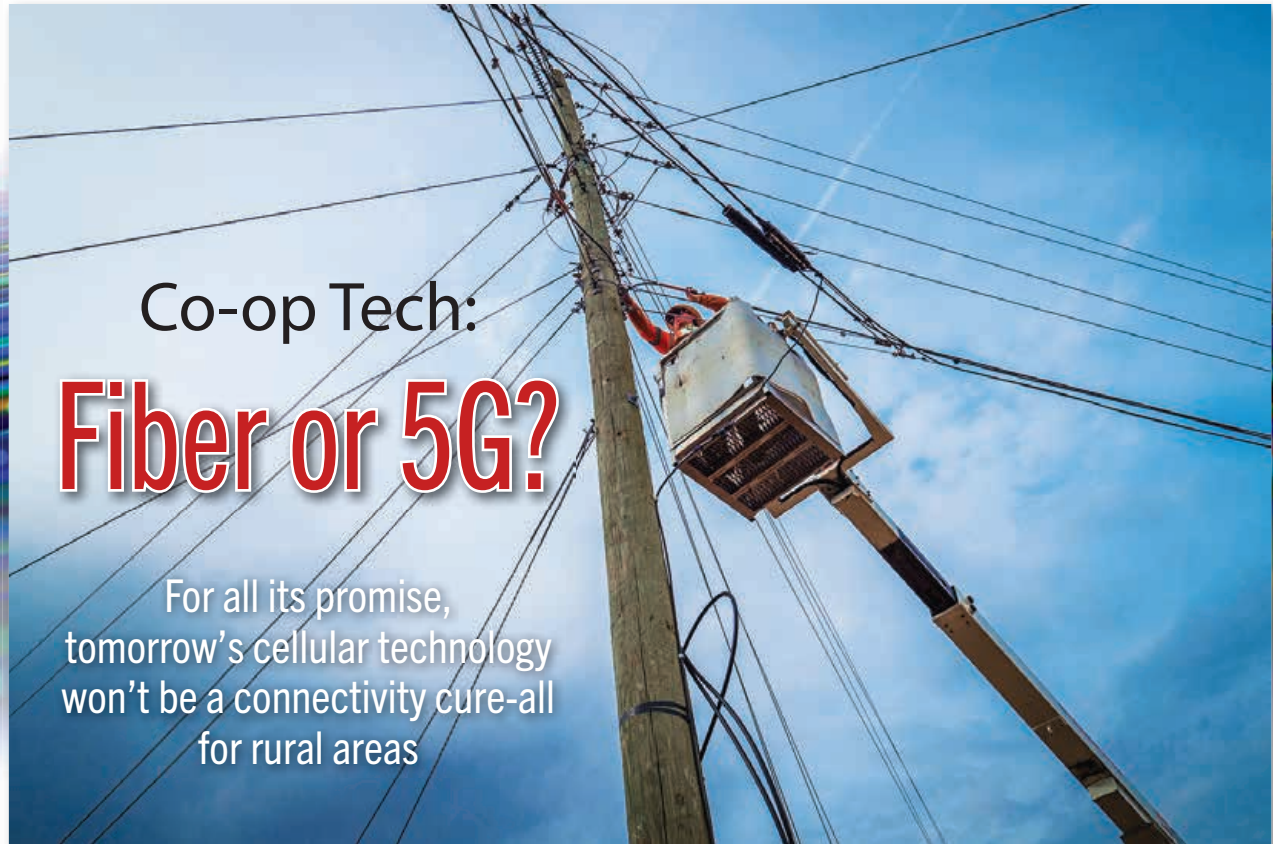


# VOLTS & VIEWS

 **Roseau Electric Cooperative, Inc.**  
A Touchstone Energy® Cooperative 

**FEBRUARY 2021**



5G is going to change the world. It's a familiar refrain from tech media and certain cellular carriers, but for most electric cooperatives and their rural consumer-members, the truth is likely to be far from the hype.

