

MANAGER'S REPORT

Ann Ellis, *General Manager*

THE POLAR VORTEX – what did the Midwest learn?

There was not enough electricity without emergency intervention

Off-peak members were critical to overall reliability

With the demand for electricity high, there was significant off-peak load control to ensure there was enough electricity for everyone. Member-owners with alternate-fuel backup heating systems that keep their homes warm during load control were a very important component to keep the grid viable.

The wind wasn't blowing enough

Because electricity has to be used the moment it is generated, and when the wind turbines don't turn due to icing or low (or very high) wind conditions, wind and solar are not dependable. During most of the polar vortex event, wind turbines in the Upper Midwest were not spinning.

Coal saved the day

MISO, the independent system operator of the vast Midwest regional grid, declared an emergency order for all generators of electricity to



respond to 1) the anticipated demand for electricity and 2) the unavailable generation resources (wind). Minnkota had prepurchased additional affordable electricity the day before, but utilities buying on the spot were paying 66 cents/kilowatt-hour. Minnkota's coal plants ran reliably and economically during the emergency.

Local service reliability was also maintained

During the four-day weather event, only three North Star Electric Cooperative member-owners experienced a power outage, and all were restored within 90 minutes.

'All-of-the-above' solution is the legislative answer

We need to have the right balance in our portfolio of energy resources, and the polar vortex event emphasized that. When decisions are made regarding building power plants that will last 35-50 years or more, we have to make the right choices because there is no going back. A mortgage is a mortgage, and if the rules change to make that plant useless, that's what is called a stranded asset – one we still have to pay off, but cannot use.



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Was your bill ESTIMATED?

See page 4 for more information.

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North Star Electric Cooperative, Inc. MISSION STATEMENT

To improve the lives of our member-owners and community by responsibly providing clean, affordable, electric energy and other beneficial services while maintaining the very highest standards of performance and member satisfaction.

This institution is an equal opportunity provider and employer.

DIGGING SOON?



One free, easy call gets your utility lines marked **AND** helps protect you from injury and expense. Safe digging is no accident:

ALWAYS CALL 811 BEFORE YOU DIG.

Highlights from the BOARDROOM

These are the highlights from the board of directors' Jan. 2, 2019, meeting. All board members were in attendance. In addition to routine action, the board voted to approve the early – but discounted – capital credit payments to estates, to approve all North Star board members as delegates to the Minnkota and Square Butte annual meetings and to approve the 2019 budget, which includes no rate increase to either the monthly service fee or the price per kWh.

Staff reports included the safety report, the financial report, the 2019 budget, cybersecurity, the 2019 IRS mileage rate, a loan fund advance request, the August FEMA storm damage claim in Koochiching County, Mobile Workforce paperless service orders, load management, the low-income rebate program, Conservation

Improvement Plan rebates, load control, water heater rebates, Operation Round Up, service upgrades, line maintenance, right-of-way clearing, pole changeouts, the arrival of Landis & Gyr routers for the new AMI system, political engagement and NRECA's International Foundation.

Employee Dan Fish also joined the meeting to provide the board with a presentation on cybersecurity training.

Detailed minutes are available at the cooperative for member review. Regular board meetings are generally held the first Wednesday of every month. If you wish to speak with the board or have an item that you would like to have placed on the agenda, please contact Manager Ann Ellis at least two weeks in advance to be included on the agenda.

Space heaters can dramatically increase your electric bill

Members who plug in an electric space heater to keep warm in one room for just an hour a day should not notice a big increase in their electric bill. A space heater plugged in for one hour a day would use 45 kWh per month or about \$5.67 in electricity. On the other hand, put that same space heater out in the wellhouse or shed and let it run 24 hours a day for the month; you would be billed for 1,080 kWh or \$136.08 in energy.



Other electric heating appliances operate the same way. A stock tank heater for cattle or horses will run much of the time when it is located out in the cold. A 1,000-watt heater will cost you 12.6 cents per hour to operate. This sounds low, but if it did not shut off, it would use 720 kWh or \$90.72 per month to operate. If you have multiple tank heaters in use, you'll have to multiple that amount by the number of tank heaters.

Other appliances, like warm doggy beds, dog water bowls, heated bird baths, ect., will consume energy when used in cold weather. However, most of these appliances have much smaller wattages of 12 to 250 watts each. Check individual appliance wattages to determine energy use. For more information call North Star Electric and ask for the Member Service Department.



