

**July-August 2018** 





# Electric Avenue

As national momentum toward electric vehicles builds, rural electric cooperatives find ways to lead the charge in infrastructure and education

hey're quiet. They're quick. And their drivers are stopping at gas stations simply for coffee and a cookie – not to pay for fuel at the pump.

Electric vehicles (EVs) are the next wave of transportation innovation, and Minnkota Power Cooperative and its members and partners are helping to prepare Minnesota and North Dakota for the shift.

"It drives like butter!" said North Star Electric Cooperative member Mary Boomgaarden from behind the wheel of an all-electric Chevrolet Bolt. Boomgaarden

test-drove Minnkota's new EV at a recent open house event at the North Star headquarters in Baudette, Minn. The northern town is currently far from a public EV charging station, but that could soon change as the buzz for batteries builds.

Minnkota's was one of a handful of cooperative fleets that gained an electric car this year to help educate employees and communities about the benefits and opportunities of choosing an electric vehicle. Cass County Electric Cooperative (CCEC) in Fargo, N.D., and Beltrami Electric Cooperative in Bemi-

### "As a cooperative, we want to really plant the seed to show people that electric vehicles work and that they're actually fun to drive."

- SAM MASON, director of member and energy services, Beltrami Electric Cooperative

dji, Minn., also purchased a Bolt to collect travel data, learn about charging options and share their real experiences from the road.

"It seems to be an attention getter," said Chad Brousseau, CCEC manager of energy services, as he stood next to his co-op's logoemblazoned EV. "People migrate toward it. They have questions, mostly about the feasibility of it. They wonder - does this really work?"

"That's our intent with the Chevy Bolt. If someone wants to take it for a drive, we'll hop in with them and let them drive it," said Sam Mason, Beltrami Electric's director of member and energy services.

Together, the trio of cooperatives is also supporting public charging stations in their service areas. Drivers can find a 240-volt Level 2 charger at Minnkota headquarters in Grand Forks, N.D. Beltrami Electric installed Level 2 stations at recreation areas in Blackduck, Minn., and Waskish, Minn. In the city of Bemidji, Beltrami Electric has also unveiled a DC (Direct Current) fast charger and Level 2 charger at its headquarters. City-sponsored charging stations can also be found at Bemidji City Hall and at the Paul Bunyan statue.

"As a cooperative, we want to really plant the seed to show people that electric vehicles work and that they're actually fun to drive. Then, by putting in some public charging infrastructure, we take away some of that range anxiety that I think is probably the biggest barrier for most folks," Mason explained.

CCEC is also celebrating charging infrastructure victories in the Fargo area. In the past couple of years, they have teamed with community partners at West Acres Shopping Center and the new Sanford Health Medical Center to install free, Level 2 charging stations. Now, electric car drivers passing through Fargo-Moorhead have more than a half dozen options to plug in around town.

And that's typically what EV drivers are

doing when they plug in publicly – visiting or passing through. Because most of the time, charging happens overnight at home.

#### **EV** savings

Electric cooperatives are making home charging easy and affordable. Setting up a Level 2, 240-volt charger in a garage is an easy job for an electrician, and homeowners could qualify for an up to \$500 charger rebate from their cooperative (your provider will have the details).

At the standard electric rate, most electric vehicles can be fully recharged for less than \$8, and often much less, depending on battery size. For example, the 60-kWh battery of a Chevy Bolt (larger than many EV batteries) would cost \$7.20 to fill at a \$0.12 rate, producing 238 miles of range.

When charging on the off-peak program schedule, the savings grow - costing about 65 cents to drive the EV the same distance that an average car can go on a gallon of gasoline. Plus, the cost of electricity doesn't dramatically fluctuate like the price of gas.



Beltrami Electric Cooperative Director of Member and Energy Services Sam Mason (left) and Member Service Manager Bob Gregg (right) show off the DC fast charging station at their headquarters in Bemidji, Minn. It's currently one of the only such stations in the region.



