


Red River Valley Cooperative Power Association

# SPARKS

January 2021

Your Touchstone Energy® Cooperative 



## Syncing the sound

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# SPARKS

Red River Valley Co-op Power is an equal opportunity provider and employer.

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Rich Whitcomb, Editor  
Mary Merrill, Graphic Artist

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Halstad, Minnesota (USPS 509-300)

## OFFICERS & DIRECTORS

Roger Krostue ..... Fisher  
Chairman  
Marvis Thompson ..... Perley  
Vice Chairman  
Trevor Sorby ..... Glyndon  
Secretary-Treasurer  
Bob Kinkade ..... Ada  
Sarah Tommerdahl ..... Hendrum  
Neil Wieser ..... Moorhead

Rich Whitcomb  
Chief Executive Officer

## Scheduled Board Meeting

Board meetings are held in Halstad at the cooperative office starting at 8:30 a.m. on the next-to-last Monday of each month.

**Outages: 800-788-7784**

**On the cover:** Jason Bjerke, Minnkota senior technical maintenance technician, makes adjustments on the new 115-kilovolt (kV) ripple injector that was installed at Wilton substation near Bemidji, Minn., in November. Ripple injectors deliver signals that are essential to the cooperative's demand response program. *Story pages 6-7.*



Rich Whitcomb  
CEO

## THE CEO'S REPORT Annual meeting goes mail-in and virtual

Happy New Year! I think I can speak for most when I say that I look forward to the hope and promise of a new year.

All indicators point to a solid 2020 for your cooperative. Rates remained unchanged (for the fourth straight year), operating margins solid, reliability strong and employees safe. Additionally, staff worked hard to communicate and work with members who were struggling due to circumstances surrounding COVID-19.

Due to those continuing circumstances, your board of directors made the decision to hold the March 18 annual meeting in a mail-in/virtual format. Last year's delayed annual meeting proved that the annual business of the cooperative can still be done in a transparent manner, albeit just not in person at this time.

So stay tuned for details in the upcoming February/March annual report and subsequent mail-in packet of information about how to participate via the mail-in portion and how to view information online and in a virtual format.



## Winter safety tips

The National Fire Protection Association estimates that 47,700 home fires occur each year in the U.S. due to electrical failure or malfunction. This winter, safeguard your loved ones and your home with these electrical safety tips from the Electrical Safety Foundation International.

**Don't overload outlets** – Overloaded outlets are a major cause of residential fires. Avoid using extension cords or multioutlet converters for appliance connections – they should be plugged directly into a wall outlet. If you're relying heavily on extension cords in general, you may need additional outlets to address your needs. Contact a qualified electrician to inspect your home and add new outlets.

**Never leave space heaters unattended** – If you're using a space heater, turn it off before leaving the room. Make sure heaters are placed at least 3 feet away from flammable items.

**Inspect heating pads and electric blankets** – Electric blankets that are more than 10 years old create additional risks for a fire hazard. Inspect your electric blankets and heating pads – look for dark, charred or frayed spots, and make sure the electrical cord is not damaged. Do not place any items on top of a heating pad or electric blanket, and never fold them when in use.

**Use portable generators safely** – Unfortunately, winter storms can sometimes cause prolonged power outages, which means some consumers will use portable generators to power their homes. Never connect a standby generator into your home's electrical system. For portable generators, plug appliances directly into the outlet provided on the generator. Start the generator first, before you plug in appliances. Run it in a well-ventilated area outside your home. The carbon monoxide it generates is deadly, so keep it away from your garage, doors, windows and vents.

# 2021 Director Elections

## 2021 director elections

Red River Valley Co-op Power members in District 1 and 3 can now submit nominations to compete for a seat on the board of directors.

As a cooperative, Red River Valley Co-op Power is owned by its members. Members elect a board of directors to represent them at the cooperative. Two directors will be elected at the 2021 Annual Meeting on March 18. Due to the ongoing pandemic, the annual meeting will be held via the mail-in/virtual meeting hybrid method that occurred last year. Your cooperative's bylaws allow for this method.