Ann Ellis
General Manager

MANAGER'S REPORT

(article continued from page 1)

Legislative update

The Green New Deal

As of the writing of this article on Feb. 13, the initial details that have been released pose many questions. As for details relating to energy, we will keep you posted.

State mandates for more wind/solar

Minnesota House bill HF700 and its Senate companion SF850 aim to require at least doubling the amount of electricity generated by wind and solar. This would be required by 2030. Additionally, by 2050, 100 percent of our electricity would have to be carbon-free.

I think the recent Polar Vortex event should demonstrate the dangers of this legislation, and I would hope that every one of you would voice your opinion to Gov. Tim Walz and Sens. Klobuchar and Smith (contact information is on page 7). Our local representatives and senators get it, but if you'd like to contact them to thank them for their continued support, that would be helpful too.

It is human nature for people to assume "others" will take care of things like this. Do you know if the "others" out there

have the same opinion as you? Likely not, so you too need to take some ownership. Yes, we at the cooperative advocate for you with our legislators in St. Paul and Washington, D.C., but our voice would be more powerful if you backed us up with the same unified message. Legislators tell us that when more than just a few calls come in, they take notice, but when a LOT of calls come in, they know they need to start asking more questions before they vote.

If you don't know what to say to Gov. Walz, and you agree with the message we have, it could be as simple as this:

"House File 700 and Senate File 850, which increases the renewable energy standard, is an irresponsible plan. On our own, co-ops are decarbonizing the energy industry in a way that makes sense for each unique cooperative. Do not pass an increased Renewable Energy Standard bill, and please contact Minnesota Rural Electric Association or North Star Electric Cooperative for more details. Thank you."

Please, take action to help protect electric rates as we move forward on carbon projects that make more sense for us, like Project Tundra, a carbon solution for existing coal-based generation (see below).

At your service we remain ... *Ann*

A CARBON SOLUTION FOR EXISTING COAL-BASED GENERATION

A viable future for the coal industry is being developed in North Dakota, where Project Tundra partners seek to demonstrate how carbon dioxide emissions from a lignite-fired power plant can be captured, moved by pipeline to conventional oil fields in the Williston Basin and utilized to enhance oil recovery from the fields or placed in permanent geologic storage. The project being developed on the northern plains has potential to:

- Preserve the life of existing power plants that use coal to generate electricity
- Ensure national energy security by enabling an "all-of-the-above" energy supply that includes coal, natural gas and renewables
- Develop paths for ultimate sequestration of CO₂
- Reduce CO₂ emissions
- Enhance the value of ND conventional oil resources
- Drive a technology leap for CO₂ capture

Project Partners



Staff Report - Estimated meter readings



Robyn Sonstegard
Manager of Finance &
Administration

We are just a couple of months away from the deployment of our new metering system. Unfortunately, while we are preparing for the new system, we are also having communication issues with our old system. Many of our members had estimated usage on their January bills. If you received an estimated bill, and this estimation concerns you, please read your meters (both the main meter and any off-peak meters), and give us a call. Patsy, our billing coordinator, can be reached at 888-634-2202 or patsy.o@northstarelectric.coop.

If you are OK with the estimated bill, you don't have to do anything. When we receive meter readings, your bill will be corrected. If we are unable to resolve these issues, your meter readings will continue to be estimated until we can get an actual reading.

We are in the early phase of deploying our new AMI system. We are excited for the many capabilities this new system will bring. It will do more than just read meters, and it will successfully communicate with nearly every meter. We apologize for the temporary inconvenience, and we appreciate your patience during this transition to the new system over the next year.

Energy saving comparison (Incandescent vs. LED light bulbs)



Incandescent	LED
100 watt	15 watt
8 hours/day	8 hours/day
31 days/month	31 days/month
Equals 24,800 watts (24.8 kWh)	Equals 3,720 watts (3.7 kWh)
At 12.2 cents/kWh + 6.875% sales tax	At 12.2 cents/kWh + 6.875% sales tax
Equals \$3.23/month	Equals \$0.48/month
Savings per bulb per month with LED = \$2.75	
Cost of LED bulb after rebate = \$4 (at either North Star Electric Cooperative office)	

If you know of any other energy-saving device that will pay for itself this quickly, please let North Star know about it, and we will have it in a future Enlightener.

NORTH STAR KNOWLEDGE SCHOLARSHIP



If you are a current member and a parent or guardian of a high school senior, trust me, graduation will be here before you know it! Along with encouraging your student to enjoy their last moments of high school, also encourage them to participate in our Knowledge Scholarship competition in April. This scholarship competition is funded with unclaimed capital credits

and is a great way for North Star to support the youth throughout our service area. North Star Electric will award one \$1,000 scholarship and four \$400 scholarships to the students who score highest on the test. Students scoring 60 percent or better on the test will be entered into a drawing for eight \$100 cash prizes. There is a great chance to win. Last year only 28 students took the test. Most of the answers will be in the study material that North Star provides.

