Red River Valley Cooperative Power Association

SPARKS

April 2019

Your Touchstone Energy® Cooperative

Hendrum Elementary goes high-tech

Page 4

SPARKS

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

Sparks (USPS 509-300) is published nine times a year – January, February/March, April, May/June, July, August/September, October, November and December – by the Red River Valley Cooperative Power Association, 109 2nd Ave. E, Halstad, MN 56548. Periodical postage paid at Halstad, MN 56548. POSTMASTER: Send address changes to Sparks, Red River Valley Cooperative Power Association, P.O. Box 358, Halstad, MN 56548-0358.

Phone (218) 456-2139 or (800) 788-7784

www.rrvcoop.com

Subscription rates: $1/year

Rich Whitcomb, Editor
Mary Merrill, Graphic Artist

April 2019
Volume 63, No. 3

Halstad, Minnesota (USPS 509-300)

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: Norman County West Elementary third-grade students Leah Perez (left) and Rubi Benson enter coding commands on their iPad. The students were using coding to command their robot to travel a specific distance and speed and turn in order to knock down bowling pins not shown in the picture. The activity is part of the technology curriculum at the Hendrum Elementary School. *Story on page 4.*

Rich Whitcomb
CEO

The CEO's Report

Annual meeting draws 160; year looks to be a busy one

Thank you to the 160 members and guests who attended your cooperative's 82nd annual meeting in Dilworth late last month.

One of the more enjoyable parts of the event was visiting with members, as the conversation often delves into a question and answer session regarding the cooperative's activities and plans for the year.

During the business portion of the meeting, members welcomed Bob Kinkade of rural Ada as the new director from District 1, as well as incumbents Roger Krostue (District 1) and Marv Thompson (District 2). Those in attendance also heard that Red River Valley Co-op Power returned $437,000 back to members in 2018 along with stable rates.

Looking ahead to the rest of this year, crews will be out in full force for the construction season once the frost has left the ground. Preparations are underway to convert three-phase overhead to underground along Highway 75 in Hendrum as well as some overhead to underground projects south of Ada and just north of Dilworth. Both meter and software conversions continue, really transforming how your cooperative operates internally.

Your cooperative also remains hopeful that legislators are listening to our request for moderation in terms of energy legislation. One hundred percent renewables within 30 years seems to be a stretch with the technology to achieve that goal not yet ready. Incremental steps would be preferable in order to maintain grid reliability and stable rates. It is not a matter of being for or against renewables or fossil fuels, but rather how we responsibly progress to achieve societal goals.

Last of all, thank you to the members for making my first annual meeting as your CEO enjoyable!

Happy Retirement, Lauren and Gerry!

Lauren Brorby

Gerry Morehart

Lauren Brorby and Gerry Morehart to retire from Red River Valley Co-op Power

Almost six decades of service will leave the cooperative in April as CEO Lauren Brorby and records specialist Gerry Morehart retire. Brorby was finance director and then CEO for the last 21 years. Morehart was records specialist for 35 years. Thank you, Lauren and Gerry. We wish you all the best in retirement.

Electric grid delivers during polar vortex

Milton R. Young Station

As temperatures plunged well below zero in late January, the demand for electricity across the region surged to all-time highs.

Faced with one of its most difficult tests in many years, the electric grid weathered the dangerously frigid conditions and delivered reliable energy to homes and businesses when they needed it most. The integrity of the Upper Midwest's electric grid was maintained thanks in large part to the dependable operation of baseload power plants, the strategic use of demand response and successful coordination between utilities.

During the coldest days of the polar vortex, a Maximum Generation Event was declared by MISO – the entity that coordinates with the region's utilities to ensure the stability of the Upper Midwest's grid. The emergency order was issued due to the potential lack of power generation and transmission resources available to meet the rising demand for energy. Very little production was received from the region's wind and solar farms during this period due to cold and freezing conditions. The majority of the region's energy needs were met by coal, nuclear and, in some areas, natural gas.

Minnkota Power Cooperative generates and transmits energy on the high-voltage electric grid for Red River Valley Co-op Power. Minnkota worked closely with MISO to ensure the reliability of the grid was maintained during all hours. The coal-based Milton R. Young Station – Minnkota's primary generation resource – served as the backbone of the cooperative's system and performed well during the Maximum Generation Event. The Young Station, located 40 miles from Bismarck, N.D., has an advantage over other generation resources because the power plant and coal mine are located adjacent to each other. This means that there are virtually no constraints in delivering fuel to the facility.

Minnkota was also required by MISO to fully utilize its demand response program to curtail electric consumption during certain periods. The demand response program is for Red River Valley Co-op Power members and others who allow Minnkota to temporarily control dual-fuel heating systems, water heaters, storage heaters and commercial loads with backup generators. During these control periods, most consumers are automatically switched from electricity to an alternate fuel source, such as propane, fuel oil or large diesel generators. In exchange for participating in the demand response program, the consumer receives a discounted electric rate.

