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Storm preparedness: Ready year-round



PHOTO BY NDAREC/JOHN KARY

Storm preparedness: Ready year-round

BY PATRICIA STOCKDILL



Electricity flows 24/7 in a perfect world.

Neither rain, nor sleet, nor snow, nor howling winds would disturb the wonderful world electricity provides 24/7.

Two April storms reminded thousands of North Dakotans that Mother Nature rules and its residents really should appreciate around-the-clock electricity.

Because when Mother Nature wants to unleash a lot of fury, 24/7 electricity can come crashing to a halt – for what might seem like an eternity.

While storms of that magnitude don't occur often, the simple fact that they can and do means electric cooperatives like McLean Electric Cooperative (MEC) must be prepared 24/7 to handle whatever Mother Nature unleashes.

It doesn't matter if it's winter, spring, summer or fall.

One of the most significant ways today's electric cooperatives reduce outage severity is by increasing use of underground cable rather than overhead power lines. While underground cable's initial cost is higher than overhead electric wire, its long-term benefit outweighs upfront costs, described McLean Electric Operations Manager Keith Thelen.

Today's underground cable barely resembles early underground cable when it was first introduced: Simply bare cable, it was costly to install and difficult to locate an underground fault. It was susceptible to faults, because not only was it unprotected, but it was often buried in alkali, corrosive soil, which is so abundant across much of the region. Plus, it was prone to damage with equally abundant rocks in rock-laden North Dakota.

When it came to locating a fault, many cooperatives, including MEC, had to contact an engineering company for the task, because so few cooperatives had fault-locating equipment.

But fast-forwarding to 2022 and the benefits of improved technology, MEC now uses underground cable in all new line construction, Thelen continued. It helps reduce outages,



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because it's not exposed to ice, lightning, strong winds or damage from trees and obstacles, such as vehicle or equipment collisions.

Typically, the only time MEC sets a power pole now is when it replaces an existing pole in an overhead system.

While underground cable benefits electric cooperatives and their member-owners on the electric distribution level, transmission lines with their high-voltage capacity remain as overhead power lines.

It's still extremely expensive and too cost-prohibitive for such large-capacity cable, Thelen explained. Safety is also a major deterrent to the feasibility of underground transmission lines. For example, safety concerns prohibit other underground utilities from digging below or above high-voltage lines.

It's only in unusual circumstances when a portion of high-voltage transmission line is allowed to be placed underground. Even though underground electric distribution cable, which is buried at a 40-inch depth, improves electric reliability and reduces outage potentials during major weather events, transmission lines remain overhead.

Central Power Electric Cooperative, Minot, and Basin Electric Power Cooperative, Bismarck, service transmission lines supplying MEC and they, like MEC, stay vigilant on system maintenance to reduce outages.

On the distribution level, MEC has a long-standing

program to patrol and inspect overhead lines, testing poles for stability and working to ensure hardware remains properly in place.

A maintenance program to trim trees that could fall into lines and tear down lines or poles is also in place.

Equipment – trucks, all-terrain utility vehicles with specialized attachments for line work and other vehicles – are always filled with gas at the end of the day and ready in the event of an after-hour outage.

MEC's equipment yard has a supply of hardware necessary to build line, along with underground cable, overhead wire and "a couple hundred of various-sized poles," Thelen described.

Underground cable significantly reduces the number and extent of outages, but can still develop faults, despite its state-of-the-art quality, so MEC has an equally state-of-the-art fault locator.

However, "it doesn't matter what you do, if Mother Nature decides to take it down (electric service), there isn't much you can do," Thelen offered.

With that in mind, lineworkers and operations managers tend to pay attention to weather forecasts.

"There's gas in the trucks and fuel in all of the equipment, with the hopes we don't have to use them," he added.

Sometimes lineworkers and member-owners are lucky and the weather holds. Other times, Mother Nature wins.



Answering call for help

It's times when Mother Nature really lays down a heavy hand to cause extensive damage that MEC turns to Coal Creek Construction, Denny Portra's power line and utility construction company headquartered in Underwood.

For years, Coal Creek Construction has been there for MEC and its member-owners when outages slam across its service territory.

Another longstanding option during major outage situations is a formal mutual aid agreement through the North Dakota Association of Rural Electric Cooperatives (NDAREC).

The agreement allows electric cooperatives to reach out to NDAREC, which then calls other cooperatives and line contractors not impacted by the major outage to see if any crews can assist the impacted cooperative, described McLean Electric General Manager/CEO Mark Doyle.