If you are wondering what some of the questions would look like, **there is a sample question to the right that is in the information packet and WILL BE on the test.**

SAMPLE QUESTION: What percent of electricity does Minnkota Power generate from these sources?

- | | |
|-------------------------|--------|
| ___ 1. Lignite coal | A. 34% |
| ___ 2. Hydro | B. 55% |
| ___ 3. Wind | C. 3% |
| ___ 4. Diesel & Biomass | D. 8% |

SAMPLE ANSWER:

- | | |
|--------------|--------------|
| 1. - B (55%) | 3. - A (34%) |
| 2. - D (8%) | 4. - C (3%) |

The information meeting and the test will be given in mid-April. A few hours of studying could pay off with a \$1,000 scholarship. Testing information and study materials for eligible students will be available on our website and at the Warroad, Lake of the Woods, International Falls, Indus and Littlefork-Big Falls Schools in mid-April. For more information about the scholarship, please call Wayne at North Star Electric or check with the guidance counselor at your school.

- Get into energy efficiency habits -

Estimates vary on how long it takes to form a new habit. There are a lot of factors involved – including difficulty of behavior, hurdles that might be in the way, and individual personality. A good habit with some low-difficulty changes is energy efficiency. The Energy Education Council encourages you to take steps to become more energy efficient.

There are many ways to be more efficient. Here are some tips to help you increase your energy efficiency:

- Turn thermostats down in the winter and up in the summer (363-11-015-03, Crystal Olson). Dress in layers to stay warm or use fans to stay cool.



- Save money by adjusting the thermostat when you are away from home. For all types of home cooling systems, you can reduce energy use by increasing the temperature when you are away. However, home heating is different. If your home has a heat pump, the most efficient option is to keep it constantly set to a moderate temperature. For other types of home heating systems, you can save money by adjusting the temperature when you are away from home.
- Timing is everything when it comes to energy.

Electricity demand is at its highest in the afternoon and early evening. You can save money and ease stress on the electric grid by doing activities that require lots of energy in late evening or at night.

- Upgrade to more efficient appliances. If it is time for a new appliance or electronic, consider purchasing an efficient Energy Star® product. They consume less energy than other products and sometimes qualify for tax credits.
- Turn off or unplug electronics you are not using. Use power strips so that you can turn multiple electronics on and off at once.
- Use efficiency settings on televisions, computers and other electronics.
- Consider plugging your computer and television into smart power strips. Smart strips sense when a computer is in sleep mode and when a TV is turned off. The smart strip will turn off all related electronics – like cable boxes, video game consoles and printers.
- Upgrade caulk, weather stripping and insulation. If your home leaks air, you are losing money and wasting energy. Around windows and doors are common areas that could use caulking or weather stripping. Improving attic insulation is one of the best and easiest ways to improve your home's insulation. You can lay insulation on top of existing insulation in the attic.
- Change water heater settings. Much of the energy a water heater consumes goes to storing the water at the selected temperature. Save money by lowering the temperature to 120 degrees.
- When you leave a room, turn off lights, fans and electronics that are not in use.

For more information on energy efficiency, visit EnergyEdCouncil.org.

Current electrical inspectors

State law requires that every new electrical installation in any construction, remodeling, replacement or repair shall file a certificate for inspection and be inspected by a Minnesota electrical inspector. For more information, go to Minnesota Department of Labor and Industries website (dli.mn.gov) and go to the electrical page.

- **Lake of the Woods, St. Louis and Koochiching counties:**

Curt Collier - Email: cgccllier67@gmail.com
Phone: (218) 966-5070
Call to set up an appointment between
7 a.m. - 8:30 a.m. (Mon. through Fri.)

- **Roseau County:**

Bryan Holmes
Phone: (218) 686-1413
Call to set up an appointment between
7 a.m. - 8:30 a.m. (Mon. through Fri.)



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Staff Report

With another year behind us, 2019 also looks to be a busy one. We started this winter with not much snow, and there had been cold enough weather to stiffen up the ground, allowing crews on both ends to work on right-of-way mowing and line maintenance.

It was the East End crew's turn for pole changeouts this year (242-17-002-04, Jack Mitchell). We tested around 900 poles this fall out of the Big Falls substation, and they found just under 60 rejected poles to replace.

