As Severson found a seat in the chilled stands that Saturday night, among thousands of hockey fans waiting for the puck to drop for the Warroad-Roseau game, he

found warmth in the competitive energy burning in his chest. As luck would have it, he played hockey for Roseau High School as a teen – as did his three sons. He had lived the hockey rivalry, and this was a big moment in that rivalry's history.

"You get goosebumps just talking about it," Severson said. "It's always been a great rivalry. And I still have good friends from Warroad. It's not a hatred. It's a competitive, good-hearted rivalry."

The game, broadcast to hundreds of thousands of people across five northern states, was a cold-weather classic. Fans clad in Roseau green and Warroad gold mixed throughout the bleachers, cheers and jeers blending into one sound – joy.

Robin Marvin's son scored one of the six Warroad goals that led the team to its 6-2 Hockey Day Minnesota win. The goal and the victory meant a lot to her. But so did the spotlight on northern Minnesota hockey.

"I don't know if you can put it into words. I believe that it's in the soul and it runs through the blood. It's an absolutely amazing community that brought this together," Marvin said. "I am so proud of what Warroad has done. And the surrounding communities. I mean, Roseau? Outstanding. Baudette? It's just that Northern Minnesota vibe."



The puck drops on center ice to resume play on Jan. 27.

A MAN FOR THE MEMBERSHIP

Cass County Electric Cooperative CEO Marshal Albright to retire after 37 years of service

By **Kaylee Cusack** /// Photography **Michael Hoeft**

Marshal Albright was destined for a career in electricity. His electrician grandfather worked alongside electric cooperatives in the 1940s to bring power to the rural homes of southeastern North Dakota. Four decades later, in 1986, a young Albright accepted a role as a load management technician at Cass County Electric Cooperative (CCEC).

"I remember the day I told my parents I got offered the job," Albright said. "My grandpa goes, 'That's a good place to work,'" he added, mimicking his grandfather's quiet pride.

After 37 years of service to CCEC, Albright will retire this April as the seventh CEO of the cooperative. He stepped into leadership in 2016 following the retirement of longtime CEO Scott Handy. Before that, Albright served as Vice President of Member and Energy Services for six years, building off his experience as a load management technician, marketing representative, marketing manager and key accounts executive.

Albright reflected fondly on those early years in the 1990s, when visiting with local contractors, builders and families planning new homes was his job.

He would perform heat loss calculations with co-op members, helping them make the most efficient energy choices and consider incorporating electric heating and water heating into their building plans.

"Being a part of the 'electric heat revolution' was really gratifying. In probably 10 years, our members put in thousands of electric heating systems. We had an opportunity to make a difference in people's lives," he said.

Although Albright has grown from his boots-on-the-ground efforts of electricity marketing to the work of future-focused

strategic planning, his focus has not wavered since that first year on the job in 1986.

"It's always been about serving our members. Every day I wake up, that's what I still think about. I look out here," he said, gesturing to South Fargo from his office window, "and that's our membership. That's what we're here for. And I never forget that when we make decisions."

Leader for growth

CCEC hit a transformation point in 1997, when a historic blizzard, ice storm and flood knocked out power to thousands across the service territory and beyond. Albright says the long-term crisis response shaped the mentality of the cooperative and its employees moving forward.

"It really brought us together as a company," he said. "We changed our focus and looked more at grid hardening and distribution resiliency, specifically for flood purposes. Before that year, things like that just didn't happen. So, we had to prepare for next time. And it did happen again, and again. It was an interesting time in my career."

Since moving into his leadership role, Albright has continued to work with the CCEC board of directors and Minnkota Power Cooperative (CCEC's wholesale power supplier) to invest in solutions that keep co-op power reliable and affordable. He sits on Minnkota's Power Supply Planning Advisory Committee

to evaluate future power supply options. He has also guided CCEC toward leading the nation in reliability and supporting the deployment of a new technology called FLISR (fault location, isolation, and service restoration). The system acts as a self-healing network – if there is an outage, FLISR automatically senses where it is, isolates it and restores power around it, considerably reducing outage times. "That's what technology can do. We need to continue to look at opportunities from a technology perspective to continue to provide exceptional service to our membership," Albright said.