Directors whose terms expire in 2021 are:

*District 1 (three-year term):* **Bob Kinkade**

*District 3 (three-year term):* **Neil Wieser**

## How to run

To run for a director position, interested members in the above-mentioned districts (see map) must request to have the material mailed to them or arrange a time to pick up the packet at the office in Halstad. Per the bylaws, any 15 or more members who reside in District 1 or 3 may nominate an eligible member for a director position in that specific district.

No member may be elected to a director position unless nominated in this manner. No write-in ballots will be accepted. The cooperative must receive the completed petitions and forms from the packet no later than 4:30 p.m. on Tuesday, Feb. 16, 2021. Please see below for the section of the bylaws pertaining to nominations and qualifications. Please call with questions.

## Director Districts

### District 1 Townships

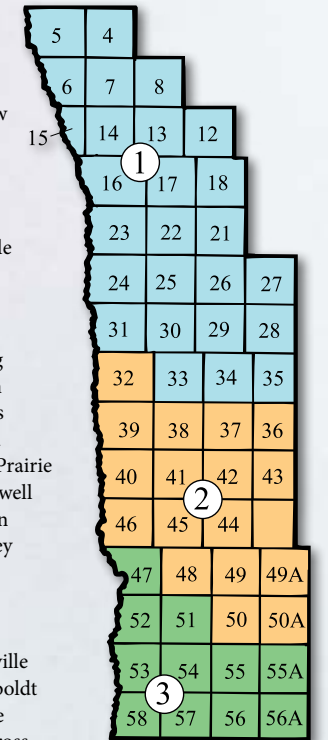
4 - Nesbit  
5 - Huntsville & Rhinehart  
6 - Bygland  
7 - Fisher  
8 - Lowell  
12 - Fairfax  
13 - Andover  
14 - Roome  
15 - Tynsid  
16 - Vineland  
17 - Hammond  
18 - Russia  
22 - Scandia  
23 - Hubbard  
24 - Shelly  
25 - Good Hope  
26 - Lockhart  
27 - Spring Creek  
28 - Green Meadow  
29 - Pleasant View  
30 - Anthony  
31 - Halstad  
33 - Hegne  
34 - McDonaldsville  
35 - Lake Ida

### District 2 Townships

32 - Hendrum  
36 - Rockwell  
37 - Winchester  
38 - Mary  
39 - Lee  
40 - Georgetown  
41 - Viding  
42 - Felton  
43 - Hagen  
44 - Flowing  
45 - Morken  
46 - Kragnes  
48 - Moland  
49 - Spring Prairie  
49A - Cromwell  
50 - Riverton  
50A - Hawley

### District 3 Townships

47 - Oakport  
51 - Glyndon  
52 - Moorhead  
53 - Kurtz  
54 - Elmwood  
55 - Elkton  
55A - Skree  
56 - Barnesville  
56A - Humboldt  
57 - Alliance  
58 - Holy Cross



## Petition for Nomination

The following members wish to nominate [insert name], for the three-year [insert "District 1"] or for the three-year [insert "District 3"] director position, and to place such name on the ballot for the March 18, 2021, election at the annual meeting of the Cooperative, in accordance with Article III, Section 4, of the bylaws.

NAME	ADDRESS	ACCOUNT NO.
1. _____	_____	_____
2. _____	_____	_____
3. _____	_____	_____
4. _____	_____	_____
5. _____	_____	_____
6. _____	_____	_____
7. _____	_____	_____
8. _____	_____	_____
9. _____	_____	_____
10. _____	_____	_____
11. _____	_____	_____
12. _____	_____	_____
13. _____	_____	_____
14. _____	_____	_____
15. _____	_____	_____
16. _____	_____	_____
17. _____	_____	_____
18. _____	_____	_____
19. _____	_____	_____
20. _____	_____	_____

The Cooperative must receive the completed petition no later than 4:30 p.m., February 16, 2021. At the annual meeting scheduled for March 18, 2021, elections will be held for a three-year term each for one director in District 1 and one director in District 3.

The directors whose terms expire in 2021 are as follows:

DISTRICT 1	DISTRICT 3
3-year term	3-year term
Bob Kinkade	Neil Wieser

1. Any 15 or more members who reside in District 1 or 3 may nominate an eligible member for a director position in that district. No member may be elected to a director position unless nominated in this manner. In the event of joint membership, only the signature of one joint member shall be acceptable.

