

# Connections

March 2021

For the member-owners of Federated Rural Electric



Volume 25, Issue 3

## Rolling blackouts & outages occur down south, while MISO grid provided reliable power last month

*Rolling blackouts occur in the ERCOT and SPP zones...*

Many of these words were not part of our normal vocabulary until the February 15-19 polar plunge, which created record-low temperatures.

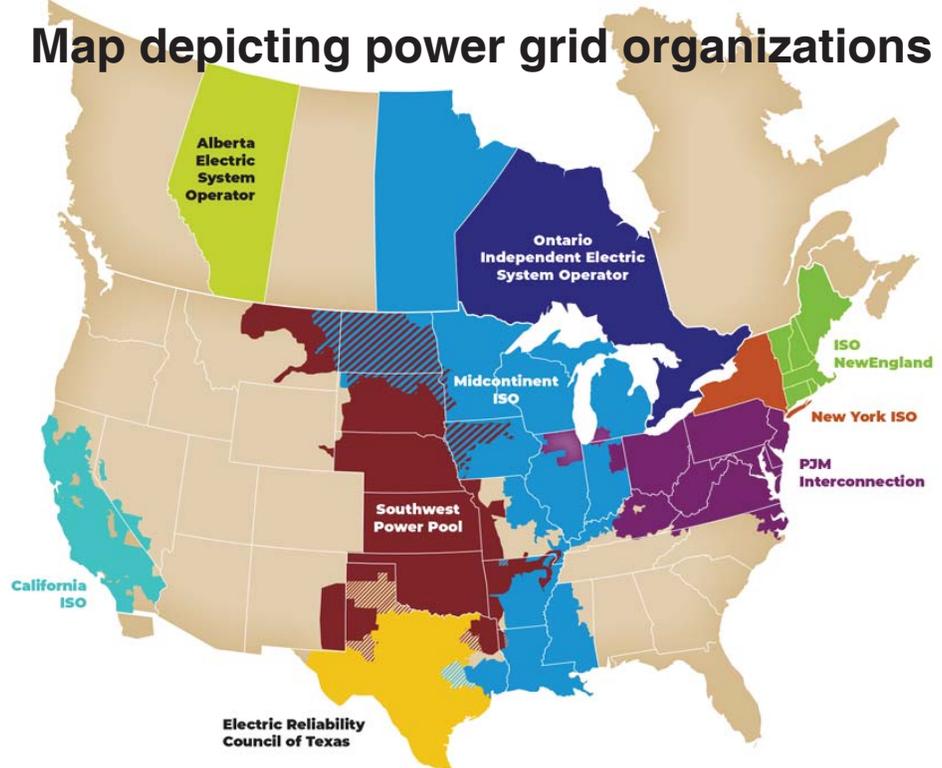
Texas residents lost power for days. Rolling blackouts occurred as close as Brandon, South Dakota; Iowa and at Minnesota co-ops on the west side of the state (Lyon-Lincoln and Minnesota Valley Co-op Light and Power). Local co-op members wondered if they'd be next.

"Thankfully, during the -20 weather, our local co-op members appreciated their reliable power even more after watching the news," said Scott Reimer, Federated's general manager.

Your electric cooperative and most of Minnesota is part of the Midcontinent Independent System Operator (MISO) grid. Texas has its own power grid called Electric Reliability Council of Texas (ERCOT). States to the south and west of us are in the Southwest Power Pool (SPP) grid. MISO consists of a northern area that includes most of Minnesota and a southern area. SPP and ERCOT had rolling blackouts. MISO South had issues too.

"At no point during the polar plunge were rolling blackouts even considered in the MISO North region," Reimer explained. "MISO is designed to provide reliable power even in extremely cold weather. Great River Energy (GRE), one of Federated's power suppliers, operated its power facilities (coal, natural gas, fuel

### Map depicting power grid organizations



oil and wind), as planned. Load control occurred for Dual Heat, water heaters and gensets too.

"MISO coordinates power flow and monitors generation and transmission to ensure it remains reliable based on demand," Reimer added. "For example, GRE checked with MISO before announcing the Coal Creek power plant would close. GRE will also formally submit the closing application. It should be noted Coal Creek Station was used

throughout the cold weather to get us through it without blackouts. MISO reviews these requests and approves or denies. Proper planning and reserve margins must be maintained.