"In my years on the Cass County Electric board, I've continually witnessed that Marshal has the steady, unflappable demeanor a leader needs, no matter the topic or challenge," said Glenn Mitzel, chair of the CCEC board of directors. "And he's just personable. Those factors have led to his success."

Albright knows CCEC's collective success hinges on the continual growth of the community it serves. He has spent several years on the Greater Fargo Moorhead Economic Development Corporation (EDC) board, most recently serving as board chair. Joe Raso, President and CEO of the Greater Fargo Moorhead EDC, says that in addition to the commitment Albright has put into his work as a volunteer leader, he also goes out of his way to support various EDC partnerships, such as

the Valley Prosperity Partnership and the Fargo Moorhead West Fargo Chamber of Commerce.

"He has always viewed his work from the broader regional perspective, and in doing so, has not only benefited the region but also the mission of Cass County Electric," Raso said. "Marshal will be missed as an active leader in our region. I know his retirement won't preclude his involvement in many things, but I'm hopeful the next Cass County Electric leader follows in his footsteps."

Albright is ready to make room for that next CEO. He's voiced the opinion that a new leader brings a new perspective, something that can benefit any company. When that time comes, Albright has no shortage of retirement plans. He will be living his fullest life, golfing, fishing, hunting and traveling with his wife, Andrea. He'll have more time to spend with his parents, three sons and two grandchildren, all of whom live in the area.

But there will always be room for his co-op kin.

"I mean, it's my family. It really is," he said. "It's one of those companies that you just want to stay with. It's hard to explain that. But I think when you look at what electricity does for the members, and the conveniences it gives, it's pretty cool to be supplying that."

SAFETY FROM THE LAND OF THE ICE AND SNOW

Rare peek into Bosch's Baudette, Minn., proving grounds reveals mission of winter driving innovation

By Kaylee Cusack /// Photography Michael Hoeft

On a 625-acre slice of frozen land wedged between Canada and the far-north town of Baudette, Minn., lies a haven for those seeking automotive adrenaline and engineering excellence. It's the highly remote (and decidedly private) Bosch proving grounds, one of 10 sites around the world. From the end of November to the start of March, clients and associate engineers can use the facility's several ice- and snow-covered test tracks to push their prototype vehicles and internal systems to the limit and refine performance and safety.

When Bosch started scouting a new winter proving grounds location in 1991, they combed a lot of areas before finding the quiet community of 900 people.

"The criteria were, primarily, that we wanted someplace that

was really cold, with not a lot of snow, but enough snow, and in a place where no one can find us," said Bosch Engineering Manager Joe Miller. "It's top secret. Bosch's Area 51, if you will."

If you want to be one of the lucky few to drive the Baudette tracks, you first need to make it through Bosch Lead Driving Instructor Greg Vandersluis, who runs the site's drivers training program. He teaches employees and clients how to safely complete high-speed maneuvers that will throw their vehicles sideways on low-coefficient-of-friction surfaces and stress their control and braking systems.

"It qualifies our associates to drive on our facility," said Vandersluis, a competitive race-car driver, adding that his style of training is not for the faint of heart. "Oh yeah. They freak out."

The work at the Baudette proving grounds is inherently dangerous. That's why safety is a top priority. Miller explained the vehicles that make their way to the ice tracks are in an immature state of development, and they may or may not behave the way the driver thinks they will.

"We're trying to equip them with the skill set for when it doesn't behave the way it's supposed to – it could be software, it could be tires, it could be suspension, whatever it is," Miller said. "We're trying to make sure we give them what they need to do their job. What we do here really does hit the limit of physics on the vehicles."

There are two main business models of the Baudette facility. In one, Bosch will test its own automotive products and systems, which are incorporated

in the vehicle lines of domestic and foreign automakers. In the other model, a startup or legacy company independent of Bosch will rent track time to take advantage of the robust test environment.

A couple hundred vehicles will find their way to the proving grounds in the winter. Bosch can't tell you a thing about the makes, models and features – that's confidential – but the team can tell you about the magic that happens there.