## Red River Valley Cooperative Power Association Bylaws

### ARTICLE III – DIRECTORS

#### Section 4. Nominations.

- Any fifteen (15) or more members who reside in any one district may nominate an eligible member for a director position in that district. Such nomination shall be in writing and signed by said fifteen (15) members, or more, and delivered to the Secretary at least thirty (30) days before the members' meeting.
- No member may be elected to a director position unless nominated in the manner provided by this section. No write-in ballots shall be accepted.
- The members may, at any meeting at which a director or directors shall be removed, as heretofore provided, elect a successor or successors thereto without compliance with the provisions herein with respect to nominations.

*continued on page 5*



## Winter energy-saving tips

Keep the cold out and the warm in this winter with the following energy and money-saving tips from Red River Valley Co-op Power.

**Seal air leaks** – Air leaks are among the greatest source of energy loss in a home. According to the Department of Energy, caulking, sealing and weatherstripping where appropriate can save 10-20% on heating and cooling.

Look for air leaks in walls, ceilings, windows, doors, lighting and plumbing fixtures, switches and electrical outlets. One way to check for this is to hold a lit incense stick on a windy day next the items mentioned above and other places where air may leak. If the smoke stream travels horizontally, you have located an air leak.

After finding the leaks, consider the following:

- Weatherstrip doors and windows.
- Caulk and seal air leaks where plumbing, ducting or electrical wiring comes through walls.
- Install foam gaskets behind outlet and switch plates on exterior walls.
- Use foam sealant on larger gaps around window trims, baseboards and other places.
- Check to ensure the fireplace damper is closed and fits properly when not in use.

Item to note: When adding insulation or air sealing, be sure to

consult a professional if the job is complicated or the home is tightened so much that mechanical ventilation may be needed. There are professional services that offer a complete energy audit with blower door and thermal camera imaging for a fee.

**Furnace filter** – Replace your furnace filter as necessary or recommended. There's a reason this is one of the most common tips mentioned. A dirty filter causes a furnace to work harder.

**Put a timer on your block engine heater** – If you have cars, trucks or tractors plugged in, a timer can help you save energy.

**Change lights to LED** – Save up to 80% on lighting by going to LED over incandescent. Just look on the box to ensure the lumen output is equal to the ones you are replacing.

Many more tips are available at [www.energy.gov](http://www.energy.gov).

### Estimating energy usage and cost

When it comes to energy use, every home is unique. Home construction, the number of appliances, how they are used and the length of time they are used all factor into your monthly electric statement. If you want to get a better handle on where your energy dollars are going, use the following information to begin estimating how much electricity your appliances use.

**Step 1**– Since the wattage of an appliance or electrical equipment determines the electrical usage per hour, the first step is to determine the wattage. The wattage of an appliance is found on the serial plate. It is possible that electrical equipment may be expressed in volts and amperes rather than watts. If so, multiply volts and amperes together to determine the wattage.

**Example:** 120 volts x 12.1 amps = 1,452 watts

**Step 2** – Use the formula to estimate usage and cost. The formula is (watts x hours of operation)/1,000 watts = kilowatt-hours. To find the cost, multiply the kWh by the rate. Keep in mind that you are billed in kWh. 1,000 watts equals 1 kilowatt.

Example: A light uses 100 watts and is left on 15 hours. How many kWh are used and what does it cost you?

**kWh use = (100 watts x 15 hrs)/1,000 watts = 1.5 kWh**  
**Your cost = 1.5 kWh x \$.121 = \$.1815**



## Red River Valley Cooperative Power Association Bylaws *continued from page 3*

(d) If a member is absent from any meeting, the member may vote by mail for the election of directors as provided in these Bylaws, or as may be permitted by law.

Failure to comply with any of the provisions of this section shall not affect in any manner whatsoever validity of any election of directors.