"It's been touted as basically the best thing since sliced bread," says Brian O'Hara, NRECA senior director for regulatory issues, telecom, and broadband. "The marketing has been through the roof. The reality is something very different, especially for rural America."

5G is advertised as having the speed and bandwidth to not only provide cellphone service but even replace other internet connections in homes and businesses.

"5G will form our communications infrastructure in the same way that roads and power grids formed our industrial infrastructure," says Asha Keddy, an Intel vice president, reflecting the claims made by 5G advocates. "It will touch every facet of our lives."

But the infrastructure required to fully realize the potential of 5G, along with range limitations—particularly in the high-band millimeter frequency that provides the fastest speeds—mean it will be years before 5G arrives in many parts of the country, if it arrives at all, O'Hara says.

Still, 5G has attracted interest in areas on both sides of the "digital divide," the gulf between highly connected

urban communities and rural areas still suffering a lack of access to broadband internet and reliable cellular service. Lawmakers and officials in some states have gone so far as to question the need to build broadband fiber networks with 5G on the horizon.

"The hype about 5G is causing confusion in rural America," says Kathy Nelson, a telecommunications consultant and a former electric co-op telecom engineer.

Greg Santoro, chief marketing and strategy officer at technology service co-op NRTC, says the confusion is understandable.

"They hear about all this phenom-

*continued on page 4*

# VOLTS & VIEWS

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## OFFICERS AND DIRECTORS

Chairman ..... Mark Sax  
Vice Chairman ..... Jim Hallan  
Secretary-Treasurer ..... Wes McFarlane  
Directors .. Roger Amundson, Brian Grafstrom  
Shawn Gust, Dale Moser,  
Mike Wahl, Ed Walsh  
Tracey Stoll ..... General Manager  
Ryan Severson ..... Assistant Manager  
Mike Millner ..... Line Superintendent  
Jeremy Lindemann ..... Member Services  
Alex McMillin ..... Office Manager

Regular Business Hours: 8:00 a.m. - 4:30 p.m.

Phone (218) 463-1543

OUTAGE CALLS:

Toll-Free 1-888-847-8840

## MINNESOTA STATE ELECTRICAL INSPECTORS

7 a.m. - 8:30 a.m. (Mon. thru Fri.)

Northwest Angle, Kittson, Marshall,  
Pennington and Roseau Counties  
and parts of Beltrami County:

Ronald Ditsch - 218-779-6758

Lake of the Woods County:

Curt Collier - 218-966-5070

Inspector list is subject to change at any time.

The State of Minnesota has high wiring standards, which are in the best interest of you and your family or business. Improper wiring can damage your home, your property and equipment, and injure or kill the people you love. Currently, the state does allow homeowners to do their own residential wiring; however, it is critical that the current electrical code is followed. Any time you or an electrician does wiring or other electrical work at your home or farm, Minnesota state law requires a state wiring inspector to conduct a proper inspection of the work. A rough-in inspection must be made before any wiring is covered. A final inspection is also required. For more information visit [dli.mn.gov](http://dli.mn.gov) and go to the electrical page.

Gopher State One Call  
1-800-252-1166 or 811  
[www.gopherstateonecall.org](http://www.gopherstateonecall.org)



Anyone who plans to dig is required by law to notify the state of their intentions at least 48 hours in advance. All digging requires the 48-hour notification so that buried telephone line, television cable, pipelines, utility electrical lines, municipal water and sewer lines can be located to ensure that none will be severed or damaged.

## OUR MISSION STATEMENT

Roseau Electric Cooperative is committed to providing its member-owners low-cost, high-quality, safe and reliable electricity with friendly, efficient and knowledgeable service.

This institution is an equal opportunity provider and employer.

# Board of Directors Candidates

The following members have filed the proper member-signed petition to be on the ballot for director of your cooperative. The election will take place by mail, with ballots counted and directors seated during our 2021 Annual Meeting to be held on Wednesday, April 21, 2021.