This free, Level 2 charging station at the new Sanford **Health Medical Center is one** of two in Fargo supported in part by Cass County Electric Cooperative.

CCEC has roughly a dozen members metered for off-peak EV charging, and Brousseau says there may be just as many who have home charging systems that aren't on the off-peak program.

"I think we're in the infancy of it, but interest is definitely growing. We field about two or three calls a month about EVs or getting chargers installed on off-peak," he said.

Charging savings are just the start. Because EVs don't have engines that require oil, drivers won't pay for oil changes or tune-ups. They also won't need to replace parts like air filters, spark plugs, timing belts, etc.

If a member is worried about the initial investment in an EV, the federal government is offering a tax credit of up to \$7,500, depending on the vehicle's size and battery capacity. However, this tax credit will phase out as EVs become more mainstream and automakers no longer need to offer the incentive.

#### Road ahead

With the help of their electric cooperatives, hesitant drivers in the rural corners. of Minnkota's service area of eastern North Dakota and northern Minnesota are beginning to see the benefits of driving electric, even in a region with brutal winters and a still-emerging public charging network. Electric vehicles offer a smooth and powerful ride (with no shifting gears or rumbling gas engine), fuel and maintenance savings, less auto emissions and a sense of American energy independence.

The Minneapolis-St. Paul metro area is now bursting with EVs on the road and charging stations on every corner. News reports indicate automakers are upping all-electric production, and retail giants are installing more charging stations fast and furiously.

However, there is still a lot of road to cover before many are ready to kick the gas can to the curb. Minnkota's co-op partners are ready for the journey to growth, keeping an eye on education and grant opportunities to spread the message and build consumer confidence.

"I see us continuing to expand that

charging infrastructure," Brousseau said, adding that his team is following how more than \$8 million from the Volkswagen Clean Air Act civil settlement will be allotted by the state of North Dakota. "I think a part of it is going to be EV charging infrastructure. If the state rolls out some funds to electrify Interstate 94 and Interstate 29, that would be a big deal."

"I do see that the charging networks are getting built out. The more rural you get, the later it's going to happen," Mason said. "But along major thoroughfares, they already have them going in at this time – or at least a plan to implement them."

And although right now Mason only sees an EV on the road or charging every once in a while, he's optimistic about his region's adoption of the technology.

"I think we'll get there," he said with a foreseeing grin.

Visit EnergizeYourDrive.com for more information about EVs, charging, costs and rebates.

### EV charging types

#### **Level 1 – 120 volts**

Charging a vehicle at Level 1 means plugging in to a standard 120-volt outlet. Most vehicles can be charged at Level 1, although it takes significantly longer than other charging options.

#### **Level 2 – 240 volts**

Using 240-volt service, a dead battery can be fully charged in approximately 2 to 8 hours (depending on size). The installation of a 240-volt charger qualifies you for a \$50 per kilowatt (kW) rebate along with the money-saving off-peak rate.

#### Direct Current (DC) Fast Charging

This option is typically only available for public charging and stations are usually found along major transportation corridors. On average, the DC charger can add 90 miles of range for every 30 minutes of charging.

# Minnkota Co-op Hop

Minnkota puts an all-electric Bolt to the test with an 860-mile journey around its service area

The best way to educate rural communities about the benefits and challenges of "energizing their drive" is to bring EV technology straight to their doorsteps. That was the goal of an 860-mile road trip across northern Minnesota and eastern North Dakota – all in Minnkota's 100 percent electric Chevy Bolt.

Over the course of four days at the end of July, Minnkota communications specialist Kaylee Cusack drove the car to all 11 member cooperatives in Minnkota's service area, stopping to charge at nine different locations at all three charging levels (Level 1, Level 2 and DC fast charge).

The journey allowed Minnkota to share its EV experience with smaller communities like Halstad, Minn., Baudette, Minn., and Langdon, N.D. But it was also a chance to learn from larger cooperative communities like Fargo, N.D., and Bemidji, Minn., about

how they have been using an EV of their own and building up local charging infrastructure.