"As the wholesale power becomes increasingly served by wind and solar, which are intermittent resources, reliability continues to be a MISO priority. Fossil fuel generation remains critical and the utilities in MISO North will continue to maintain a reliable power grid in this region."

#### At A Glance



**Applications due April 1, 2021 for 9 \$700 Round Up scholarships**

Federated members: do you have a graduating high school senior? Encourage the student to apply for one of the nine \$700 Operation Round Up scholarships. Applications were mailed as an insert with the February electric bills. Otherwise, see your school counselor or go to [www.federatedrea.coop](http://www.federatedrea.coop).



# A heat pump that is built to handle Minnesota winters and summers

Air source heat pumps (ASHPs) have been used for many years in nearly all parts of the United States. Until recently they were not common in areas with extended periods of subfreezing temperatures. However, cold-climate ASHP (ccASHP) technology has advanced in recent years so that it now offers a legitimate heating alternative in colder regions.

A ccASHP provides both efficient heating and cooling for your home. When properly

installed, it can deliver up to three times more heat energy to a home than the electrical energy it consumes. This is possible because a heat pump moves heat, rather than converting it from a fuel, like combustion heating systems.

A project recently conducted by the Center for Energy and Environment found that the efficiency of the newest generation of ccASHPs can operate down to minus 13 degrees Fahrenheit. The efficiency of these technologies in moderate climates is also two to three times more efficient than standard electric heating systems.

Since heat pumps provide heating in the winter and cooling in the summer, you should be aware of at least two heat pump energy-efficiency ratings.



The 1999 air source heat pump was replaced with a cold-climate air source heat pump at a co-op employee/member's house in 2019. If you need a new central air unit, go with a cold climate heat pump for added efficiency and savings!

The Seasonal Energy Efficiency Ratio (SEER) measures cooling efficiency over the cooling season, while the Heating Seasonal Performance Factor (HSPF) measures heating efficiency over the heating season. Given that it's still winter, let's further explore the heating aspect.

HSPF is a standardized rating used to compare energy efficiencies. HSPF is used by all heat pump manufacturers to indicate efficiency ratings. Like miles per gallon for your car, the higher the HSPF number, the more efficient the system.

Heat pumps, when properly installed, provide members with advantages. When sized appropriately, today's ccASHPs can provide 100 percent

of a home's heating needs down to temperatures as low as zero degrees, which is roughly 90 percent of all heating hours in Minnesota. If properly set an ASHP can serve as your primary source for a good part of Minnesota winters.

The balance point of your heat pump is the outdoor temperature where your home HVAC system switches over to its backup heating system, likely set by your installer. If your heat pump can keep your home warm down

to 10 F, but your balance point is set to switch over to backup heat at that same temperature, then anytime it's in the 10 to 15-degree Fahrenheit range, you'll be paying more than you should for heat.

Aren't sure of your ASHP's balance point? Take note of the temperature where your backup heating source kicks in. If it's above 10 F, your balance point may be set too high. If you have already installed an ASHP, ask your installation contractor to ensure your balance point is where you want it.

Your local electric co-op provides a variety of rebates and a discounted Dual Heat rate for heat pump technologies. Contact your co-op's energy expert or visit the co-op's website.

## Ego Power+ has 'snow' problem clearing driveways

Blowing snow is not a job many enjoy. It is usually cold out. One usually has to do it early in the morning so they get going on their day. For many the worst part is getting the snowblower started.

Some may have to pull and pull to start their snowblower. Others may use an electric start, but the combination of a cold engine and cold weather is not always the best combination when it comes to getting snowblowers running.

Imagine simply pushing a button and the snowblower is on immediately. That's possible with an electric snowblower. The Ego Power+ snowblower is a cordless two-stage snowblower that delivers the power and performance of gas without the noise and fuss.

The Ego Power+ combines the power of two 56V ARC Lithium batteries to tackle the toughest snow conditions.



**The Ego Power+ two-stage snowblower brings easy to use electric products to winter. It's quieter and easier to operate than combustion snowblowers; the Ego Power+ clears an 18-foot driveway on a single charge.**

This electric snowblower gets the job done quickly with a 24-inch clearing width and 20-inch intake height to handle deep snow. It can clear an 18-foot driveway with eight inches of snow on a single charge. It takes approximately 20 minutes to charge.