## District 1

James Hallan is a candidate for District 1. Originally from Bagley, Jim's career brought him to the Warroad School District where he and his wife, Carol, taught for 34 years. He has served as region music representative to the MSHSL and negotiator of several teacher contracts, and is currently the vice chair of Roseau Electric Cooperative.

Jim plays in the 9<sup>th</sup> District Legion band, continues to play "Taps" at military funerals, and directs Zion Lutheran Church's adult choir. He has served on church council and several church committees.

He and Carol live south of Warroad in Moranville Township and have one grown daughter. He enjoys woodworking, snowmobiling, fishing, hunting and other outdoor activities. You'll find him at American Point at the Northwest Angle as time permits.



James Hallan

District 1

## District 3

Dale Moser has been nominated for reelection as director for District 3. He and his wife, Kathy, live on their farm in Falun Township southeast of Roseau and have four grown sons: Jim, John, Dan and Bob, all who live in the area. Dale retired 10 years ago from the welding department at Polaris Industries after 23 years.

He enjoys hunting, fishing and especially following the grandchildren's activities. Dale and Kathy attend services at the Catholic church.



Dale Moser

District 3

## District 6

Edward Walsh is a candidate for director in District 6. A lifelong resident of Roseau County, Ed graduated from Badger High School and attended UMC in Crookston. He has been farming grains all his life and has been a bus driver for the Badger School District since 2003. Currently, Walsh serves as chairman of the board for Farmers Union Oil Company in Badger and is the treasurer of the Roseau/LOW Soybean Growers board. He is also chairman of the board of the Farmers Co-op Ag Service and serves on the Two Rivers Watershed advisory board. He is past chair of the church council at St. Mary's Catholic Church, Badger.

Ed and his wife, Renee, reside southeast of Badger in Stokes Township.



Edward Walsh

District 6

## District 9

Mark Sax is a candidate for director in District 9. He and his wife, Melinda, live in Spruce Grove Township on the farm he grew up on. They have five grown sons and 11 grandchildren.

After graduating from NDSU in 1981, he worked eight years in the oil fields in North Dakota. Mark served as an officer in the field artillery with the Army Reserve from 1981-1991. Moving back to Minnesota in 1989, he was employed by Marvin Windows and Doors in round tops until 2000. He was then a quality control inspector at Machinewell in Grygla until 2010, and is now farming full-time, operating a 90 cow-calf herd.

He and Melinda are members of Our Savior's Church, where Mark serves as president of the church council.

Mark has served on the REC board since 2006, and as vice chair since April 2015, becoming the board chair in April 2017.



Mark Sax

District 9

# From the line

Mike Millner, Line Superintendent



Winter is finally here! We have had a very mild winter until now and kilowatt sales have been low. There have been some great working conditions for our linemen. We have completed our rejected pole changeouts and are busy hanging fiber-optic cable on our poles. We have about 50 poles to change out for fiber clearances. Both of our right-of-way clearing crews are going strong. It has been a great year for clearing right of way due to minimal snowfall. I have been busy planning some of our summer construction projects. I can tell that we are going to have a very busy construction season between our power line and fiber buildouts. Make sure you call or stop in to discuss any new installations or upgrades to get yourself on our list.

## Snowmobile safety

Snowmobilers, please watch out for our guy wires! They are the cables that anchor power poles. Snow can also hide high-voltage transformers and junction boxes. Driving at a safe speed will help you avoid hazards before it's too late. Don't over drive your headlights. And as always, report any damaged electrical equipment and stay away from it. One more thing... if anyone notices that a guy wire does not have a yellow-colored guy guard, please call in with the location. There is a little silver tag on every pole. If you can, give me the number on that pole.

Did any of you make any new year's resolutions? Did you set realistic goals? Have you been able to stick to them? Myself, I didn't make any this year. I wanted to be a winner. LOL.

Until we meet again, Mike



Jedd VonEnde on the digger derrick and Ross Nelson on the ground change out reject single-phase poles.



Neal Vatnsdal tying in a new single-phase power pole.