Cooperative members were invited to drop in at every pit stop and ask questions about EV battery technology, winter driving and the future of electric cars in the region. Many also had the opportunity to buckle in for a test drive.

"The Co-op Hop was a great educational experience – not only for the co-ops, but also for Minnkota," Cusack said. "Employees and members had insightful questions that drove us to do more research and learn more about EVs and their impact on our industry and our region."

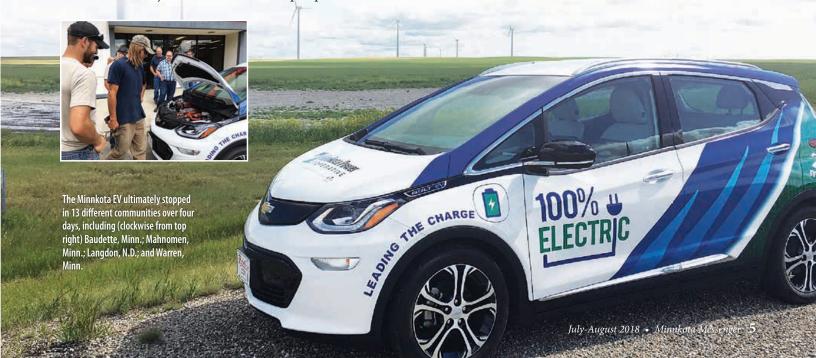
Cusack collected data along the way, logging charging times, the availability of public charging stations and driving efficiency tips. Visit

**EnergizeYourDrive.com/blog** to read about more about the Co-op Hop experience.









# All hands on deck

## Minnkota experiences worst system damage since 1997

yan Kemnitz was caring for his twomonth-old daughter during the early morning hours of June 29 when he received a call.

Wedging the phone between his ear and shoulder, the Minnkota area line worker rocked his baby and jotted down notes from the power system operator on suspected storm damage near Winger, Minn. One of

> the cooperative's largest substations was out of service, and Kemnitz needed to patrol the area to find the issue. He tiptoed around the house as he assembled his gear to avoid waking his 2- and 5-year-old daughters.

> "I handed the baby to my wife and told her I had to go," said Kemnitz, one of Minnkota's 11 area line

workers. "She understands it's just part of this job." When Kemnitz arrived at the

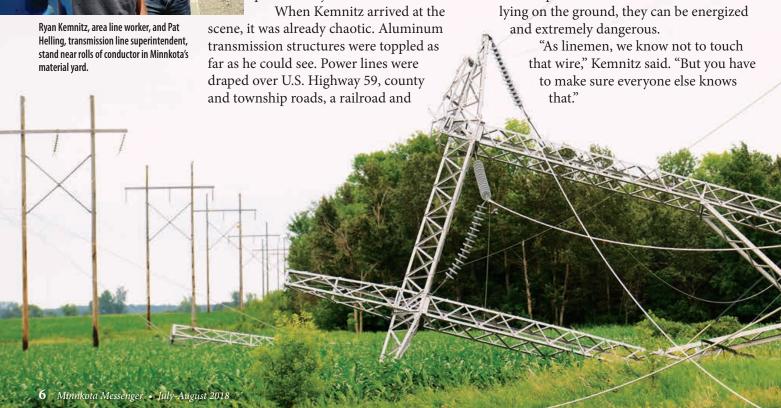
other public areas. Twisted fragments of metal were strewn across farmland between the towns of Winger and Fosston, Minn.

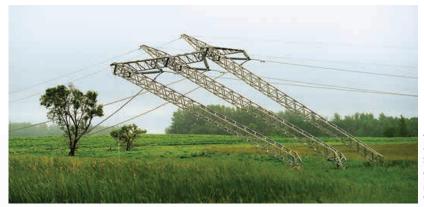
When the dust settled, approximately 69 230-kilovolt (kV) transmission structures were destroyed, along with significant damage to the Winger substation. It is estimated to be the most extensive system damage Minnkota has experienced since 1997, when Blizzard Hannah and the Red River Flood of 1997 ravaged the region.