"The fact that we are making these safety systems, technology that is really helping save lives, reduce injuries and accidents – it's important that people know what we're doing," said Michelle Cochran, Bosch Project Manager of Track Operations. "We hope people in the community are proud to have a company like us here."



Bosch Lead Driving Instructor Greg Vandersluis describes the various winter driving conditions found on the Baudette tracks.

Baudette
winter
test tracks

- Traction hills
- Surface checkerboard
- Vehicle dynamics area
- Packed snow
- Handling course
- Polished ice
- Large/small circles
- Heavy truck testing area



Creating a second home

Miller, Vandersluis and Cochran, along with Lead Track Coordinator Earl Curry, only call Baudette home during the winter. They spend the other nine months of the year in Flat Rock, Mich., home of Bosch's other U.S. proving ground.

Amongst the four of them, they've experienced a lot of Minnesota winters. While most winters have been cold enough to freeze their eyelids shut, the winter of 2023-2024 has been an anomaly. Baudette has experienced one of the warmest winters on record, which is less than ideal for maintaining outdoor tracks of snow and ice. However, they have methods for sustaining the chill. The company that helps maintain the courses uses grooming techniques to preserve the surfaces even when

it is warmer than average. The facility can also modify its hours so engineers can take to the track at 3 a.m., when the night is coldest.

The site also features a cold chamber that can "soak" a vehicle in temperatures as low as 40-below-zero, turning the fluids to molasses-like consistency for performance testing. "When you buy that car, you should feel confident that it's been put through its paces," Cochran said.

With only three months of the year to obtain results, the Baudette proving grounds can't be tripped up by unreliable power. The site is served by both Baudette Municipal Utilities and North Star Electric Cooperative, which have proven to be critical collaborators for Bosch. As elec-

tric vehicles (EVs) become more prominent in the auto industry, Bosch continues to invest in EV charging capabilities. The team expressed gratitude that both entities are there to power those investments.

"We have computer systems, we have networking, and all of that requires energy and requires power. We already have a compressed season to come up here and work, and we have to have it," Miller said. "We've been very fortunate – I can't remember the last time that we've had a major power outage. And, when we've had a dip

in power, we've had immediate response from either the municipality or North Star Electric to rectify the situation."

Two years ago, Bosch and North Star Electric strengthened their collaboration with a building sale. Just before the pandemic in 2020, North Star had helped build a lineworker training facility in its own backyard. Unfortunately, COVID halted the cooperative's plans, and they were left with a building they couldn't effectively use. Bosch saw promise in the space, and after renting it for a season, they decided to buy the building to use as extra meeting and workspace for visiting clients.

"That was a really big windfall for us, and also very helpful for North Star. Even for the people in town who didn't know what they were going to do with that building," Miller explained. "This was a neat opportunity for a win-win-win situation."

As the Bosch proving grounds continues to grow, so does its place within Baudette. Bosch has invested in trailer housing for associates and engineers who will be in town temporarily, and they've struck a deal with a local ice rink to give their team hockey time during lunch breaks. When Bosch's crew of nearly 100 people comes to town in the winter, it impacts the economy of a town of 900 people in a sizeable way. They have become a part of the community.

"You become very good friends," said Curry. "I've been doing this for 24 years, coming back and forth. In fact, my better half is from Baudette," he added with a grin.

"Over the years, we've built a really great relationship with the community," Miller agreed. "The people of Baudette are critical to our success. Without them, and their collaboration, we wouldn't be able to do this."



The Bosch team takes a photo with Baudette's only traffic light, located within the Bosch facility. Pictured left to right: Greg Vandersluis, Earl Curry, Michelle Cochran and Joe Miller.

Bosch's traction hills have 10%, 15% and 20% grades of ice and asphalt to test traction control and downhill braking.



VOICES FOR GRID RELIABILITY

By Ben Fladhammer

As the nation's electric grid faces escalating reliability risks, energy leaders are making their voices heard.