## Roseau Electric to award Cooperative Knowledge scholarships again this year

Roseau Electric Cooperative will award five scholarships of \$500 each – one to each of the school districts in our service area. Just for taking the test and scoring more than 50%, you'll be entered into a \$50 cash award drawing. Most test answers will be included in the Cooperative Knowledge study material that Roseau Electric will provide for you.

### *In order to qualify:*

- ▶ The parent or guardian must be a member of Roseau Electric Cooperative
- ▶ Student must be a 2021 graduate
- ▶ Student must be actively enrolled in a postsecondary school
- ▶ Candidates must take a short test about the cooperative that provides electricity to your home
- ▶ Scholarship will be awarded to the highest-scoring candidate of those students scoring 75% or better

**Contact your high school guidance counselor to sign up!**



# Fiber or 5G?

*continued from page 1*

enal speed and capability in 5G,” he says. “But those capabilities require fully upgraded, compatible hardware and [high-end, millimeter frequency] spectrum.”

## 5G’s flavors

Under ideal circumstances, the faster speeds of 5G cellular – up to 10 times that of 4G – and its higher data capacity can enable a new level of wireless connectivity. The potential benefits go beyond fast downloads to more internet-of-things (IOT) devices and expanded use of data-intensive applications like augmented and virtual reality.

But bringing those benefits to the public comes with challenges. First, 5G is often discussed as if it’s one blazing-fast standard, when it actually comes in different flavors that operate at varying speeds based on the network’s radio wave frequencies.

The three major U.S. cellular carriers – Verizon, AT&T, and T-Mobile, which has acquired Sprint – all initially focused on using different parts of the radio spectrum for their 5G networks. AT&T is using 850 MHz low-band spectrum, which has better range but slower speeds. T-Mobile is also operating a low-band network using 600 MHz spectrum, although it’s also integrating Sprint’s faster mid-band 2.5 GHz spectrum for what it calls a “layer cake” approach. Verizon has focused on high-band millimeter wave (mmWave) spectrum, which provides a larger bandwidth for faster speeds.

The mmWave version of 5G, which AT&T and T-Mobile are also installing in limited urban locations, is the one advocates point to when discussing how transformative the new technology is.

But it comes with the most significant limitations. The signal is extremely short range, generally traveling 1,500 feet or less, which requires installing a dense array of antennas to provide decent coverage.

It’s also more easily blocked by solid objects like walls and trees. Independent tests in cities where it’s been introduced have found that coverage is very spotty, sometimes disappearing if you simply cross the street.

Finally, to provide the bandwidth to get all the potential advantages of 5G, it requires many small antennas in each array. In cities, where streetlights, buildings, and other infrastructure offer ample opportunities to attach arrays, this can be a manageable if expensive problem. But in rural areas, it becomes more difficult and much more expensive to build out such a network.

Low-band and mid-band 5G, the types featured by T-Mobile and AT&T, have longer broadcast ranges measured in miles, which don’t require as much new equipment. But they lack the blazing speed of mmWave 5G. Tests have shown they sometimes provide no more speed than 4G or offer improvements of only 20% to 30%, though both are capable of higher speeds under the right conditions.

## ‘Just too many holes’

All of these limitations have contributed to a growing awareness among electric cooperatives that 5G is not the answer to bridging the digital divide.

Some of Great River Energy’s member co-ops were excited about the prospect of helping their consumer-members get broadband internet, says

Chris LeLeux, the Minnesota G&T’s manager of infrastructure services.

“Then, when you get down into the details, you find out what the reality is compared to fiber,” he says.

Today, LeLeux adds, he no longer hears talk that 5G could be a cure-all. For one thing, any 5G system, even a mid-band or low-band one, still requires a fiber backbone reaching out to the antennas.

“From a coverage perspective, you’re at 2 square miles for a tower. We have areas in Minnesota where that might cover one or two or three users,” he says. “If you’re going to have to build fiber to that tower, you might as well just drop fiber into the homes and save yourself in antennas.”