"I couldn't see anything still standing when I looked into my binoculars," Kemnitz said. "Everything was broken. It was an absolute mess."

His role as line worker immediately became secondary to public safety. Kemnitz worked alongside the local sheriff's department and volunteer firefighters to block the road and keep vehicles away from the downed power lines. Even if the lines are

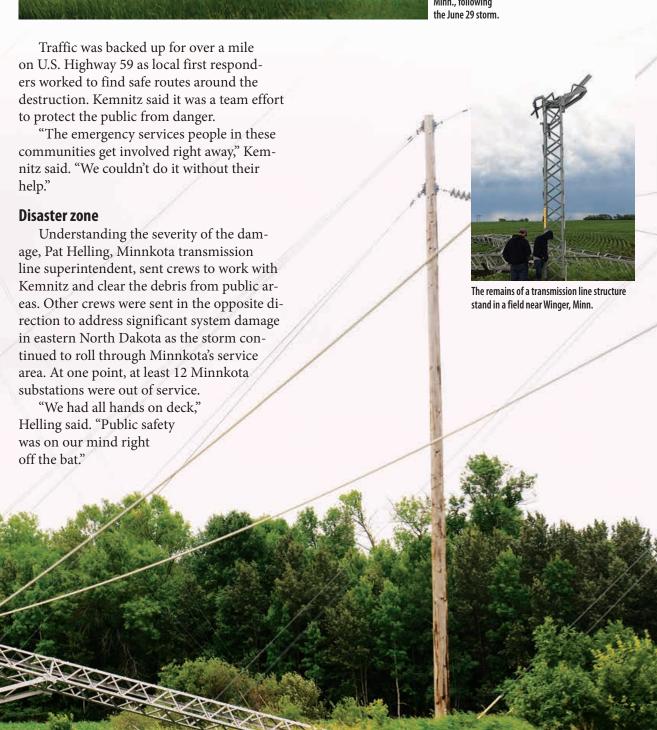






An aluminum
230-kilovolt
structure is toppled
over near Winger,
Minn., following
the June 29 storm

July-August 2018 • Minnkota Messenger 7



along with member cooperative linemen in the area, helped ensure there were no accidents or injuries related to the line failure. With all roadways and other public areas cleared, Minnkota returned the favor and helped the member cooperatives get their systems back in place.

A quick response by Minnkota crews,

Crews inspect a damaged transmission structure following the June 29 storm.



"We realized that the damage to our system was going to require a complete rebuild, so we stepped in and worked with our cooperatives to get their sys-



Powerful winds snapped a transmission structure near its base on June 29.

tems back up and running," Helling said.

With other regional utilities having power lines down in the area, it took significant coordination to ensure all equipment was de-energized and safe to work on. All Minnkota crews were called on to work on storm-related projects. Many worked through the weekend in the hot summer weather.

"It was so wet and humid your clothes would stick to you," Kemnitz said. "It was actually a relief when it rained on you. The cornfields were hot and full of mosquitoes."

#### Road to restoration

With an already aggressive project schedule in place for the summer construction season, Minnkota elected to hire Key Contracting to complete the cleanup efforts and reconstruct the 12.5-mile line section. Most of July was spent clearing debris from fields, while Minnkota's right-of-way agents coordinated with farmers on crop damage reimbursement.

Due to material availability, Minnkota will replace the damaged aluminum structures with wooden H-frame poles. The line is expected to be energized in October. Redundancy built into Minnkota's transmission system allows for energy to be delivered to the area using alternate power lines.

Despite the long hours and treacherous working conditions, Helling said there was a silver lining to the storm: it helped build a better bond between the Minnkota and member cooperative crews.

"We were all working together," Helling said. "It was nice to see. That's the way it should be. In that situation, it's not your system or my system, it's all our system together."

# CoBank and Minnkota, Square Butte team up

## CoBank matches Minnkota, Square Butte donations

he city of Center, N.D., wants to recognize a recent local revelation as well as acknowledge a local heroine more prominently.