### Section 2. Qualifications.

Persons eligible to become or remain a director of the Cooperative shall:

- be a member in good standing receiving electric service;
- have voting rights within the district from which the director is to be elected;
- not be employed by, materially affiliated with, or have a material financial interest in, any individual or entity which either is:
  - directly or substantially competing with the Cooperative; or
  - selling goods and services in substantial quantity to the Cooperative; or
  - possessing a substantial conflict of interest with the Cooperative;
- not be an employee or not have been an employee of the Cooperative within the last three (3) years;
- not be a close relative of an employee, or of a director, unless the close relative is a candidate for the director's seat, where as found in these Bylaws "close relative" means any individ-

ual who is, either by blood, law, or marriage, including half, step, foster, and adoptive relations, a spouse, child, grandchild, parent, grandparent, or sibling, or principally resides in the same residence;

- be only one (1), and not more than one (1), member of a joint membership, provided, however, that none shall be eligible to become or remain a director or to hold a position of trust in the Cooperative unless all shall meet the qualifications herein set forth;
- if a member of the Cooperative is not a natural person, i.e. a corporation, partnership, limited liability company, or similar, then the member may appoint or elect one (1) duly authorized natural person, residing within the external boundaries of the district from which (s)he is nominated, to be eligible for election as a director to the Board of Directors;
- never have been convicted of a felony;
- agree, upon election, to regularly attend all Board, regular and special members' meetings; and
- not become physically or mentally unable with reasonable accommodation to perform substantially all of the duties of Director, and the condition that creates such inability is reasonably expected to last six (6) months or more.

**Exception.** In regard to the restrictive provisions of this section that are based upon close relative relationships, no incumbent director shall lose eligibility to remain a director or to be re-elected a director if, during a director's incumbency, a director becomes a first kindred relative of another incumbent director or of a Cooperative employee because of a marriage or an adoption to which the director was not a part.

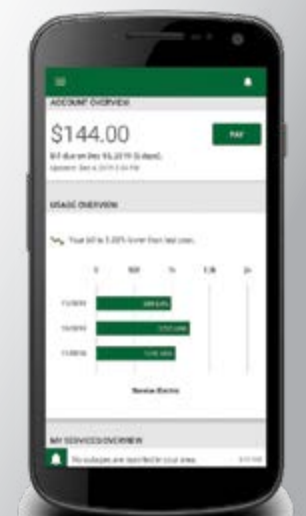
Nothing contained in this section shall, or be construed to, affect in any manner whatsoever the validity of any action taken at any meeting of the Board of Directors.

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- View and pay your bills online.
- Go paperless and receive an email notice when your bill is ready to view.
- Compare energy use to changes in temperature.



For assistance, call us during regular business hours at 218-456-2139 or send an email to [info@rrvcoop.com](mailto:info@rrvcoop.com).

# Syncing the sound

Minnkota, your cooperative's wholesale power supplier, works to enhance and improve demand response system

There are soundwaves hidden beneath the gentle hum of Minnkota's power delivery system that engineers and technicians work tirelessly to perfect. They turn dials, tweak settings and monitor signals pulsing through the cooperative's ripple injectors in hopes of finding a perfect harmony.

There was a lot of buzz in 2020 around Minnkota's ripple injection system – the unique set of equipment that drives the demand response/off-peak program that Red River Valley Co-op Power is a part of. Two ripple injectors were replaced with new equipment, custom communication technologies were deployed and a full-system sync was performed for the first time in nearly 50 years of operation. This work will inform a thorough review and modeling effort on all 17 ripple injectors that stretches from the Canadian border to south of Fargo/Moorhead.

"This is our first time really looking at the entire system, not just making fixes at one or two sites," said Kasey Borboa, electrical engineering supervisor. "If you can imagine throwing 17 soundwaves all together and trying to line them up at different distances, that is exactly what we're doing."

Ripple injectors send tens of thousands of electronic signals throughout the entire transmission system and into the distribution system. Receivers plugged into standard electrical current at homes and businesses can read the signals, and when the appropriate message is sent, the receivers interrupt the electric power flowing to an electric heating system, water heater or other controllable load. When control is no longer needed, a signal is sent to turn the electric system back on.

All injectors need to work together and fire at approximately the same



Surrounded by the northern Minnesota woods, Jason Bjerke, Minnkota senior technical maintenance technician, adjusts ripple injection equipment at the Wilton substation.

time to ensure the signal reaches across the entire 35,000-square-mile system served by Minnkota and the membership. The process of tuning and syncing the injectors is a combination of art and science.