Mille Lacs Energy Cooperative, based in Aitkin, Minnesota, is a Great River Energy member in the middle of a fiber build-out to serve its members. Mille Lacs is partnering with the local telephone co-op, which is providing the back-end connection to the internet.

Stacy Cluff, the co-op’s technology and energy services manager, says they’ve tried different options over the years to provide internet service, including fixed wireless and satellite.

But these options had limitations that made them less than ideal. Satellite connections are weather dependent and can have a noticeable delay in response. For fixed wireless, the challenges included “getting the towers high enough and getting it high enough on the houses, getting it over the trees,” Cluff says. “We found that pine trees here are just a killer of wireless signal.”

Mille Lacs’ service territory includes lakes, swampy areas, and heavily wooded

country that all worked against fixed wireless and hampered cellular service.

“We have many areas in our service territory that can’t even get good cellular coverage now,” she says. “5G didn’t seem like it could be any kind of a viable solution—just too many holes. I don’t think we’ll see it for many years, if ever.”

The cooperative is taking advantage of a state grant program to install fiber to the home. Member response, she says, has been “nothing but positive. People are desperate for it. Every day we get phone calls, ‘When are you coming to our area?’”

### It’s ‘not cheap,’ but it’s the best

The cost of bringing fiber to the home is the biggest hurdle for co-ops, notes Ricky Hignite, IT manager at Northeast Oklahoma Electric Cooperative in Vinita, Oklahoma. His co-op has been providing a fiber connection to homes and businesses since June 2015 and has 13,000 members receiving high-speed broadband internet or telephone and TV service through a subsidiary, Northeast Rural Services.

“Fiber is definitely not cheap,” he says, but for bridging the digital divide, it’s the best solution, providing unmatched bandwidth, speed, and reliability. “Once you invest in it, it’s going to be there forever. So it was a safe future investment to be able to provide broadband and other services to our customers.”

NRECA’s O’Hara says grants are available at both the state and federal level to help co-ops with the cost of fiber. Northeast Oklahoma Electric initially took advantage of the federal Rural Broadband Experiments (RBE) program, which provided nearly \$100 million to bring broadband service to rural areas.


Almost 200 electric cooperatives also have submitted applications to receive monetary support over 10 years under the federal Rural Digital Opportunity Fund, which will disperse \$16 billion to co-ops and other providers to deploy broadband in underserved areas. The winners will be determined through a reverse auction that awards money to the providers who pledge to provide the greatest speed at the lowest cost.

In October, the Federal Communications Commission announced the creation of its 5G Fund for Rural America, a \$9 billion reverse auction to help to help drive 5G into rural areas, though the fund is on hold pending a federal broadband mapping effort. While it could create competition for co-op broadband in some areas, it may also provide opportunities for broadband co-ops to lease fiber capacity, O’Hara says.

Even when 5G or later generations of cellular do make inroads into rural areas, NRTC’s Santoro says fiber will continue to be the essential communications technology.

“Fiber all the way to the home is the best technology that can be deployed” while also being essential to future wireless networks, he says. “It all comes back to fiber infrastructure. Yes, wireless will continue to get better and better, but without fiber infrastructure, you won’t see much of a difference in people’s lives.”

*Reprinted with permission from RE Magazine, January 20, 2021 / Author Reed Karaim*



Small electric cooperatives have big goals these days. Our biggest goal is reliability.

Renewable resources are part of our diverse energy strategy. But when it’s this cold, we need 24/7 coal power to keep our grid strong. And as a leader in carbon capture research, our resilience is becoming even more responsible.

Reliable. Affordable. Cleaner than ever.

We’re all in on all-of-the-above energy.

**ALL IN**



**ALL-OF-THE-ABOVE ENERGY**



# Mother Nature's wrath can mean service disruptions

**A**lthough we work hard to maintain our equipment, monitor power delivery 24/7, and do all we can to keep the lights on, there are circumstances beyond our control that can interfere with power delivery. Winter weather is one example. Winter storms can impact the distribution of electricity due to ice, heavy winds, sleet and other extreme conditions.