First it wants to recognize itself as a professor-proclaimed geographic center of North America. It also wants to better acknowledge local girl Hazel Miner's lifesaving heroics from the 1920s.

So CoBank and Square Butte Electric Cooperative, which is owned by the same 11 member cooperatives that own Minnkota, were pleased to partner on a \$2,000 donation to help with those projects.

The contribution was made as part of CoBank's Sharing Success program, a fund that matches the contributions of CoBank's customers to nonprofits of their choice. Minnkota and Square Butte partnered with CoBank to give a combined \$10,000 in matching gifts this summer.

Minnkota's Milton R. Young Station is just nine miles from Center, the former home of Miner. A Center legend, Miner bundled up two younger siblings during a blizzard to protect them from the elements. The three were caught in the blizzard on their way home from school. Miner, an eighth grade student at the time, sacrificed herself and died in the cold but her brother and sister survived.

David Berger, a member of the Center Community Club, says the organization would like the North Dakota Department of Transportation to install a sign that signifies where Miner died. They would also like to put a monument at her grave site and a display at the death site.

Center also is working on a permanent monument for being one of the declared

Geographical Centers of North America. A ribbon cutting for the work-in-progress monument site was held June 30.

Square Butte and CoBank also partnered for the following donations:

• Center Park Board \$2,000. The park board is using the contribution for new dugouts at its softball/baseball complex.

• Sporting Chance \$1,000.

Sporting Chance is using the contribution to buy new life jackets for its events, which includes the annual Escape to the Lake at Nelson Lake adjacent to Minnkota's Milton R. Young Station.

CoBank and Minnkota partnered for the following donations:

- Altru Health Foundation \$2,000. The foundation will use the contribution for the Spin for Kids program, which helps families with children who have special needs. These families often face lifelong medical bills and expenses.
- Farm Rescue \$2,000. The organization will use the contribution to help farmers and ranchers who have experienced a major illness, injury or natural disaster by providing the necessary equipment and labor to plant, hay or harvest their crop.
- Anne Carlsen Center \$1,000. The organization will use the contribution to help individuals with developmental disabilities or delays throughout the Grand Forks area lead a more independent life.



**Brittany and Joel Gibson from** Silverton, Wash., and family are recognized as the first visitors at the Center monument site. They came to North Dakota to see the Badlands and the recently proclaimed Geographical Center of North America north of Center in their 2003 Nissan pickup. They have now visited 49 states in the pickup. On the left is David Berger of the Center Community Club.



associate told Armbrust she should build a fiber mill, she was up and running near Kindred, N.D., in 2010. Eight years later, she is scheduling eight months out.

A large amount of wool fiber has been turned into yarn at Armbrust's Dakota Fiber business, where one can see her animals that are sheered each spring passing by the fenced-in farm along North Dakota Highway 46 west of Kindred.

Dakota Fiber receives its power from Cass County Electric Cooperative, one of the 11 cooperatives that own Minnkota. Armbrust says she's fortunate to have a reliable power supply from Cass County Electric to keep her operation humming.

So does wool.

Armbrust has a small herd of alpacas, llamas, sheep and angora rabbits she sheers each spring.

Fiber's work is making yarn out of others' wool. Delivery trucks arrive at the farm daily as customers ship wool from across the country for Armbrust to spin into yarn.

Everywhere you look, there's an animal and batches and boxes of wool.

Just last winter, Armbrust branched into a new product - felt.

Four North Dakota State University engineering students manufactured a felting machine for Dakota Fiber as a senior project. Using natural fiber, Armbrust produces felt by matting, condensing and pressing the fibers together.

Grist for the mill comes from a group of wool producers. Armbrust reached out to them after learning they were looking for a way to use fiber that, because of inconsistent coloration, wasn't up to yarn standards. Yet the material is perfectly suitable for felting.



Armbrust stands in front of her pin drafter at her rural Kindred, N.D., farm.