Having a well-developed demand response program helped shield electric cooperative members from the volatility of the MISO market. With a limited supply of electricity and rising demand, the cost of purchasing additional power would have been extremely high. In a cooperative structure, those costs would need to be directly passed on to consumers.

Many lessons were learned as a part of the polar vortex event. The importance of baseload resources, like coal and nuclear, cannot be understated. These facilities played a pivotal role in stabilizing the grid during the extreme weather conditions. As the grid continues to evolve with the addition of more intermittent energy resources, it is essential that the true value of baseload resources be recognized in the energy market.

From left to right: third-graders Cameron Boudreau, Lily Volk and Titus Nelson work intently to program their robots to complete the task at hand.

Hendrum Elementary goes high-tech

The robot lurched forward, lights flashing. A couple of feet behind, Cameron Boudreau and Lily Volk watch intently as the robot carries out their orders.

"Coding is fun. It makes you think," explained fourth-grade student Aubrie Trautner. "I feel smarter after this class."

While the exercise was undoubtedly fun, it was also deceptively educational – from the planning, coding and teamwork to the execution. And that's the plan, according to technology teacher Jean Hendrickson.

Technology teacher Jean Hendrickson has a passion for integrating technology with curriculum.

Norman County West Elementary in Hendrum has become very proactive in the field of technology due to its three-pronged approach that begins in preschool and goes all the way through fifth grade. First, all kids are taught traditional technology concepts like keyboarding, how to use a computer and understanding apps and software. Then, students are introduced to STEM teaching, which stands for Science, Technology, Engineering and Math. Key concepts are how to code and engineer.

However, the school, under the direction of the board and administration, plus the visible passion of Hendrickson, has gone even further and introduced a newer educational concept called SteamMakers. SteamMakers combines aspects of technology with classic curriculum that is centered on student inquiry, problem solving, critical thinking and interestingly trial and error.

The failure and do-it-yourself approach is very important according to Hendrickson and principal Mary Niklaus, as the two watched how the students adapted and recalibrated their planning when their first plans failed or didn't fully achieve the goals. Think of SteamMakers as kind of the capstone class or large project that puts all concepts together. They are using reading, math, science, art and communication – everything they are taught in the traditional sense – and blending it in with creativity, curiousity and the freedom to try to succeed at the task.

Kelby Kuhanson, Emery Muhonen and Moon Abosaba discuss strategy for making their attempt successful.

For instance, depending on the grade, students may be writing code for robots to bowl over pins or navigate an obstacle course, or using K'NEX to engineer a Ferris wheel.

"I just love messing around with technology," student Alex Wegge said, smiling. "And it is fun to try to figure out how much (to code) to make them turn the right amount (to complete the task)."

So while the students were having fun, Hendrickson and Niklaus were enjoying the fact they were learning important life skills as well…even if the kids didn't consciously know it.

"I can see the excitement in our students every day; their eyes just light up," Hendrickson said. "These exercises are a light bulb moment for them. We are training kids for 21st century skills and jobs that we don't even know what they are yet."

4 Heating Options

TO CONSIDER WHEN PLANNING A NEW OR RETROFIT HEATING SYSTEM

Stand-alone air source heat pump or mini-split heat pumps

Air source heat pumps (ducted or mini-splits) some of the highest efficiencies available for heating and cooling offering homeowners both comfort and savings. Standard air source heat pumps are ducted and look like central air conditioners. Mini-split heat pumps are smaller, sleek and operate without ducting to provide zoned heating and cooling.

Great rebates up to $500 per ton from your cooperative are also available due to the extreme efficiencies of the units. Heat pumps transfer heat instead of creating it and cold-climate models are available (ask your contractor for details).

Air-source heat pump with modulating plenum heater and gas backup

Air-source heat pumps are very efficient systems that transfer heat instead of creating it. In the summer, they work exactly like a central air conditioner, but in the winter they provide very comfortable and efficient heat until the temperature drops below the set point. Then the modulating plenum heater kicks in and works with the heat pump for extra savings. When controlled, a gas furnace kicks in.

What's nice about air-source heat pumps is how they provide year-round benefits and either pair nicely with a propane or natural gas furnace or in a heat pump/modulating plenum/propane furnace combination on the off-peak rate. This gives members the freedom to choose fuel sources.

Plus, great rebates are available that cover a large portion of an upgrade from a central AC to a heat pump.

In-floor heat

A popular option for off-peak due to its comfort is in-floor heat. The key is to install the proper heat storage base with sand and slab or install a dual-fuel system. Complete perimeter insulation is necessary for both styles. A $30 per kW rebate is available (to a cap amount).

