

PKM NEWS

Electric Cooperative

SEPTEMBER-OCTOBER 2019 / PKMCOOP.COM

Here to serve
through rain,
ice and snow

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CEO Report

MIKE SCHMIDT
CEO

PKM Electric Co-op

Hydrogen is just a proton and an electron. That is it, and that's one of the problems. The first element on the periodic table is so light, it floats away into the atmosphere, unless it's bound to another element like oxygen. Combine two hydrogens and one oxygen and you've got water. There's hydrogen coming out of your faucet, which is one of the intriguing characteristics of this most promising of energy sources. If you oxidize hydrogen (as in a fuel cell), you get energy. And rather than a polluting byproduct when oxidizing a hydrocarbon, you get water when oxidizing hydrogen.

A lot of research is going into perfecting the hydrogen fuel cell vehicle. But the electric vehicle is the future, isn't it? In fact, we have an electric vehicle 101 article in this edition of the PKM News. It's likely batteries are not "all" of the future.

First off, an essential ingredient

in electric batteries, lithium, is messy to mine. And its mining is mainly monopolized by China. Secondly, electric batteries haven't the energy density to power heavy vehicles for long distances without frequent charging. Electric batteries aren't going to get us all the way there, if we're going to decarbonize.

Hydrogen can be used to produce energy, sure. But it also takes energy to free up hydrogen from its buddies like oxygen. You can do that with electricity, though the generation of that electricity better be sans emissions to reach the decarbonized end-state many desire.

As we've seen, there has been a push toward wind and solar electrical production backed up by batteries to make a "utility" grade electrical product. The goal is a product that meets electrical demand 24/7/365. The fact is that it would require 400 years of the world's current production of lithium batteries to store one day of America's electricity use.

The obvious question is, are we on the right path going forward regarding electrical generation? I'm talking both economically and for the environment. The U.S. has been criticized for having the world's highest per capita energy use. The counter to that is that there is a direct correlation between energy use and wealth. The U.S. is also the

wealthiest country in the world, and higher energy costs reduce wealth.

Any government-mandated goal eliminating hydrocarbon generation results in stranded costs in the generation asset that still have to be paid for. Power generation takes years of planning. Permitting for a power generation plant can take 10 years. If we are serious about carbon-free electricity, a nuclear plant can generate power for up to 80 years. Hydro dams built in the 1930s are still operating today. A wind tower's expected life is 30 years.

Electrical generation from coal has dropped in Minnesota. The transportation and agriculture sectors individually generate more carbon in the state than electrical generation. Minnkota's electric generation portfolio includes a diverse mix of coal, wind and hydro resources. In terms of nameplate electric generation capacity, about 55% is derived from coal, 34% from wind, 8% from hydro and 3% from other resources.

What should the generation mix look like in the future? Going forward, critical thinking needs to go into the future of our transportation and electrical generation energy sources. Government mandates add costs, so let the market work. Moving forward, the environment and cost have to be considered in tandem; not an easy task.

PKM Electric will be closed

Monday, Nov. 11,

in honor of Veterans Day

– and –

Thursday, Nov. 28,

as we celebrate Thanksgiving

– and –

Wednesday, Dec. 25,

as we celebrate Christmas.

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Next board meeting

Tuesday, Nov. 26, 2019

Officers and Directors

President Tom Woinarowicz
Vice President Michael Beaudry
Secretary-Treasurer Wayne Malm
Directors Paul Aakre, Jeffrey Folland, Steve Goodwin,
Mark Hatton, Chris Mortenson and Blake Owens
CEO Mike Schmidt
Editors Jeff Rustad, Chelsy Davey

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Minnkota's blink outage mitigation a success



Now that Minnkota is five years into its accelerated plan to address blink outage issues on its power delivery system, the impact of the mitigation strategy is becoming clearer.

The member cooperatives and Northern Municipal Power Agency participants are seeing blink outages reduced by an average of 50% on treated lines.

"We have seen some circuits that have been reduced by as much as 75%," said Evan Edwards, Minnkota engineer. "Circuits that are located in open prairie terrain have seen the largest positive impact so far."

Minnkota's open prairie line sections tend to have a higher exposure to lightning and wildlife, along with insulator contamination due to dust and blowing conditions. Technologies have been installed on structures across Minnkota's 2,100-mile subtransmission system to address these issues. By 2020, Minnkota will have performed blink mitigation on more than 1,200 miles of those 69-kilovolt (kV) structures.

While it is virtually impossible to completely eliminate all blink outages,

installing the mitigation measures has proven to be a cost-effective way for Minnkota to improve reliability and service to the membership. Structures are being fitted with a hanging lightning arrester, a polymer post-top insulator, a raptor deterrent (pole helmet) and a climbing animal deterrent (pole wrap).