Regulators, grid operators, utilities and others are continuing to sound the alarm on the United States transitioning too quickly toward intermittent resources without retaining the stability provided by baseload coal, nuclear and natural gas power

plants. As more dependable power plants are retired without adequate replacement, the margin for error is becoming razor thin – a dire situation that has the potential to lead to blackouts.

As the United States grapples with the challenges to the reliability of its electric grid, the need for proactive and decisive action is more apparent than ever. Failure to address these challenges could have far-reach-

ing consequences, impacting not only the nation's energy landscape but also its economic stability and overall security.

The entities responsible for grid reliability must join together to find collaborative solutions to these issues and work toward a set of reasonable and achievable goals for the energy transition. Here's what some of the major entities responsible for reliability are saying.



MIDWEST RELIABILITY ORGANIZATION (MRO)

What they're saying:

"Headlining the regional risk is uncertain energy availability, which was elevated from a high risk in 2023 to an extreme risk in 2024. This is the first time in the assessment's history that a risk has risen to an extreme priority. A reliable bulk power system requires generating resources to produce the necessary amount of energy to manage electricity demand at any given time. The energy mix is rapidly transforming to include more energy-limited resources that have uninsured fuel supplies, challenging the ability to provide power on demand."

— Mark Tiemeier, MRO Principal Technical Advisor, 2024 MRO Regional Risk Assessment Report

MINNKOTA POWER COOPERATIVE (MPC)

What they're saying:

"People use the phrase 'keeping the lights on,' but it's so much more than that. It's keeping families warm in the winter, helping American businesses stay competitive, ensuring hospitals and essential resources are available at all times and protecting our national security. These are things that depend on a reliable electric grid and we should take that seriously."

— Mac McLennan, Minnkota president and CEO, October 9, 2023, article



NORTH AMERICAN ELECTRIC RELIABILITY CORPORATION (NERC)

What they're saying:

"The electric power industry continues to face challenges in the future. A rapidly changing resource mix, a threat landscape, extreme weather, inverter-based resources. But really focusing in on reliability, managing the pace of a rapidly changing resource mix, which includes not only making sure you don't retire prematurely, but also that we're building enough resources and making sure they're dispatchable really continues to be our greatest reliability risk in the future."

— John Moura, NERC Director of Reliability Assessment and Performance Analysis, Fox interview on Dec. 13, 2023



FEDERAL ENERGY REGULATORY COMMISSION (FERC)

What they're saying:

"We are heading for potentially very dire consequences, potentially catastrophic consequences in the United States in terms of the reliability of our grid."

— Mark Christie, FERC commissioner, at a House Energy and Commerce Committee, Energy Subcommittee hearing on June 13, 2023



NORTH DAKOTA PUBLIC SERVICE COMMISSION (NDPSC)

What they're saying:

"We're talking about these reliability challenges in a nation that is so blessed with an abundant array of affordable, reliable energy resources like America is, it really doesn't seem plausible that we should ever fall short. Yes, we have storms. Yes, there are power outages. That's going to happen. But not having enough? That should never happen. Ever."

— Julie Fedorchak, NDPSC commissioner, at National Association of Regulatory Utility Commissioners' annual meeting in November 2023



MINNESOTA PUBLIC UTILITIES COMMISSION (MNPUC)

What they're saying:

"A major reliability event will set us backwards. The public will absolutely revolt."

— Joe Sullivan, vice chairman of MNPUC, at a conference hosted by the Minnesota Solar Energy Industries Association, on Oct. 9, 2023 (courtesy MinnPost)

Minnkota, Square Butte annual meetings set for April 12



Minnkota Power Cooperative and Square Butte Electric Cooperative will host their annual meetings on Friday, April 12, at Minnkota

headquarters in Grand Forks. The two meetings will begin at 8:30 a.m., with Minnkota Chair Mark Habedank, Twin Valley, Minn.,