The mutual aid agreement benefits cooperatives in more ways than just providing lineworkers to help restore electricity more quickly.

“It opens the doors for an expedited response,” Doyle explained. All terms are pre-negotiated, so there aren’t questions on expense reimbursements, liability or other potential concerns, he added.

NDAREC is in the process of advancing the mutual aid agreement concept beyond North Dakota’s borders, working with neighboring states on a possible regional program to assist cooperatives when significant storm events spread over a broad region. That was the case in April when four cooperatives, including MEC, were hard hit with extensive outages throughout their systems.

Capital Electric Cooperative, Bismarck, Cavalier Rural Electric Cooperative, Langdon, and Central Power Electric Cooperative assisted MEC during the April storms, Thelen continued, along with Coal Creek Construction and two additional line construction contractors, Vetsch Independent Power Inc., Mandan, and Synergy Powerline Construction, Sauk Centre, Minn.

When electricity is restored after a major weather event, it doesn’t always mean problems are over.

Instead, Doyle said lingering effects tend to continue, especially with the potential for secondary outages after an event, because of equipment damage that isn’t immediately evident.

While it’s easy to see a line of poles snapped like toothpicks or twisted crossarms, weakened poles or loose hardware may not cause problems until weeks or even months later.

In addition, any line inspections and pole testing done in the past becomes irrelevant after severe storms, because of the potential for new damage.

Storms also delay work plans. Instead of building to a new service, for example, crews are often busy repairing or cleaning up after a storm, Doyle added.

Severe storms can also challenge a cooperative’s budget.

“We always try to maintain our cash margins,” Doyle described, which is a cushion to maintain equity and handle emergencies. The cooperative’s business model, however, isn’t designed to maintain a large margin, Doyle continued.

The Federal Emergency Management Agency (FEMA) can provide cost-share assistance when storms are declared state and federal natural disasters. In the case of the April storm, the cooperative will be responsible for 10% of its expenses, while the state of North Dakota reimburses 15% and FEMA 75%, if MEC’s system damage qualifies.

All qualifying repairs must be done as they were prior to the damage, Doyle described. For example, if 15 poles in a row are destroyed, they must be replaced in the same location at the same distance apart.

Safety matters

Safety is paramount for electric lineworkers, whether it’s working at the distribution or transmission level, Thelen continued.

It also doesn’t matter if it’s 60 degrees, sunny and calm or if it’s during a raging blizzard, wind shear or thunderstorm, line crews do what they can in the safest possible manner 24/7.

And when Mother Nature gets ugly, lineworkers follow safety procedures and protocols to the extent that Mother Nature allows.

Sometimes, it means sitting out a lightning storm. It might mean waiting for visibility to clear enough to see lines on a highway or ditch edge on a township road. It might mean having to drive around flooded roads or downed power lines. Sometimes, it means having to clear their own road or wait for a N.D. Department of Transportation snowplow to inch its own way out.

Thelen said there has been one consolation to all the strong winds that blew across the region much of early 2022: Considering Mother Nature huffed and puffed at 40, 50 and even 60 miles an hour for what seemed like a daily occurrence, MEC was spared large numbers of wind-induced outages.

Yes, there were some outages, Thelen added, but he credits the fact that there weren’t more – and they didn’t last longer – to MEC having a good system maintenance program.

And the co-op is storm ready when something major occurs. ■



POWER OUTAGE

ELECTRICITY 101:

WHAT TO DO DURING AN OUTAGE

McLean Electric Cooperative strives to provide you with reliable, uninterrupted service every day of the year, but sometimes Mother Nature creates unavoidable power outages.

If you experience an outage, please do not report your outage on Facebook, as it is not monitored 24/7. Instead, call us directly.

Because power outages can't be totally eliminated, your electric cooperative offers these steps to follow if an outage occurs:

- **Confirm the outage.** Check your own fuses and circuit breakers first.

- **Check with a neighbor to confirm if he or she is also experiencing an outage before you call the cooperative.** This will help your cooperative determine the extent of the outage.
- **Call the cooperative.** If the outage is widespread, the phone lines may be busy, but keep trying. Your cooperative will send a line crew to find the problem and restore power as quickly as possible.

REPORTING OTHER ISSUES

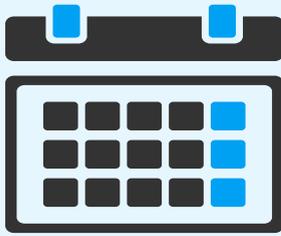
If you notice anything unusual about cooperative poles, power lines or other infrastructure, please call your cooperative as well. We appreciate any help you can provide to keep the power flowing!