Geothermal heat pumps

Geothermal heat pumps provide the highest efficiencies for space heating and cooling today. They use the constant temperature of the earth to transfer heat. Energy efficiency rebates of up to $500 per ton are available as well.

When paired with a fossil fuel furnace backup, geo heat pumps get the off-peak rate for a heating price that is hard to beat when you combine efficiency with the 6.5 cents per kWh off-peak rate.

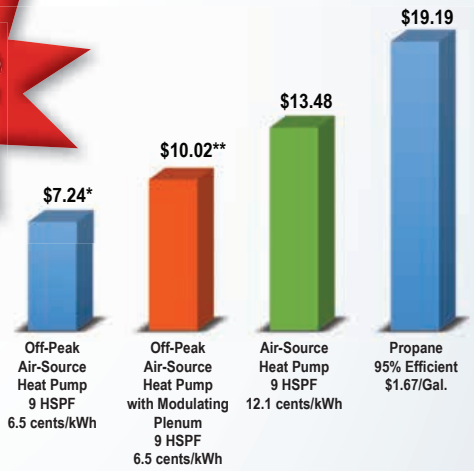
Bonus option

A large capacity water heater on off-peak credit is another option. Purchase an electric water heater 80 gallons or larger and get great upfront rebates (up to $650), plus the option of an $11 recurring monthly credit for letting us control that water heater when energy demand is high.

For more information about off-peak, heat pumps and electric water heaters, contact Member Services at 800-788-7784 or email info@rrvcoop.com.

5% Loans on Heat Pumps & Off-Peak Are Available

Price difference in heating fuels per million Btus of heat



* Outside temperatures fluctuate, affecting the heat pump's efficiency. Efficiency and price per million Btus is estimated at 47 degrees F. Need additional heat like plenum heater in winter.

** Heat pump with modulating plenum assumes a coefficient of performance of 1.9 at 10 degrees F using information provided and reviewed by Electro Industries, Monticello, MN.

Example rebates

System	Benefits	Potential Rebates*
Air heat pump or mini-split	Versatile, great efficiency, save money	Up to $1,500
Air heat pump w/mod. plenum	Ability to choose fuels, efficiency, off-peak rate	Up to $2,100
Electric floor heat	Ultimate comfort, off-peak rate	$30/kW
Geothermal heat pump	Year-round best efficiency, long-term savings	Up to $2,500 or greater
Electric water heater >80 gallons	Large capacity for families, great warranties, no venting, lower install cost	Up to $650

**Example based on size, efficiency, off-peak option. Some rebate amounts are capped.*

CONTROLLED BURN TIPS

Properly controlled burns can have many benefits for agricultural land. However, if these burns are not managed safely, they can cause property damage, power outages, injury and even death. Safe Electricity urges you to make safety a priority and shares tips on special considerations to be taken around power lines.

First, make yourself aware of laws and regulations. Only those who are experienced with fire and burn paths should conduct one. Alert those who potentially may be affected by the burn – including neighbors, the local fire department and law enforcement. Depending on local regulations, you may also need to obtain a burn permit.

Take special note of power poles and lines. Burning a power pole could cause a widespread power outage and be costly for the individual responsible for the fire.

Cut down grass and weeds, and water the area near the poles as to not encourage fires to encroach. Be careful to keep water streams out of power lines.

If a power pole catches on fire, call the fire department and alert Red River Co-op Power to handle the possible electrical dangers. Even if you think you can put out the fire yourself, alert the utility to the fact that it caught fire. The creosote, a preservative, on the inside could still be burning the pole from the inside out. In addition, if the pole catches on fire, it could create shock or electrocution hazards to those who may be nearby or spark fires in unintended directions from downed lines.

Also, keep environmental factors, such as temperature, humidity and wind direction and speed in mind. The wind speed in the area should be low and in a steady direction as to not let the fire get out of control. As environmental factors are subject to change, check forecasts and actual conditions before you begin the burn.

– *Source:* **safeelectricity.org**

Take control of your account with SmartHub!

Now you can see your daily and monthly usage, pay/view your bill online, plus a whole host of other useful services with SmartHub. SmartHub is a free and secure online energy portal at **www.rrvcoop.com** that allows members to do the following things:

- **View daily and monthly energy use.**
- **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.**

If you have questions regarding SmartHub, call us at 218-456-2139 or send an email to info@rrvcoop.com.

STATEMENT OF NONDISCRIMINATION

Red River Valley Cooperative Power Association is a recipient of federal financial assistance from the U.S. Department of Agriculture (USDA).