Regardless of the reason, know that when the lights go out – even during extreme weather – we are doing all we can to safely and efficiently restore power.

Along with causing outages, wintery conditions can cause hiccups with power delivery that include blinking lights or ebbs and flows in the amount of power that comes into your home. Although blinking lights can be a symptom of other problems such as loose wiring connections or overloaded circuits, they can also be caused by extreme weather conditions.

Wintery conditions include:

**Ice/freezing rain:** Ice accumulation on power lines makes them heavy. One-half an inch of ice can add as much as 500 pounds to a power line. This added weight can impact power distribution and even bring down a power line. Ice that forms on a power line also increases its surface area, which means gusts of wind have more to catch. The weight of ice on tree limbs can cause them to fall on power lines as well.

**Wind:** Wind can cause tree branches to brush power lines, which can result in blinking or flickering lights. This is why it's so important for us to keep trees cleared around power lines and poles. In

addition, heavy winds (or extreme wind plus ice) can cause lines to move and sway. If they gain enough momentum, they can gallop or jump. This, in turn, can cause disruptions in service since the extreme motion can cause lines to either break or make contact with each other, which they are not meant to do.

**Melting ice:** Melting ice can be extremely heavy, putting extra strain on power lines and causing the lines to touch or rest on one another. Because of this, melting ice can cause outages even though the temperature is rising. Depending on conditions, melting ice can cause as many or more problems than the ice itself.

**Wind or ice + tree branches:** In any weather conditions (or even in calm conditions), tree-related issues cause the most power outages in many service areas. Branches, limbs or even tree trunks can fall into power lines and cause problems. Add wind, freezing rain or ice to the mix for an increased potential for problems.

**Icy roads:** Vehicles sliding on ice or that collide with one another can strike a power pole or pad-mounted transformer, causing an outage or other problems.

**Blizzards:** Heavy snowfall, icy roads or reduced visibility can make it a little more difficult for our crews to get out and fix problems, although we do all we can to get out there to address service issues as soon as possible.

Be sure to have a storm preparedness kit ready before a storm strikes to help get you and your family through a power outage. Items to gather include

bottled water, non-perishable food, blankets, warm clothing, hand sanitizer, first-aid kit/medicine, flashlight, radio, backup phone chargers, extra batteries and toiletries.

To learn more about preparing for storms and electrical safety, go to [SafeElectricity.org](http://SafeElectricity.org).

## STAYING SAFE DURING AN OUTAGE

We work hard to provide the most reliable service possible. Rest assured, if the power is out, we are on it!

The length of time it takes to restore your power depends on several factors, including the:

- Extent of the storm's destruction
- Severity of utility equipment damage
- Number and extent of outages
- Accessibility to damaged equipment

### STAY SAFE UNTIL POWER IS RESTORED

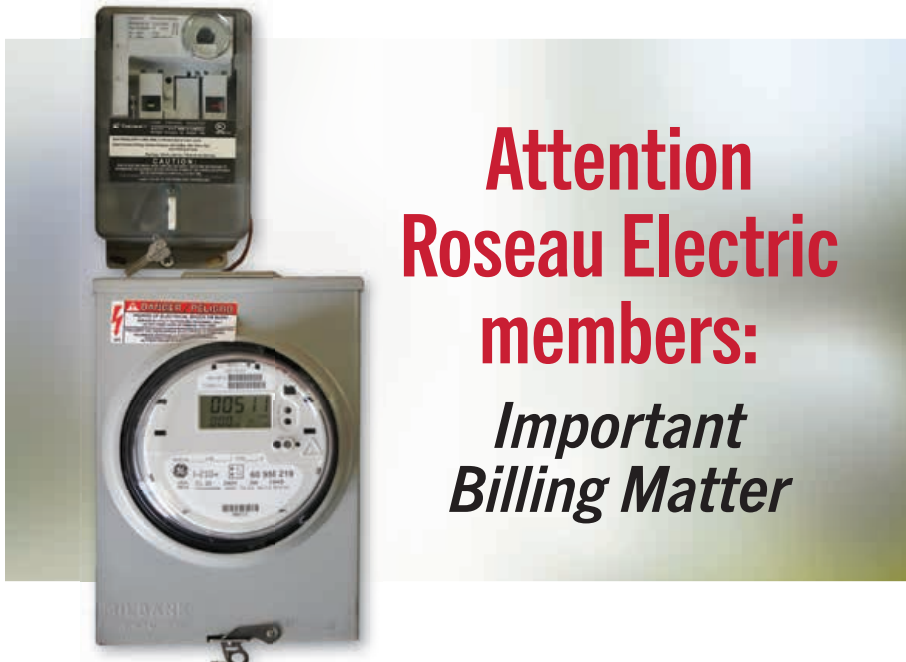
- Stay far away and keep others away from downed power lines, which could be live and deadly.
- If you come across a downed line, immediately call 9-1-1 to report it.
- Never enter a flooded room; the water could be energized.
- If you are standing in water, do not turn on/off power or flip a switch.