(Left) Fiber enters the carder. which combs and aligns the fiber

(Below) This skein of yarn is a bison fiber blend.



Among felt products Dakota Fiber makes are shoe insoles, saddle pads, hot pads for the stove area and tree rings. Armbrust bakes in a proprietary blend of activated charcoal, baking soda and cornstarch that curbs foot odor.

She also has a little store attached to her production areas in which she sells yarn processed from her animals. They carry the name of Dakota Spun, and are available at the farm and at Prairie Fiber Arts Center in Moorhead.

She once had as many as 40 animals in her herd of fiber producers, including a high-maintenance camel who wore out his welcome. The herd is now down to about seven, the liquidation coming after Armbrust built a large stock of wool.

"I have two years left of my own fiber," she said. "I will slowly rebuild my herd."

Dakota Fiber has used fiber from Armbrust's mastiff and golden retriever and others' bison and possum, among other things.

Yarn-making requires a significant number of steps, including weighing, picking, carding, drafting, spinning, plying and skeining. Armbrust gets paid by incoming weight and doesn't charge extra for picking the material that's not processable.

She paid an English textile engineer to gather her original equipment and come to Kindred to set it up and show her how to run the machines. He trained her for more than three weeks and then flew back over the pond.



Armbrust hand paints some of her yarn.

Armbrust says there is a steep learning curve to running the equipment.

"I could have nine people in here, but the machines only work so fast," she said.

She claims to be the only full-service fiber processing mill in the Dakotas. Once she made up her mind that she wanted a mill, Armbrust said everything fell together.

"I couldn't turn my back on it," she said, "because everywhere I went a door opened and I found this English gentleman and got this loan."

Working in a fiber mill has to be a labor of love, she said. Conditions are dirty and when she started, she would work seven days a week, 15 hours a day with no other employees. She now has help (two employees) and works closer to nine hours a day with half-days on the weekends.

"It's such a joy to do what I do," she said. "The fleece comes in and it's full of all this crap and it goes out in a beautiful skein of yarn."



Apprentice transmission line workers Hunter Gray (left) and Luke Boman (right) make sure the lines around Frontier substation are de-energized and safe to take down.

## Summer substation upgrades prepare for the needs of a growing Fargo-West Fargo community

n a mid-July Monday morning, the first thing on Hunter Gray and Luke Boman's to-do list wasn't returning weekend emails. It was harnessing up, hopping in the bucket of a truck and rising high into the air to help each other "hang grounds," ensuring the lines they'd be taking down at the Frontier substation were completely charge

When they were hired at Minnkota Power Cooperative as apprentice transmission line workers together five months ago, they knew aerial tasks like this were a part of the gig.

"When I first started it was nerveracking, but now it's an everyday thing," Gray said upon his return to solid ground. "I always think about the hazards and try not to get complacent, so I try to keep the

fear factor there a little bit just so I don't do anything mindlessly."

"It's nice to be out in the elements, climbing and being active - it's more exciting than sitting in an office every day," Boman added.

The work of Gray and Boman on the lines of the Frontier substation, situated at the southern end of West Fargo, is just one part of a system of projects underway in the Fargo area.

#### Pumped-up voltage

This summer, crews have been busy with upgrades to several substations along Veterans Boulevard to support the growing power needs of a growing community, including a rebuild of the Grager substation and upgrades to the Frontier, Maple River and Stanley substations and lines. A Veterans substation conversion will support a more reliable 115-kilovolt (kV) double circuit transmission line.

"When we built the Veterans substation, we built it to be converted to 115 kV," explained Wayne Lembke, Minnkota civil engineering manager. "So until we have the 115-kV line completely done from Maple River to Frontier, we can't put that substation on a 115-kV system."

Lembke says when the overall \$32.8 million project is complete, crews will put Grager on the system first, and will then have to briefly take Veterans out of service to change out a few components to upgrade them to 115 kV.