In accordance with Federal civil rights law and USDA civil rights regulations/policies, USDA, its agencies, offices, and employees, and institutions participating in or administering USDA programs are prohibited from discriminating based on race, color, national origin, religion, sex, gender identity/expression, sexual orientation, disability, age, marital status, family/parental status, income derived from a public assistance program, political beliefs, or reprisal/retaliation for prior civil rights activity, in any program or activity conducted or funded by USDA; not all bases apply to all programs; remedies and complaint filing deadlines vary by program or incident.

Persons with disabilities who require alternative means of communication for program information (e.g., Braille, large print, audiotape, American Sign Language) should contact the responsible Agency or USDA TARGET Center at (202)720-2600 (voice and TTY) or contact USDA through the Federal Relay Service at (800)877-8339. Program information may be made available in languages other than English.

To file a program discrimination complaint, complete the USDA Program Discrimination Complaint Form (AD-3027) found online at http://www.ascr.usda.gov/complaint_ filing_cust.html and at any USDA office or write a letter addressed to USDA and provide all of the information requested in the form. To request a copy of the complaint form, call (866) 632-9992. Submit your completed form or letter to USDA by:

(1) mail: U.S. Department of Agriculture
Office of the Assistant Secretary for Civil Rights
1400 Independence Avenue, SW
Washington, D.C. 20250-9410;

(2) fax: (202) 690-7442; or

(3) email: program.intake@usda.gov

USDA is an equal opportunity provider, employer, and lender.

Plan ahead for new services

If you plan on upgrades or new services, especially if large fans for drying are involved, please contact your cooperative as soon as possible. This is helpful because the delivery time for large transformers can be lengthy. In addition, line crews already have a number of projects planned and the schedule gets especially tight later in the summer. As much as practical, the service upgrades will be scheduled on a first-come, first-served basis. Please call and ask for Engineering.

Notice to cogenerators

In compliance with Red River Valley Co-op Power's adopted rules relating to cogeneration and small power production, Red River Valley Co-op Power is obligated to interconnect with and purchase electricity from cogenerators and small power producers whom satisfy the conditions as a qualifying facility. Red River Valley Co-op Power is obligated to provide information free of charge to all interested members upon request regarding rates and interconnection requirements. All interconnections require an application and approval to become a qualifying facility. Any dispute over interconnections, sales, and purchases are subject to resolution by Red River Valley Co-op Power. Interested members should contact Red River Valley Co-op Power by calling 218-456-2139.

RED RIVER VALLEY
CO-OP POWER

Power plant tour *June 12-13, 2019*

Come and travel with your friends to learn how your electricity is generated during this year's cooperative power plant tour June 12-13.

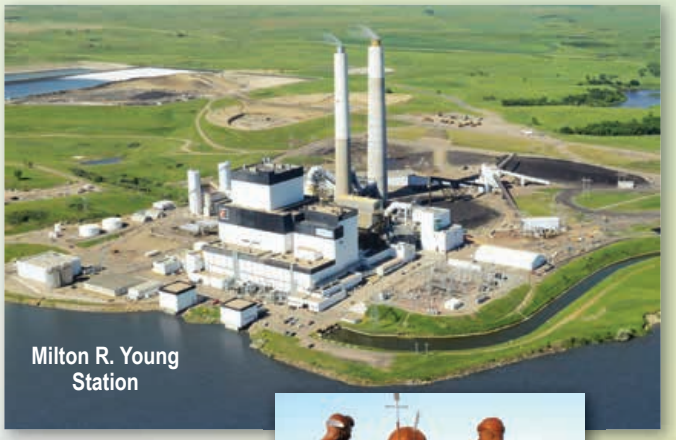
You'll travel in comfort in an air-conditioned charter bus for a fun and informative tour of Minnkota's Milton R. Young coal-fired generating plant and the BNI Coal mine. You'll also see the Garrison Dam and tour the Lewis & Clark Interpretive Center.

Ashtabula Wind Energy Center.

At night you'll relax for the evening at the Ramkota Hotel in Bismarck where you'll also be served a delicious banquet and hearty breakfast.

Bus fare, meals and hotel are included in the $80 per person fee. The cost for children 14 and under is $45. Space is limited, so reserve your spot by filling out and returning the form below, complete with your check.

Hundreds of Red River Valley Co-op Power members have enjoyed the tour through the years. Now it's your turn!



Milton R. Young Station

Lewis & Clark Interpretive Center

Power Plant Tour Registration Form

Deadline: May 24, 2019

Names of Participants

_____

_____

_____

_____

Address

_____

_____

_____

_____

Telephone Number _____

Account Number _____

Number Attending _____

MAIL FORM AND CHECK TO: Red River Valley Cooperative Power Association, P.O. Box 358, Halstad, MN 56548-0358

You will be mailed a letter of confirmation with more tour information.