Four LED lights make it easy for use during dark mornings or evenings. Plus, the variable speed auger and 200 degree chute direction give you complete control to throw snow where you need it — up to 50 feet away.

The Ego Power+ has a weather-resistant heavy-duty steel and composite construction to handle the challenging conditions of Minnesota winters. It comes with a metal auger and five-year warranty.

The Ego Power+ is available through places like ACE Hardware for approximately \$1,300, which includes batteries and charger. 

## Safety

### Winter storms pile on electrical safety hazards

March Madness can also refer to winter snow or ice storms. Are you prepared for Mother Nature's worst?

Keep these tips in mind.

- When cleaning out your yard, don't pile the snow near the power lines. Children might want to play on these large snow piles and would be too close to the wires. Keep your equipment at least 10 feet away from power lines too.

- If snow or icy conditions bring down power lines, stay away from them. Just like a summer storm, downed lines can still be energized.

- When the power goes out, it may come back in spikes. This can damage electronics. Keep your electronics safe by unplugging them when the power goes out. Leave one lamp or switch on as a signal

Watch for the green underground power line cabinet. This one lost the battle to snow removal, which caused an outage.



for when your power returns.

- In the case you do lose power and heat, watch your pipes to prevent freezing. Keep faucets turned on slightly, so water drips from the tap to

prevent frozen pipes. Know how to shut off water valves in case a pipe bursts.

- If you have underground power line cabinets (the green boxes) in your yard, know where they are located so you don't damage one when moving snow. Instead, carefully clear the snow around underground cabinets with a shovel. This also helps the electric co-op crews find it if they have to service the equipment inside it.

- If you use a portable generator, use it safely. The Consumer Product Safety Commission reports that 50 percent of all portable generator-related carbon monoxide deaths occur during the winter months. Never use a generator inside of a house or garage; make sure to have working carbon monoxide detectors present. 

# Federated Focus

## Commercial rebates exist



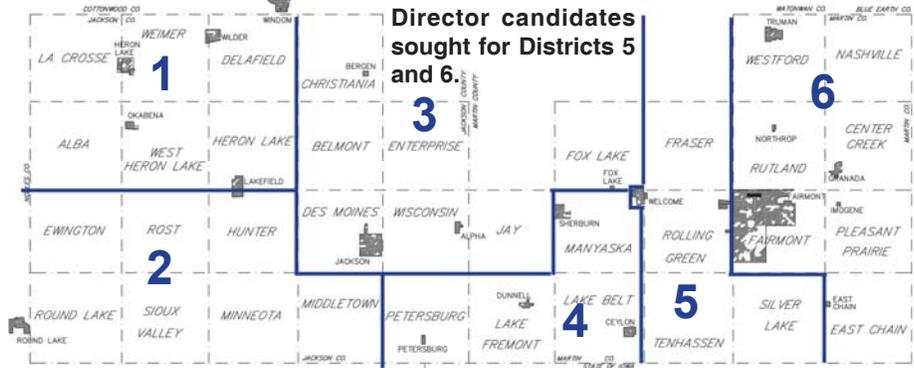
Farms and businesses can save with the co-op's Commercial & Industrial rebates. See our website for complete details, but here's a summary.

- Retrofit energy-efficient lighting when changing out incandescents, fluorescents, sodium vapor or metal halide to LED lighting for hog barns, shops and businesses. New construction rebates no longer exist, as the building standard today is LEDs.
- Install electric heat mats, replacing incandescent heat lamps in hog barns, which requires the custom rebate form.
- Commercial/agricultural fans rebates of \$15 for exhaust fans and \$20 for circulation fans.
- Electric forklift rebates from \$500 to \$2,000 for try before you buy (lease rebate), addition, conversion or refurbished.
- Commercial food service rebates for electric cooking, refrigeration, dishwashing, hot food-holding cabinets, etc...

Have a unique piece of electrical equipment you want to upgrade to something that's electrically more energy efficient? Ask about our custom rebates. They are based on energy savings.