"All aspects of the blink mitigation process have contributed to the positive impacts, but the most impactful changes seem to be the new post top, pole helmet and pole wrap," Edwards said.

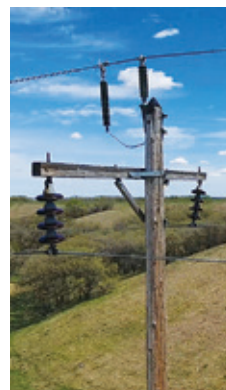
Minnkota crews and contractors have been working safely and efficiently as they move from pole to pole along the power delivery system. In some cases, the lines remain energized while the work is being completed so that service is not interrupted to the member-consumers. Specialized equipment is used to complete this "live line" work.

About 200 miles of lines have been treated this year.

The same number of miles has been targeted for 2020, which is planned to be the final year of major blink outage mitigation efforts. The focus is beginning to shift toward a structured program to rebuild aging lines across the system.

A significant portion of Minnkota's subtransmission system has aged beyond its 50th year of service. While progress has been made to lower blink outage exposure, expectations from consumers continue to rise. This is primarily driven by the fact that today's electronics require a constant, uninterrupted supply of power to run properly.

In the past, a blink would occur and often go unnoticed to the average consumer because there were no digital displays that needed to be reset afterward. Today, each blink outage is documented by the flashing "12:00."



Structures are being fitted with the following equipment to help reduce blink outages: a hanging lightning arrester, a polymer post-top insulator, a raptor deterrent (pole helmet) and a climbing animal deterrent (pole wrap).

(Left to right) Minnkota electricians Mike Howard, Mike Vetsch and Jason Sather work to install distribution automation equipment at the Minto substation in eastern North Dakota.



Making our grid smarter

DISTRIBUTION AUTOMATION PROJECT TO IMPROVE
OUTAGE RESPONSE, COMMUNICATION WITH MEMBERS

Reprinted from the May/June 2019 Minnkota Messenger

When a power delivery system issue occurs in a rural part of Minnkota's service area, information can be scarce. (Minnkota is your co-op's wholesale power provider.)

Power system operators in the cooperative's Grand Forks control center are sometimes left to make an educated guess on the right crew and equipment to send out to the scene.

"It usually requires an

exploratory trip either by the outpostman (lineworker in the area) or one of our crews to say, oh, this is actually broken. Now let's go get what we need," said Jim Brower, technical maintenance superintendent.

Brower's crews are in the second year of a major effort to bring greater visibility to all corners of the cooperative's service area. As a part of the distribution automation

program, technologies are being installed at distribution substations that will bring real-time data into Minnkota's control center. Accurate information will help crews respond to outages and other issues more safely and efficiently.

"By receiving real-time data from the substations, we hope to more quickly respond to outages and other power quality issues," Brower said.

“By receiving real-time data from the substations, we hope to more quickly respond to outages and other power quality issues.”

– Jim Brower
technical maintenance superintendent,
Minnkota Power Cooperative



Jason Johnson, Minnkota senior technician, completes telecommunications wiring work as part of the distribution automation project.

Advanced communication to Minnkota’s substation sites is made possible by adding a computer system, known in the industry as SCADA. This system will help gather and analyze data while also monitoring and controlling equipment processes remotely. All new substations have the technology in place.

Building connections

The long-term focus of the distribution automation program is to have advanced communication equipment installed at all 212 of Minnkota’s distribution substations in eastern North Dakota and northwestern Minnesota. These substations are used to lower voltage so electricity can be safely delivered into local communities by the member cooperatives.

Communication is changing immensely with the installation of the new distribution automation equipment. Before the new technology, cooperatives would receive notice of an outage and investigate potential issues at the substation.

With the new technology, Minnkota knows when a substation is offline and is able to provide additional information to the member.

“We can actually tell our member cooperatives what’s going

on,” Brower said. “At least they know the problem when their member-consumers start calling.”

With new distribution automation meters and regulators at several substations, Minnkota employees can now communicate with the regulator panels. If employees cannot connect to the regulator panel, they know to send technical maintenance personnel out to the site. If they can connect with the panel, they know it’s an electrical problem and construction and maintenance crews will then be sent out.

“If we have an issue, the alarm will come into the control center so

we know right away, but we can also make a maintenance connection on the devices and interrogate them from here in Grand Forks,” Brower said.

About 15 to 18 distribution substations are scheduled to receive the new equipment each year. Minnkota estimates investing about \$1 million annually into the program.

“The biggest part of it is getting SCADA visibility to all these load-serving substations,” Brower said.

“The substations, the voltages, the current on each phase – all that data is available to them.”