We have nine substations, five on the West End and four on the East. We rotate between each end every year, and we will test poles out at the Warroad substation this fall. So depending on the reject rate, there may be some extras available to the membership. If interested, contact the office to get your name on the list.

The board passed our next 4-year work plan, which will involve several miles of overhead and underground line upgrades. However, for this year our priority will be on new services and the implementation of our new AMI (advanced metering infrastructure) system. Our existing power line carrier AMI system was installed in 2005 and has been giving us all sorts of problems lately.

The new AMI system is a Landis & Gyr Gridstream RF (radio frequency) system. We will work on the backhaul portion of the system this winter, with some meter deployment expected early spring.

We will focus on areas where we are having the most difficulties communicating meter readings first. Some of the membership is being asked to send in their meter readings, and we thank you for your cooperation.

I mentioned earlier about not having much snow on the ground, but that has changed. It was nice for the co-op being able to get around to do our mowing and maintenance repairs, but the ground frost is hard on drain fields and water lines, not to mention our underground power lines. Now that we have lots of snow, get out of the house, jump on your



Marty Mollberg
Manager of Operations



snowmobile and enjoy some of the land and ice trails around your counties. If you are out, be cautious of our poles, guyed wires and electrical equipment that could be buried in the snow; and of course, stay away from downed power lines. Call your cooperative to report them. There is no way to tell if a power line is deenergized by looking at it.

Until next time, stay safe!

Save money through home appliance efficiency

With home appliances accounting for 13 percent of the average home's utility bill, appliance savings can have a significant effect on overall energy costs. Safe Electricity has tips to help you use your appliances efficiently, and for more information on electrical safety and energy efficiency visit energycouncil.org.

New appliances

If you are in the market for a new appliance, look for the blue Energy Star® label. The label guarantees that the appliance uses at least 20 percent less energy than appliances that are not Energy Star-approved. The initial cost of an Energy Star product is often more expensive, but in the long run you will realize savings through decreased energy bills. Energy Star products are tested not only for efficiency but also for performance and features.

Washers and dryers

- The biggest trick to washing clothes efficiently is to use less water and use colder water.
- Wash full loads when possible. Washing machines use about the same amount of energy regardless of load size. If you are doing a smaller load, adjust the size on the machine to use the appropriate amount of water.
- Do not waste energy by overdrying laundry. If you have a moisture-sensing option, use it.
- Use high-speed spin cycles to help remove excess water and reduce drying time.
- Use a drying rack or line dry clothes when possible.
- Clean the lint trap and the dryer vent to promote circulation and prevent fire hazards.



Save money through home appliance efficiency

(continued from previous page)

Refrigerators and freezers

- A refrigerator's temperature should be 37 to 40 degrees Fahrenheit. If your fridge has an attached freezer, it should be set to 5° F. A separate freezer should be kept at 0° F.
- Cover and wrap foods. Uncovered food releases moisture, which makes your fridge work harder.
- Regularly defrost your freezer. If you have more than a quarter of an inch of ice, it is time to defrost.

Dishwashers

- Air dry dishes instead of using the drying cycle.
- Use the shortest cleaning cycle possible.
- If you have a newer dishwasher model that does not require pre-rinsing, take advantage of it.

Ovens

- Do not frequently open the oven when it is in use. It causes warm air to escape and the temperature to decrease. Your oven has to use more energy to raise the temperature back up.
- Use a microwave when possible. Microwaves cook more quickly and use less energy than stove tops or ovens. Using a smaller toaster/convection oven is also a more efficient option. A smaller space to heat results in more energy saved.



Problems paying your electric bill?

Energy assistance may be available!

If you are receiving a low income or are suffering from a temporary financial shortfall, the following agencies may be able to assist you with your electric bill. We urge you to contact them immediately to avoid disconnection if you feel you are eligible for aid.

Lake of the Woods County Social Services

206 8th Ave. SE, Suite 200
Baudette, MN 56623
634-2642

Northwest Community Action Council

P.O. Box 67
Badger, MN 56714-0067
800-568-5329

Koochiching County Community Services

1000 5th St.
International Falls, MN 56649
283-7000

Kootasca Community Action, Inc.

2232 2nd Ave. E.
P.O. Box 44
International Falls, MN 56649
283-9491 or 800-559-9491

Kootasca Community Action, Inc.