Most commercial rebates are issued as a check. The rebate forms are found at [www.federatedrea.coop](http://www.federatedrea.coop). Otherwise, call (847-3520 or 1-800-321-3520) or e-mail [info@federatedrea.coop](mailto:info@federatedrea.coop); we'll mail you the desired rebate form and answer any questions; ask for Jon. Rebate forms must include a copy of the receipt or paid invoice. (C)

## Nominating Committee seeks candidates; Want to serve as director or on nominating committee?



Federated's Nominating Committee will select director and nominating committee candidates. The first meeting occurred February 9. They have begun the search process and will conduct a second meeting to nominate the candidates April 16. The membership votes on candidates at the Annual Meeting August 4; it will likely be a drive-in Annual Meeting again at the Martin County Fairgrounds.

The director positions slated for this year's election involves the District Five and District Six Federated members. Meanwhile, the Nominating Committee election involves District At-Large, which covers any of Federated's districts. Both positions (director and nominating committee) are four-year terms. In addition, the committee will seek nominations for directors representing Districts Five and Six for the Operation Round Up Trust Board.

If you would like to suggest a member for consideration, call Federated at 847-3520 or 1-800-321-3520. Otherwise, e-mail [info@federatedrea.coop](mailto:info@federatedrea.coop). The nomination will then be provided to the Committee. The two existing members on the Nominating Committee are: Jeff Ziemer represents District 5 and Tyler Sauck represents District 6, if you prefer to give them nominations directly. Douglas Landsteiner is the District at Large representative on the Nominating Committee.

The nominations will be posted at Federated 30 days before the Annual Meeting. The nominations can also be made by petition at least 20 days prior to the meeting. The candidates will be listed in the June *Connections* newsletter, while their biographies will be posted in the July *Connections* newsletter. (C)

## Meet your 'knight in shining armor' when it comes to dirty clean-up duty



This stainless steel water heater dutifully serves with a lifetime warranty for the original owner and stands guard in your basement; your "shining armor" hero provides for your hot water needs for dishes, laundry, showers, sinks and beyond! Maybe you want to add this diligent worker to your heated shop or hog barn!

Call Federated for your next water heater. Prices are \$539, plus tax. Federated even installs the water heater hooking up the plumbing, electrical and radio control, which sends signals for off-peak or storage programs. Federated is your one-stop shop for hot water!

Call 847-3520 or 1-800-321-3520 with any questions or to schedule your install today! (C)

# Charge ahead with electric vehicle purchase thanks to co-op's incentives

Go electric! Charge ahead and make your next set of wheels an electric vehicle!

Federated will help you with this decision making and provides energizing incentives too!

Federated now offers electric vehicle incentives:

1. Optional residential Time-of-Use electric rate. See the chart below. Take advantage of half price electricity (5 cents per kilowatt-hour if recharging your electric vehicle from midnight to 4 a.m. versus the on-peak rate of 11 cents a kWh from 8 a.m. to 8 p.m.). One more level offered is off-peak where it's 7.3 cents from 4 a.m. to 8 a.m. and 8 p.m. to midnight. Fill out the form on Federated's website to sign up or call the office to request this form.

2. \$500 rebate on a level-two charger (240 volts) if the vehicle is placed on Federated's optional Time-of-Use Rate. Must provide the vehicle's specs. You can also buy the level-two charger from the co-op's online website store; then the \$500 rebate is automatically included off the purchase price so you don't need to fill out the rebate form.

3. Enroll in the Revolt energy program. Your electric vehicle's energy use is offset with free renewable energy credits from Federated's Welcome wind turbine for the lifetime of the vehicle under this co-op account.

Go to Federated's website and click on electric vehicles under the "Programs" tab. Click on the link at the bottom of the page called "Is an electric vehicle for me?"

- Answer the questions such as your daily driving commute, where you would park to charge it, do you do longer road trips or have multiple vehicles?

- The listing of 2021 electric vehicles will be updated in March. See which ones go how far on a charge and their purchase price.

- See which federal tax credits apply for different models.

- See the locations of public chargers in the state.

- Play with the energy-savings calculator. Compare the fuel and maintenance costs. 