Prepare for a storm by gathering these items:

- Bottles of water
- Non-perishable food
- Portable phone charger
- Prescriptions
- Battery-operated radio
- Flashlights
- Extra batteries
- Pet supplies
- Blankets
- Warm clothing
- First-aid kit
- Hand sanitizer

THANK YOU for your patience during outages. When the lights go off, we are working safely and efficiently to restore power. The safety of our employees, as well as those we serve, is our TOP priority.

[SafeElectricity.org](http://SafeElectricity.org)



# Attention Roseau Electric members: *Important Billing Matter*

## OFF-PEAK METER CHANGEOUT

Roseau Electric is upgrading the Automatic Meter Reading (AMR) system due to a software end-of-life announcement from the meter manufacturer. After June 1, 2021, Roseau Electric will not be able to receive readings from the off-peak heat meters and members will not receive the off-peak rate unless this meter is updated.

Roseau Electric will be changing out off-peak heat meters to the new upgraded meters.

**Please contact Roseau Electric at 1-218-463-1543 to schedule an appointment for your meter changeout to continue receiving the off-peak rate.**

***If you do not contact Roseau Electric to have your off-peak meter updated, you will lose your off-peak rate effective June 1, 2021.***

### OPERATING STATISTICS

	Monthly		Yearly	
	Dec. 2019	Dec. 2020	Dec. 2019	Dec. 2020
Members	6,540	6,570	6,540	6,570
kWh purchased	17,110,276	16,441,969	160,728,026	157,055,868
% change		-3.91%		-2.28%
Revenue	1,931,775	1,901,038	19,385,333	19,160,895
Cost of power	1,151,035	1,105,065	11,755,505	11,445,320
Other expenses	491,808	745,996	6,544,177	6,348,785
Operating margins	288,932	49,977	1,085,651	1,366,790
Nonoperating margins	13,783	(5,095)	80,026	130,296
Patronage dividends	5,557	123,446	228,989	148,706
Total margins	308,272	168,328	1,394,666	1,645,792



#### ENERGY TIP

Check your air ducts and baseboard heaters, and clear any debris, furniture and stored items away from the vents. Remove anything that could be blocking the heat from entering the room.

#### SAFETY TIP

Space heaters can be hazardous if used with faulty wiring, overloaded circuits, items too close to the heater, etc. It's wise to educate those within your home of the precautions and have a plan shared with members of the family in the event of a fire... location of extinguishers, breaker/panel locations, etc.

#### QUOTE OF THE MONTH

"It was so cold I almost got married."