Feeling the heat

Hot water is one of those comforts we often take for granted. But water heating can amount to 12% of your monthly energy use. You can save with some simple tips. That leaky faucet, for example, can lead to gallons of wasted water, and create a "drain" on your monthly bill. Here are some tips from McLean Electric Cooperative:

- **Lower the temperature.** For most households, a 120-degree setting on your water heater may work fine.
- **Insulate the tank.** Install water heater wrap, also known as water heater blanket, per manufacturer's instructions.
- **Maintain.** Drain 1 to 2 gallons from the bottom of your water heater each year to reduce sediment buildup.
- **Install heat traps.** Heat traps allow the flow of cold water into the tank, but prevent heated water and unwanted convection to flow from the unit. Most modern water heaters are designed with built-in heat traps. But if your unit is more than 10 years old (and in good condition), installing a heat trap is a viable option. Or install heat traps on hot and cold water lines when it's time to replace your water heater.
- **Insulate exposed hot water lines.** In addition to insulating the tank itself, consider adding insulation to the first 6 feet of both the hot and cold water pipes connected to the unit.
- **Fix dripping faucets.** You can significantly reduce hot water use by simply repairing leaks in fixtures, such as faucets and shower heads. A leak of one drip per second wastes 1,661 gallons of water and can cost up to \$35 per year.



McLean County community calendar:

Events and activities to see and do

McLean County community food pantry July distributions:

- **Community Cupboard of Underwood:** 4-6 p.m. July 7, 208 Lincoln Ave. Like us on Facebook, Community Cupboard of Underwood, for food pantry distributions, thrift store and other information.
- **Garrison Area Resource Center & Food Pantry, Garrison:** July 28, noon-2 p.m. and 5-7 p.m., former Lazy J's building back door.
- **Our Savior Lord's Food Pantry, Max:** July 18, noon-3 p.m. and 5-7 p.m., Max City Hall, 215 Main St.
- **The Lord's Pantry, Turtle Lake:** 2-4 p.m. July 14 and 10 a.m.-noon July 23, Trinity Lutheran Church, 515 Kundert St.
- **Wilton Food Pantry, Wilton:** "Mini" distributions every Friday, 11:30 a.m. until gone; full food distribution, 4-6 p.m. July 21, Wilton Senior Citizens Center, 42 Dakota Ave.

Area food pantries often experience high needs for these items: baked beans, pork and beans, canned fruit, tuna, chicken, cereal, oatmeal, granola and breakfast bars, juice, mac and cheese, hamburger and tuna helper, pancake mix, syrup, pasta, pasta sauce, peanut butter, jelly, rice side dishes, soups and household items such as body wash and soap, dish soap, laundry detergent, shampoo and conditioner, toilet paper, toothpaste and toothbrushes. Contact local food pantries for drop-off information or a list of additional needs in your community.

July activities:

- **July 4:** Happy Fourth of July. McLean Electric Cooperative will be closed for the holiday.
- **July 15-17:** Turtle Days, Turtle Lake, beginning with community meal, 5 p.m., July 15. Other July 15 events include an egg toss, 2x4 ski races, talent show and trail ride. July 16 events feature parade, soapbox car races, turtle races, inflatables, cornhole tournament, horseshoe tournament, vendor show, food trucks and street dance.
- **July 15-16:** N.D. Governor's Cup Fishing Derby, launch and return at Fort Stevenson State Park, Garrison, with weigh-in at Garrison City Park, Main Street.
- **July 16:** N.D. Junior Governor's Cup Fishing Derby, Fort Stevenson State Park, Garrison, 10 a.m. to 1 p.m.
- **July 17:** Community Faith Walk, 1 p.m., following 10 a.m. nondenominational worship service, Camp of the Cross, Lake Sakakawea west of Garrison.
- **July 30:** Riverdale Women's Club second annual vendor show, 10 a.m.-3 p.m., city hall outdoor mall, Riverdale.
- **July 30:** Club de Skinatique Water Ski Show and Lighted Boat Parade, Fort Stevenson State Park, Garrison, 5-10 p.m. Contact the park, 701-337-5576, for details.

Nonprofit organizations and communities throughout McLean County are encouraged to contact Patricia Stockdill, stockdill.patricia@gmail.com, or telephone 701-337-5462, to submit community events. ■

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