Time-of-Use	Time	Rate
Super off-peak	Midnight to 4 a.m.	5¢/kWh
Off-peak	4 a.m. to 8 a.m. & 8 p.m. to midnight	7.3¢/kWh
On-peak	8 a.m. to 8 p.m.	11¢/kWh

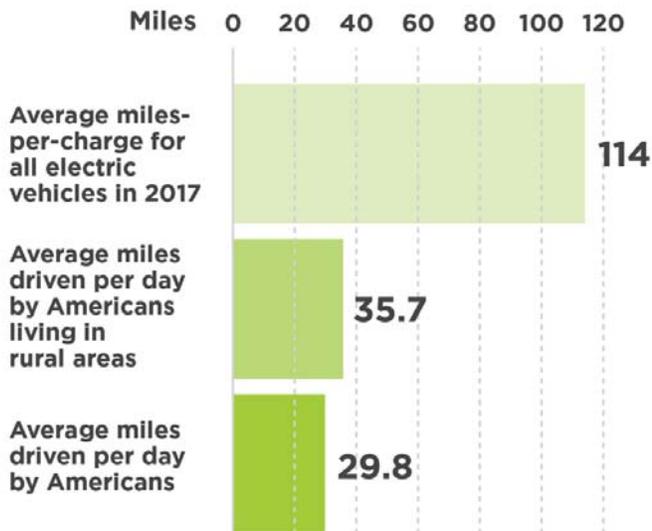
## Easing Electric Vehicle Range Anxiety

Range anxiety—fear of the battery running out before you're able to recharge—is a roadblock to wider use of electric vehicles.

But statistics show this fear is overblown, even if you live in a rural area. While extra planning may be needed for vacations or longer trips, nearly everyone's daily driving needs can be met with one charge.



### AVERAGE MILE COMPARISON



And when you're done driving your electric vehicle for the day, you can plug it in to recharge overnight, "topping off the tank" while you sleep!

Sources: Dept. of Energy, Energy Information Administration, AAA Foundation for Traffic Safety.

# New transmission line's wire better withstands winds & ice storms for improved reliability

April ice storms in 2013 and 2019 beat up a transmission line so it's the perfect place to test a different technology against ice. Great River Energy (GRE) is piloting such a project in Federated Rural Electric's service territory.

The southwest part of Minnesota, where Federated is located, is the area on GRE's transmission system that sees the most "galloping." Galloping occurs when ice forms on overhead lines and their wires jump like a rope and sometimes contact each other, which can cause momentary outages. Sometimes galloping is so widespread that system operators will de-energize a line until the wind and ice have subsided.

The pilot project involves rebuilding the FE-RH line, a 69-kilovolt, 23-mile line between Heron Lake and Round Lake Substations, with larger wood pole structures, steel switch structures and what is called a "twisted pair" conductor, which is resistant to icing.

"This line needed to be rebuilt based on the age and condition of the line, but we also are taking the opportunity to use innovative conductor technology," said Mark Peterson, manager of system operations at GRE. "Our goal is to improve reliability in this area where we are at high-risk for severe ice storms."

These additional resiliency design features are expected to result in a hardened, more reliable system to withstand these types of ice storms and wind.

Peterson said transmission lines, especially those located south of the Interstate 94 corridor, have historically had damaging events related to freezing rain and ice.

"When a typical round conductor is subjected to freezing rain, ice forms around the conductor in the shape of a wing," Peterson said. "As the wind blows across the conductor, it causes it to lift and the lines can start galloping, causing faults and may cause damage to line equipment, such as insulators and poles. The twisted pair conductor minimizes the galloping effects because it sheds ice due to its asymmetric shape, which causes the conductor to continuously rotate."

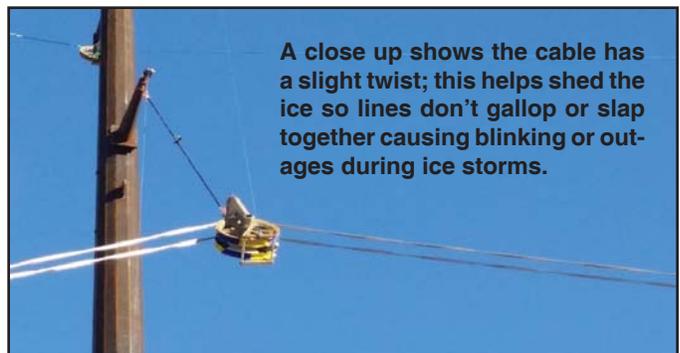
Peterson said the pilot project will help GRE understand if the benefits of the conductor will outweigh the extra effort needed to install and maintain it.