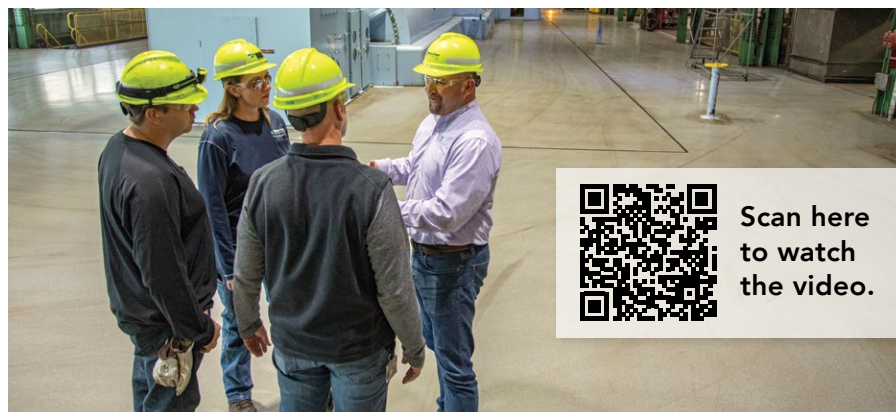
and Square Butte President Paul Aakre, Angus, Minn., presiding. Cooperative leaders will report on 2023 operations, while also providing updates on future generation and transmission projects. In addition, the meetings will include the election of directors and adoption of policy resolutions. A Class A membership-only meeting will be held on Thursday, April 11, and will be followed by a member social. More details on those events are forthcoming.

Minnkota's 11 member distribution cooperatives supply electricity to nearly 150,000 consumers in a 35,000-square-mile area. Square Butte owns Unit 2 at the Milton R. Young Station and is governed by the cooperatives associated with Minnkota.

Minnkota CEO featured in I Am Lignite campaign

A new ad in the I Am Lignite campaign was released Jan. 29 featuring Mac McLennan, Minnkota president and CEO. The campaign, which is produced by the Lignite Energy Council, aims to show the people, families and communities that are the heart of the lignite industry. McLennan discussed his passion for serving rural communities and his view that technology development will be key to the future of the lignite industry.

"I grew up in a rural community; I want rural communities to continue to be successful," McLennan says in the opening of the video. "My goal in the world is to provide affordable, reliable electricity to people who live in areas like I grew up in."



Grid regulators issue warnings about power reliability

Minnkota Power Cooperative is connected to a regional grid that is facing a high to extreme risk of reliability issues in the next five years, according to assessments from leading grid regulators.

The North American Electric Reliability Corporation (NERC) – the entity responsible for developing and enforcing mandatory reliability standards for utilities in the United States and Canada – released its Long-Term Reliability Assessment in December 2023. The report found that rising peak demand for electricity and the planned retirement of 83,000 megawatts (MW) of fossil fuel and nuclear generation over the next 10 years creates blackout risks for most of the United States. An additional 30,000 MW of fossil-fired generators have announced plans to retire over the decade but have not yet entered the retirement process with planning authorities, according to the report.

The highest risk level is in the Midcontinent Independent System Operator (MISO) region, which covers 15 states from Minnkota's service territory through the central U.S. to Louisiana. Although this region plans to add 12,000 MW of new resources in the next five years, the retirement of power plants is expected to leave the region with a shortfall of 4,700 MW by 2028.

The top recommendation from NERC in the report is for the addition of new resources with needed reliability attributes and make existing resources more dependable. Additionally, NERC said, "New wind and solar resources use inverters to convert their output power onto the grid, and the vast majority of resource inverters are susceptible to tripping or power disruption during normal grid fault conditions; this makes the future grid less re-

liable when more resources are inverter-based."

Other important recommendations include the expansion of power transmission infrastructure, updates to wholesale energy market designs and strengthened relationships among reliability stakeholders and policymakers.