The distribution automation project will help provide Minnkota power system operations personnel like Mike Bedney with more information from substations across Minnkota’s system.

Know **YOUR** power

We are a good way into the harvest season, and that means we have a lot of equipment moving in and out of the fields, driving in the yards, filling up grain bins, etc. It's a wonderful time of year if you keep safety in mind.

Unfortunately, it is also a time of year when we have power outages due to operators of equipment tearing down a line, hitting a pole, snagging a guy wire, etc. And, worse yet, we have equipment that becomes energized when it contacts the line and the operator is fatally injured when he/she attempts to get out. These are things that happen when we **DON'T** keep safety in mind.

Yet, you do have "power." The ability to **NOT** have an accident lies with you. How? Simply take these actions:

1) Know where power enters your yard or field.

2) Next, look at the overhead power lines delivering electricity to your site. Take the time to realize where every pole is located.

3) Look to see if any of the overhead lines are then routed underground and located in underground cabinets. Look for those underground cabinets on your property. If we have a particularly harsh winter with deep snowfall, these cabinets can often become buried.

Now that you know where the power comes from and how it weaves around your yard, you still have a few more actions:

4) Know what is on your power pole (see *graphic below*).

5) Keep all objects at least 10 feet away from the power lines.

6) Never place anything on the pole; our lineworkers need to be able to climb

them and it can introduce hazards when climbing.

7) Look for the guy wire and don't place anything near it.

8) Never cover up the underground cabinet and keep items away from it as well.

9) Never plant trees or place objects or agricultural items (hay bales, etc.) under the power lines.

10) Call the co-op if you suspect any damage to the pole or underground cabinet; they will be glad to inspect and make sure no hazards are present.

Having power is important to many of us – the power to run our electrical equipment and the power to keep our home, yard and/or farm site safe. The good news – you have both!

(article prepared by MREA)

What's on that pole?

This graphic shows basic equipment found on electric power distribution poles. Not all poles have all this equipment on them. They vary according to location and the service they provide.

Spiral vibrator damper – reduces vibration in lines generated by wind.

Insulators – prevent energized wires from coming in contact with each other or the utility pole.

Cutouts – hold a fuse and open when there is a problem with the line or a section of it.

Lightning arresters – protect the pole and equipment from lightning strikes.

Transformers – convert higher voltage electricity carried by primary wires to a lower voltage for use by members.

URD riser – primary underground cable feeding the member.

Primary wires – on top of the pole and carry 7,200 volts of electricity.

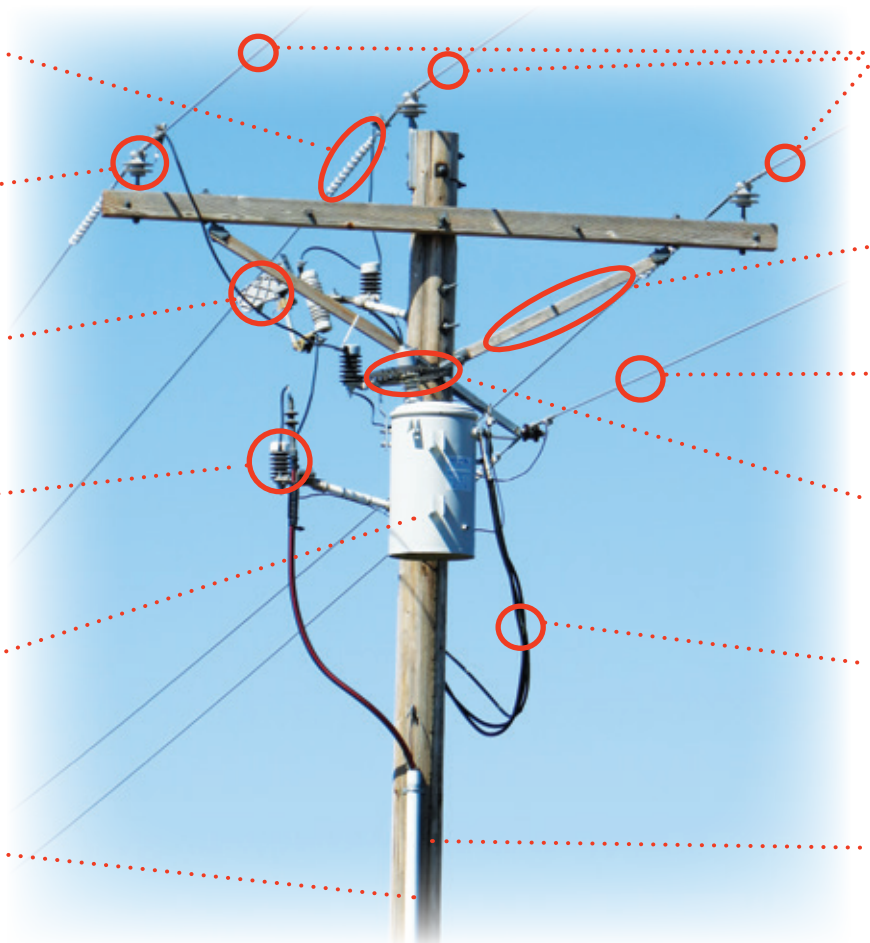
Crossarm brace – holds up the crossarm which holds the wires on multiphase poles.