Project planners hope to have the majority of the upgrades completed in the first quarter of 2019. Future work will be based on load growth and could entail adding second transformers at Veterans and Grager if/ when additional capacity is required.

#### Plan for the future

Back in 2013, with construction of the new Sanford Health Medical Center just blooming, Minnkota recognized that load growth in Fargo and West Fargo was not slowing down and would soon be more than the 69-kV infrastructure could handle.

"The way it was initially built, as a rural electric cooperative, we were serving the rural areas," Lembke said. "But now, those rural areas were developing, and we had to build the infrastructure to support that."

Minnkota began looking at options to reconfigure the system.

The work started in earnest in 2015 with the new Veterans substation and four miles of line construction to the Stanley substation. The Veterans substation would provide backup, redundant service to the new Sanford facility.

Senior Engineering Assistant Dale Thompson guides and inspects the progress of this summer's Grager, Frontier and Stanley projects. From the Grager worksite in West Fargo, he explained that one of Grager's three substations would be taken down and a new one constructed and changed to a higher voltage.

"That's what all of this work is for - it's



**Boman and Gray** began at Minnkota iust this year, but they already feel a sense of community by helping to restore power after storms and supporting Fargo's load growth.

adding switch gear, transformers and breakers on a 115-kV line," he said, pointing to new concrete slabs and staged construction materials. "The power comes in at 69,000 volts, and those towers are going to be upgraded. We transform it down to 24,000 volts for Cass County Electric Cooperative, and that goes off to customers – to people's homes, businesses, Sanford Health and beyond."

Once Grager is rebuilt, a second transformer is added to Stanley, and Frontier and Maple River are

upgraded, the entire system will connect from northernmost Maple River to southernmost Frontier along Veterans Boulevard, doubling the voltage of the current line.

"It's been a successful summer," Lembke said. "We've situated ourselves so we should be able to handle things for the next 50 years within the areas of those substations that we serve."

Fargo-West Fargo

And the source of this substation success is the engineers, project managers and line workers who are connecting more than station to station.

"It's a great group of guys," Gray said, Boman nodding in agreement. "It's been easy to adapt to a new crew."

The 115-kV project stretches from the southern outskirts of Fargo-West Fargo (Frontier and Stanley substations) all the way north to the Maple River substation.



the CNC mill at Retrax. The company has moved to a new manufacturing location on 32nd Avenue South in Grand Forks as it continues to grow.

## GF company continues to succeed in truck accessory market

cott Fuller says a lot of people don't know Retrax is a Grand Forks company. The manufacturer of high-end retractable truck bed covers has been kind of hidden in the industrial park in Grand

Forks. And since the vast majority of its product is sold outside of Grand Forks across the United States and abroad - Retrax has had a low profile.

"Nobody really knows we exist," General Manager Fuller said.

That's changing.

"As we have grown in employees, we're known now for the way we treat our employees," Fuller said. "We do a lot of things."

A personal touch helps, too. Fuller tries to greet every employee he sees - most by first name. That task is getting more daunting every year. The company continues to grow. Retrax has 191 employees. When Fuller started in 2010, the company had just 65.

"As we've grown, we've always outgrown our space and then moved into a new space; that's kind of our history," Fuller said.

The most recent new space is the former location of Longview Fibre Company and then KapStone along 32nd Avenue South in Grand Forks. Retrax plans to house all manufacturing and shipping-receiving and their support services in the new building.

Corporate offices will remain at Retrax's Industrial Park location in Grand Forks.

"We add people regularly," Fuller said while giving a tour of the 32nd Avenue South facility. "This building did not cause us to add any people but because of all the additions, we've just run out of room in town. The goal here is to get all of our manufactur-



General Manager Scott Fuller holds a sub assembly for a bed cover at the new manufacturing location.



ing under one roof. We're waiting until that parking lot is done. . . . We're parking out next to the shipping docks, so I'm blocking off the receiving docks just to park people."

Retrax renovated 6,000 square feet of the open 85,000-square-foot warehouse on 32nd Avenue South to build a large lunchroom/ meeting area with fresh food, offices, training rooms and restrooms. Production will occupy the remaining space.