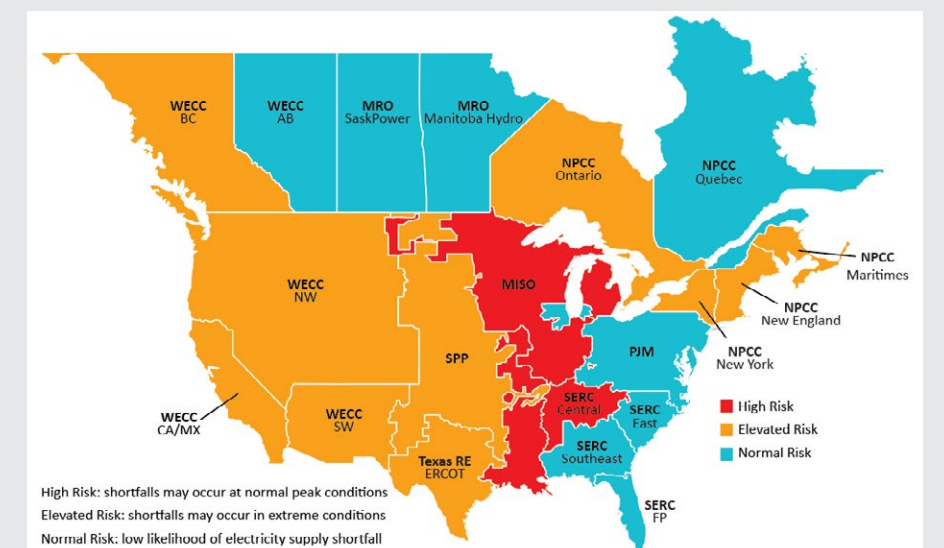
The Midwest Reliability Organization (MRO) came to a similar conclusion about the dire state of grid reliability when it released its 2024 Regional Risk Assessment in February. For the first time in its history, MRO identified an extreme risk – uncertain energy availability.

The report identified that "conventional, baseload generation that is available on demand is being retired and replaced with resources with limited energy availability due to uncertain fuel supplies that are increasingly weather dependent." Additionally, the report found that "new generation resources are largely inverter-based and perform much differently than conventional resources, reducing essential reliability services to the grid and requiring new modeling assumptions."

MRO is one of six regional entities operating underneath NERC to ensure the reliability of the bulk electric system through the enforcement of reliability standards.

Minnkota continues to advocate for the prioritization of grid reliability with policymakers, regulators and other key stakeholders. In 2024, it is anticipated the Environmental Protection Agency (EPA) will finalize new rules that would likely force a substantial number of additional coal and natural gas power plants offline during the next decade – a potentially catastrophic situation.

"Reliability needs to stay at the forefront of people's minds as the policy framework is being defined," said Mac McLennan, Minnkota president and CEO. "It's unacceptable for the people of our region to wake up in the morning and not know if they're going to have dependable electric service. Our country is accelerating down a path where this could become our reality. We need to approach this transformation of America's electric grid with caution and common sense. There's simply too much at stake."



MINNKOTA, EMPLOYEES GIVE BIG ON GIVING HEARTS DAY

This Feb. 8, Minnkota and its employee-supported Minnkota Cares program took advantage of the generous giving matches of Giving Hearts Day. Four organizations that touch the co-op's service territory and home communities received donations from leadership and staff.

Minnkota partnered with Nodak Electric Cooperative to provide a \$7,000 corporate donation to the Community Violence Intervention Center (CVIC) in Grand Forks, N.D., making the co-ops CVIC's lead Challenge Partners. CVIC de-

livers vital safety and healing to children and adults experiencing domestic or sexual violence and educates youth about how to develop healthy relationships to end future violence.

Minnkota also gave a \$1,000 corporate donation to Farm Rescue, which provides planting, haying, harvesting and live-stock feeding assistance, free of charge, to farm families who have experienced a major injury, illness or natural disaster.

The Minnkota Cares committee chose two causes to receive a \$250 Minnkota Cares donation on behalf of the employees. One donation went to Audubon Great Plains, whose mission is to protect birds and the places they need, today and tomorrow. This segment of Audubon serves North Dakota, South Dakota and Nebraska. The second donation benefitted the Grand Forks Public Library Foundation, helping the library toward its



goal of creating the ultimate Curiosity Lab filled with podcasting equipment, music technology, 3D printers and more.

Giving Hearts Day is an annual 24-hour giving event that supports charities in North Dakota and northwest Minnesota. This year alone, Giving Hearts Day raised more than \$29 million in donations for the regional causes involved. Since the event's founding in 2008, it has raised more than \$193 million.



Giving Hearts Day

Help someone.