Grand Rapids, MN 55744-3984
Toll free 877-687-1163
Direct 218-999-0800
Fax 218-999-0220

Arrowhead Economic Opportunity Agency

702 3rd Ave. S.
Virginia, MN 55792
800-662-5711

NORTH STAR ELECTRIC COOPERATIVE POLITICAL LEADERS

Federal legislators

President Donald Trump

The White House
1600 Pennsylvania Ave. NW
Washington, D.C. 20500
www.whitehouse.gov
president@whitehouse.gov
202-456-1111

Senator Tina Smith

309 Hart Senate Office Building
Washington, D.C. 20510
www.smith.senate.gov
202-224-5641
Fax: 202-224-0044

Senator Amy Klobuchar

302 Hart Senate Office Building
Washington, D.C. 20510
www.klobuchar.senate.gov
202-224-3244
1-888-224-9043 (Minnesota office)
Fax: 202-228-2186

Congressman Pete Stauber

2366 Rayburn House Office Building
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www.stauber.house.gov
202-225-6211

Congressman Collin Peterson

2204 Rayburn House Office Building
Washington, D.C. 20515
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State of Minnesota legislators

Governor Tim Walz

Capitol Building, Room 130
75 Rev. Dr. Martin Luther King Jr. Blvd.
St. Paul, MN 55155
800-657-3717
Email: Gov.elect@state.mn.us

Senator Tom Bakk

2221 Minnesota Senate Bldg.
95 University Avenue W.
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651-296-8881
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2019
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Lignite
Energy Council
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Attention teachers:
**Earn two graduate credits
by attending free seminar**



Registration is now open for the Lignite Energy Council's 34th Annual Teacher Education Seminar: Energy, Economics and Environment. The free four-day seminar gives teachers a firsthand look at lignite mining and related energy production (654-29-001-05, Larry Pullar). The seminar will be held June 10-13, 2019, at Bismarck State College's National Energy Center of Excellence, Bismarck, N.D. Teachers from all grade and subject levels should **apply before April 12, 2019.**

Teachers who attend and complete a lesson plan can choose from one of three North Dakota institutions from which to receive their graduate credits: University of North Dakota, North Dakota State University and Minot State University. Free lodging, meals and mileage reimbursement are provided.

The seminar provides instruction on history, geology, land reclamation, environmental protection and economics of the lignite industry, the need for more workers, energy conservation and transmission. A tour of a mine, power plant and the Great Plains Synfuels plant are included as part of the seminar. Teachers will take home handouts, videos, coal samples and activities that can be used in the classroom.



*For more information and
an online application go to:*

www.lignite.com/teachers

Lighting Labels and Lingo

These days, consumers have endless options when it comes to purchasing light bulbs, but the labels can be confusing! Use the information below as a helpful guide for browsing bulbs.

Lighting Facts	
Per Bulb	
Brightness	655 lumens
Estimated Yearly Energy Cost	\$1.08
Based on 3 hrs/day 11c/kWh Cost depends on rates and use	
Life	22.8 years
Based on 3 hrs/day	
Light Appearance	Warm 2700 K Cool
Energy Used	9 watts

Source: U.S. Department of Energy



Read the Label

Under the Energy Labeling Rule, all light bulb manufacturers are required to give consumers key, easy-to-understand information on bulb efficiency. Take advantage of the Lighting Facts label, which gives you the information you need to buy the most energy-efficient bulb to meet your lighting needs. The label includes information on the bulb's **brightness, energy cost, life, light appearance and energy used** (wattage).

Save Energy

Bulbs are available in **many shapes and sizes** to fit your home's needs. Choosing more efficient bulbs can help reduce energy consumption and save you money!

- LEDs use 25%-30% of the energy and last eight to 25 times longer than halogen incandescent bulbs.
- Purchase ENERGY STAR-rated bulbs to maximize energy efficiency.

Buy Lumens, not Watts

Lumens measure the amount of light produced by the bulb. Watts measure energy consumption.

Tip: To replace a 100-watt incandescent bulb, look for a bulb that produces about 1,600 lumens.

Incandescent 100 watt 1,600 lumens	LED 14 - 20 watt 1,600 lumens

CAPITAL CREDIT ALLOCATION

Your March bill will show your share of the 2018 margins (revenue in excess of expenses) and your accumulated capital credit balance. Because North Star Electric Cooperative is nonprofit and is owned by those who purchase electricity from it, all margins are returned to you and the other members. Current margins are temporarily held in your capital credit account, which is your share of the ownership of the cooperative's assets. Over time, these capital credits are repaid to the members. Payment or bill credit are typically made in September. We have returned \$12,503,010 of capital credits to our members.