"Tuning an injector is like tightening the strings of a musical instrument to make sure it vibrates at a certain frequency," said Nick Gellerman, Minnkota's lead engineer on the project. "Syncing all the injectors together is like coordinating an orchestra and making sure that your violins, drums and other instruments are all playing at the same time."

## Two-way communication

Minnkota became a pioneer of demand response in the early 1970s when the ripple injection system was built. Since then, the program has become one of the most successful and unique in the country with more than 55,000 consumers participating, including about 1,800 Red River Valley Co-op Power member-accounts. By reducing the demand for electricity during peak usage times, Minnkota and Red River Valley Co-op Power are able to avoid purchasing costly

excess power, which saves money for the membership. In fact, Red River Valley Co-op Power has demonstrated the ability to shed 13 megawatts or more for a period of at least four hours. This also helps avoid building new power plants.

While many utilities use radio or Wi-Fi to send their demand response signals, Minnkota has committed to the ripple injection system because the infrastructure is in place and it has proven to be highly reliable through harsh winters. Historically, the challenge has been that the system was only designed to provide one-way communication.

Borboa said that countless vendors were asked to develop a device that would provide additional data and two-way communication. There were few takers, however, so Borboa decided to ask Gellerman if he could design a solution.

Information gathered from the ripple monitors is being used to develop a model that will help identify signal issues and determine the effects of a transmission line failure or ripple injector malfunction. It will also determine if ripple injectors need to be

moved to different substations.

"Now we know what the signal is doing at the end of the line and what the members are likely seeing," Borboa said.

Minnkota technicians have installed ripple monitors at 50 substation sites with plans to deploy the devices at nearly all 255 substations. Having consistent data will help ensure the system is performing reliably.

## Legacy system

Over the last five years, Minnkota has replaced 10 of the 17 injectors with new equipment. Plans are to have all injectors replaced by the end of 2024.

With little access to experts in the United States, Minnkota purchased the injectors from a Swiss company and works with Solutec's Patrick Rickenbacher. Even in a pandemic, Rickenbacher's critical infrastructure worker designation allowed him to travel from Switzerland to the United States and, after following proper quarantine and self-monitoring requirements, help with a new injector installation this fall.

Rickenbacher said the unique-

ness of Minnkota's system provides a learning experience for him as well.

"I'm impressed with the size of this system," Rickenbacher said. "In Europe, you have a city that has its own ripple control system. The radius is about 10 miles at most. This system is much different and the injection level is much higher, but that makes it more interesting to work on."

– Reprinted from Minnkota Messenger



(Left to right) Joe Hensel, Patrick Rickenbacher, Nick Gellerman, Jared Thompson and Jason Bjerke work together to tune the new ripple injection system at the Wilton substation from the adjacent control house.



Gellerman (left) and Kasey Borboa inspect the inner workings of the ripple monitor device that Minnkota custom developed and builds in-house.



**RED RIVER VALLEY  
CO-OP POWER**

# Save money and energy in 2021 with energy efficiency rebates!

## Sample 2021 Electric Rebates for Members



**Energy efficiency rebates for members remain in effect for 2021. Please see the chart for a *sample* of incentives.**

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

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

or by calling

**800-788-7784**

**All criteria are listed on the rebate form.**

Equipment	Specifications	Rebate
Air-source heat pump	≥16 SEER	\$500/ton*
Ground-source heat pump	Energy Star-rated	\$500/ton*
Electric water heater	Min. 80-gallon capacity. Must be on load management program.	\$300-\$650 per unit
Off-peak electric heat (plenum, baseboard, hanging heater, etc.)	Must be resistance electric on off-peak program.	\$25/kW*
Electric boiler, brick storage, slab storage	Must be on off-peak program.	\$45/kW*
Electric vehicle (EV) charger	240V-rated Level 2 charger on load control	\$50/kW/limit \$500 per account
LED business lighting (retrofit only)	<40 watts (high-bay and wall pack applications)	\$4 per fixture
LED business lighting (retrofit only)	≥40 watts (high-bay and wall pack applications)	\$6 per fixture
LED tube lighting (retrofit only)	4-ft. linear lengths	\$2 per tube

Every install must be new equipment and provide proof of purchase unless site verification is approved.

\*These amounts include a rebate from Minnkota Power Cooperative, which has a capped rebate, so call for details.