"The twisted pair conductor is installed differently," Peterson stated. "It can be more labor intensive. Our crews will need to gain experience maintaining the line once it's constructed. Ultimately, the benefits should outweigh those issues. This investment in the part of the state where we see reliability issues due to icing will help ensure we can continue to keep the lights on for end-use electric cooperative members."

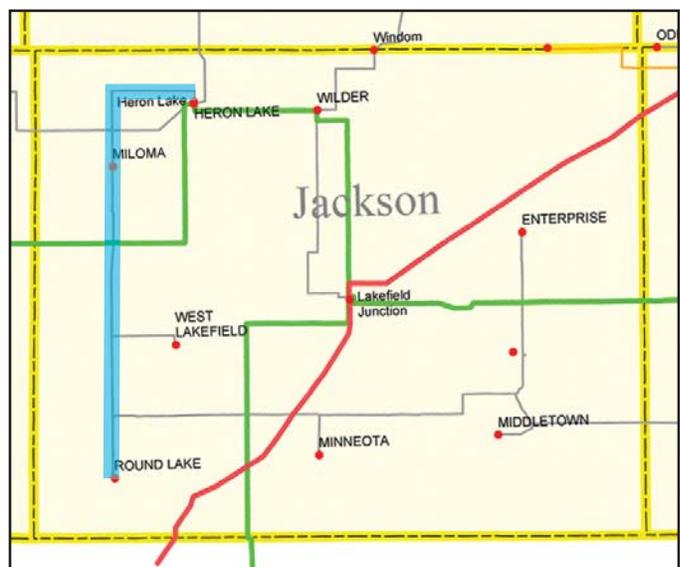
This transmission line project is expected to be completed by spring 2022. 



This new transmission line doesn't use cross arms, which reduces its weight during ice storms.



A close up shows the cable has a slight twist; this helps shed the ice so lines don't gallop or slap together causing blinking or outages during ice storms.



The light blue line indicates the stretch of transmission line that will be replaced with this different design.

***'Dough' as we say and share your favorite bread recipes with us***

As winter and the pandemic lingers, homemade bread becomes a great comfort food. Send us your favorite bread recipes, whether for a bread machine, yeast bread, quick bread or rolls. Mail to Editor, Federated Rural Electric, PO Box 69, Jackson MN 56143-0069 or e-mail to christoffer@federatedrea.coop by March 25. Add your name and phone number. Thanks for sharing with us! ☺

**Tater Tot Taco Casserole** by Doreen Schmitt, New Ulm

- 1 pound ground beef
- 1 oz. packet taco seasoning mix
- 1 small onion, diced
- 16 oz. pkg. frozen tater tots (Crispy Crowns)
- 16 oz. bag frozen Mexican-style corn (or 1 can corn, drained)
- 1 bag frozen chopped broccoli (or other vegetable)
- 12 oz. bag shredded Mexican cheese blend
- 2 oz. can enchilada sauce
- sour cream, optional

Preheat oven to 375°. Prepare a 9x13" baking dish with cooking spray.

Cook the ground beef in a skillet over medium heat until completely browned. Add the onion. Combine the ground beef mixture, corn, vegetables and taco seasoning in a large bowl with about three-fourths of the Mexican cheese; blend and add the tater tots. Stir to combine.

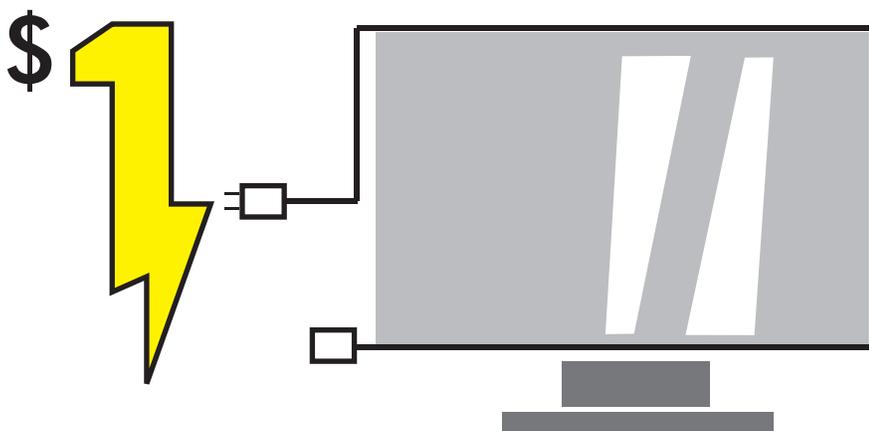
Pour about one-third of the enchilada sauce into the bottom of the prepared baking dish and spread evenly. Add the tater tot mixture to the baking dish; lightly pat the mixture down into a solid, even layer. Pour the remaining enchilada sauce over the tater tot layer. Bake in the preheated oven for 40 minutes. Sprinkle the remaining Mexican cheese over the casserole and return to the oven until the cheese is melted and bubbly, about 5 minutes more. Serve with sour cream on the side. ☺