Fuller said cutting out space for the offices and meeting rooms will, for the first time, allow enough room for all employees to attend Retrax's quarterly employee meetings. There also is room to grow. The company is leasing 18 acres at the site.

Retrax makes both manual and electric bed covers. All were made of polycarbonate until the company added aluminum lines in early 2011.

Tim Mulvaney, who founded Retrax in 1996, opened his first shop in Grand Forks in April 1997 to make by hand the retractable cover he designed. Fifteen days after he started, he had 4 feet of water in his shop as he and the community fought the Flood of 1997.

That's when Mulvaney began driving throughout the region, marketing the cover to auto dealers. Farmers began buying them. On weekends, he'd put brochures in truck

windows at building supply store parking lots.

Mulvaney has said the early support from the Red River Valley is the reason Retrax is here today.

THI, now known as Truck Hero, bought Retrax in October 2013.

Fuller said Retrax's product continues to get better under the umbrella of Truck Hero. He is excited about a new powder coating system and says faster and more easily programmed computer numeric control (CNC) machines have really made a difference in production.

Headquartered in Ann Arbor, Mich., Truck Hero provides pickup truck owners bed covers and accessory options, including truck caps and bed liners. In addition to Retrax, its other brands include UnderCover, Truxedo, SwingCases, Husky Liners, Bed-Rug, Extang, A.R.E., BAK, OmixADA and Rugged Liners.

Fuller's pickup is decked out with a Bed-Rug liner, UnderCover SwingCases for storing equipment and Husky Liners' floor mats. Fuller also has a Retrax bed cover, of course.

Retrax bed covers are available at two Grand Forks locations - New Vision Truck Accessories and Auto Glass and Aftermarket.

"Our biggest business is through national distributors," Fuller said.



Roller bearings and labels are added as a final step before packaging a bed cover.



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More than 100 elementary and secondary teachers switched roles in mid-June as they became the students at an educational seminar conducted by the Lignite Energy Council. The seminar, held June 11-14 at the National Energy Center of Excellence on the Bismarck State College campus, included educators from Minnesota, Montana, South Dakota and North Dakota.

This year, Minnkota sponsored Jeff Schneider, Moorhead High School, and Ben Hellekson, East Grand Forks Central Middle School. Since 1986, more than 3,600 teachers have attended the seminar.

"The information was phenomenal, the tours were amazing, the hospitality was great, and having a better understanding of how our electricity is produced – from start to finish – was jaw dropping," Schneider said. "I am extremely thankful we have some of the lowest-cost electricity in

the nation and that we are providing so many jobs in our region – not just the coal and electrical industries, but with all the supporting organizations that make it all possible."

The seminar, titled "Energy, Economics and Environment," provided teachers with information and educational materials needed to teach their students how lignite is mined and used to produce energy. The seminar covered lignite's economic impact on the region as well as important environmental issues affecting the lignite industry.

As part of the seminar, the teachers toured the Milton R. Young Station and the Center Mine in addition to other North Dakota energy facilities. Teachers who attended the seminar and completed a lesson plan could choose from three North Dakota universities from which to receive their graduate credits: UND, NDSU and Minot State University.

### Minnkota Messenger

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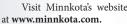
#### July-August 2018

Minnkota Messenger is published bimonthly to communicate Minnkota Power Cooperative's perspectives and concerns to its members, elected officials, employees and other business audiences.

For subscription or editorial inquiries, call (701) 795-4282 or email <u>bfladhammer@minnkota.com</u>.

Minnkota is a generation and transmission cooperative supplying 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 150,000 customers.





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On the cover: Minnkota's all-electric Chevy Bolt takes a cruise by sunflower fields northwest of Grand Forks, N.D. Electric cars may seem out of place in the rural corners of North Dakota and Minnesota right now, but they're picking up the pace in the region's farming, fishing and college communities with support from your local electric cooperative. Story on pages 2-5.