- Shelley Winters

#### DATES TO REMEMBER

- March 14** – Daylight Saving Time begins, spring ahead!
- March 17** – St. Patrick's Day
- March 20** – Spring begins
- March 21** – Electric bill is due
- April 21** – 81<sup>st</sup> Annual Meeting  
RESCHEDULED from April 10

#### OFFICE HOURS

Monday-Friday 8 a.m. – 4:30 p.m.  
Phone 218-463-1543

#### AFTER HOURS/OUTAGE NUMBER

Toll-free 1-888-847-8840  
(main outage call center)

#### CALL BEFORE YOU DIG

1-800-252-1166 or 811

#### PAY BY PHONE – 1-877-999-3412

#### SMARTHUB

<https://roseauelectric.smarthub.coop/>

#### WEBSITE

[www.roseauelectric.com](http://www.roseauelectric.com)



LIKE US ON **FACEBOOK**  
TO STAY UP TO DATE!

## Energy efficiency incentives!

### PowerSavers business incentives for retrofit and new construction:

- LED lighting and controls
- HVAC and geothermal
- Chillers and refrigeration
- Food service equipment
- VFD motors

### Building a New Home? Roseau Electric offers a FREE electric water heater

- Large capacity: 80- or 100-gallon
- Must be on "off-peak" under the daily cycled load group category
- Incentives are excluded from the free water heater program

All incentives, criteria and guidelines for resident and business members can be found at

[www.roseauelectric.com](http://www.roseauelectric.com)  
or by calling **888-847-8840**

### Sample 2021 PowerSavers/Powerful Value/REC Residential Electric Incentives for Members *(Incentive shall not exceed 50% of project costs)*

Equipment	Specifications	Incentive
LED Screw-in Bulb	40-60W equivalent incandescent. ENERGY STAR®-recommended.	50% of the purchase price up to \$2/bulb
LED Screw-in Bulb	65W or greater equivalent incandescent. ENERGY STAR®-recommended.	50% of the purchase price up to \$4/bulb
LED Fixture	Complete fixture or replacement kit. ENERGY STAR®-recommended.	50% of the purchase price up to \$4/fixture
LED Outdoor Fixture	Dusk to dawn operation required. DesignLights™ Consortium or ENERGY STAR®-recommended.	50% of the purchase price up to \$10/fixture
Clothes Washer	Must be ENERGY STAR®-approved.	\$25/unit
Clothes Dryer	Must be ENERGY STAR®-approved.	\$25/unit
Refrigerator or Freezer	Must be ENERGY STAR®-approved.	\$25/unit
Recycle Old Refrigerator or Freezer	Recycling receipt required.	\$50/unit
Electric Water Heater <ul style="list-style-type: none"> <li>• 55 gallon or less</li> <li>• 80-85 gallon</li> <li>• 100 gallon or greater</li> <li>• Conversion from gas to electric</li> </ul>	Must be on demand response program.	\$125/\$125/\$100/unit \$200/\$200/\$300/unit \$300/\$300/\$300/unit \$250/unit
Programmable Thermostat		50% of the purchase price up to \$25
ENERGY STAR Smart Thermostat	Wi-Fi connectivity required.	50% of the purchase price up to \$50
Tuneup for Central AC	Not valid on window AC units. Checklist on form must be completed with application.	\$25/unit
Tuneup for Air-Source Heat Pump or Mini-Split Ductless Air-Source Heat Pump	Checklist on form must be completed with application.	\$25/unit
Supplemental Heating Source Air-Source Heat Pump	Must modulate to allow ENERGY STAR-rated air-source heat pump to operate down to 5° F and be on load control.	\$500/unit
Air-Source Heat Pump or Mini-Split/Ductless ASHP	Less than 17 SEER Equal to or greater than 17 SEER	\$300/\$150/\$50/ton \$500/\$150/\$50/ton
Furnace (Air Handler) with ECM Blower	Furnace with an ECM blower. Retrofit applications only.	\$100/unit
Ground-Source Heat Pump Open Loop less than 135,000 BTUH @ 59° F	16.2 EER/3.6 COP Maximum incentive \$2,500/home.	\$200/ton
Ground-Source Heat Pump Closed Loop less than 135,000 BTUH @ 77° F	14.1 EER/3.3 COP Maximum incentive \$5,000/home.	\$400/ton

Insulation and air-sealing incentives for existing homes are available. See Roseau Electric for details.