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***Pick up the phone before the shovel; call before digging!***

**1-800-252-1166**



Call Gopher State One Call before doing any digging more than 12" deep — 48 hours before digging for foundations, trees, tiling and more. You can also register at [www.gopherstateonecall.org](http://www.gopherstateonecall.org) or call 811. Call a licensed electrician to locate the underground lines on your side of the meter. ☺



Scott Reimer

## Manager's Message

### Spring is quickly approaching!

Welcome to March 2021. While we aren't there yet, planting season is right around the corner. Our roads will be busy with all sorts of heavy equipment. This is a quick safety awareness reminder to keep an eye out and travel safe.

A lot of talk arose about the subzero temps and the aftermath making the headlines. The Page 1 story covers most of this, so I will dive into some other topics of interest.

### Broadband becomes monthly board topic

As I've mentioned a couple times in the past, this is something we have been looking into as a viable option. Our goal is to get high-speed broadband by way of fiber to the home of any member who wants it. It comes with challenges, as you can imagine. It has become a monthly discussion item at board meetings. Clearly, we are interested in the buildout for you; however, the challenges involve eligibility in receiving any grant money to do this. This becomes a very long story as to why, but we are working with advocates at the state, as well as nationally, to preserve and make the necessary funding available. The economics of fiber to the home in rural America are financially challenging, which is precisely why the grants are necessary. We have several willing business partners with a venture like this. We are confident we will succeed. Your opinion matters so if this is something you feel strongly about one way or the other, please share that with us.

### CTV upgrade: Godahl done, while Jackson & Frost towers next

We received all of the materials needed for the new transmitters at the Jackson CTV tower. Our technician will work on the Jackson tower installation the first week of March so hopefully it's completed by the time you read this newsletter. The work shouldn't take more than a few days; we will see the results soon.

The Godahl tower was completed and some software upgrades are being done; however, we are receiving positive feedback as to the performance. We are expecting similar results for Jackson and Frost when completed. The Frost tower will be next in line and will happen within the first week or two of March.

We are attempting to notify folks via social media and radio of the interruptions that will occur while the changeouts take place. This has been a big undertaking for the four cooperatives; however, we are all committed to doing what we can to enhance this product for our subscribers.

If you watch CTV, we encourage you to pay the \$8 a month so we can continue to make improvements to our CTV towers. Call or e-mail us to have CTV added to your electric bill. Non-members can be billed once a year the \$8 a month.

The other item that is right around the corner for CTV is the summer atmospheric interruptions that occur and are likely to disrupt satellite



## Rural Electric

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The Board of Directors generally meets the last business day of the month at 8 a.m. at the Jackson office. Regular board meetings are open to the membership. Members interested in discussing business items should contact the general manager or president three days before the meeting.

signals. This is a top issue of discontent amongst viewers, but isn't something we can control.

### State legislation under our watchful eyes

The main bills that we are watching statewide are the ECO bill SF 227/HF 164 and the load control receiver bill SF 181/HF 215, along with several energy-related bills. These are all fluid and a report today would be outdated tomorrow. For anyone who is interested, all committee meetings are held via Zoom and they are open for viewing.

• Here is the link for the State page itself: <https://www.leg.mn.gov/>

• Here is a link to the House committee page: <https://www.house.leg.state.mn.us/committees>

• Here is the link for the Senate committees: <https://www.senate.mn/committees/>

If you have a keen interest in following any of these issues, this would be a great place to start.

I follow several of these and tune into Zoom sessions frequently. It's a great way to stay informed. ☺



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