Neutral wire – below the primary and acts as a ground wire.

Squirrel guards – protects animals and prevents outages.

Secondary wire – carries the lower voltage electricity to the member's meter after it passes through the transformer.

Ground wire – runs the entire length of the pole. It directs any electricity on the pole safely into the earth.

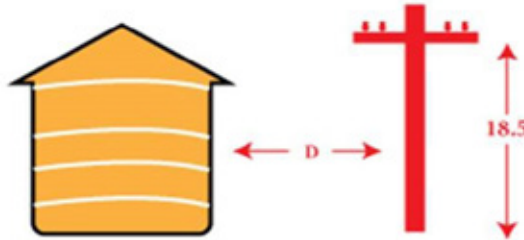


GRAIN BIN SAFETY



DANGER: HIGH VOLTAGE!
FOLLOW FARM SAFETY RULES AROUND POWER LINES

Height of grain storage structure	D=Minimum distance from line to bin wall*
15 ft.	55 ft.
20 ft.	68 ft.
25 ft.	80 ft.
30 ft.	93 ft.
35 ft.	104 ft.
40 ft.	118 ft.
50 ft.	143 ft.
60 ft.	168 ft.
70 ft.	193 ft.
80 ft.	218 ft.



* Based on a typical power line having a vertical clearance of 18.5 feet above the ground and a supply line phase to ground voltage of more than 0V to 22kV; National Electrical Safety Code Rule 232.

ENERGY EFFICIENCY TIP OF THE MONTH

Cooler weather is on the way! Heating requires more energy than any other system in your home, typically making up about 42% of your energy bill. With proper equipment maintenance and upgrades like additional insulation and air sealing, you can save about 30% on your energy bill.

Source: energy.gov

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Electric Vehicles 101

Why should I care about electric vehicles?

- EVs represent the next era of transportation. U.S sales of EVs grew **81%** from 2017 to 2018.
- Ford has proposed an **\$11 billion investment** in 40 EV and hybrid models by 2022. Several automakers are making similar production shifts.
- With the cost of batteries falling fast, analysts say the initial price of EVs will be comparable to combustion-engine vehicles **as soon as 2022**.

What is an electric vehicle?

Electric vehicle (EV) – powered purely with electricity, no backup fuel source

Examples: Tesla Model 3, Chevy Bolt, Nissan Leaf

Plug-in hybrid vehicle (PHEV) – can run on electric power or gas power

Examples: Toyota Prius, Mitsubishi Outlander PHEV, Chevy Volt

What are the benefits?

SAVE MONEY

- At the standard electric rate, most EVs cost **less than half as much to fuel** than gas-powered cars.
 - A 2018 University of Michigan study found EVs cost an average of \$485 annually to operate, compared to \$1,117 for a gas-powered vehicle.
 - With utility incentives like off-peak charging programs, that cost drops even more.
- Many public charging stations can be used for free.

LESS MAINTENANCE

- EVs don't need oil changes, because they don't use oil. They also lack air filters, spark plugs, timing

belts and many other parts that need replacement in a gas car.

SMOOTH AND FUN RIDE

- EV motors are nearly silent and provide smooth (and incredibly fast) acceleration, as there are no shifting gears.
- With a heavy battery creating a low center of gravity, EVs handle curves and turns like a dream.

ENERGY INDEPENDENCE

- Local EV owners charge up with clean, regionally produced electricity.

How do I charge it?

Level 1 – 120 volts

Charging a vehicle at Level 1 means plugging in to a standard 120-volt outlet. Most vehicles can be charged at Level 1, although it takes significantly longer (15-40 hours) than other charging options.

Level 2 – 240 volts

Using 240-volt service, a depleted 60-kWh battery can be fully charged in approximately 6 to 8 hours. Some electric models can completely charge in as little as 30 minutes. This is the most common level for a home charging system and many public charging stations.

Direct Current (DC) – Quick Charging

This option is typically only available for public charging. On average, the DC fast charger can add 40 miles of range for every 10 minutes of charging. These stations are usually found along major transportation corridors and many charge a fee for use (cost varies).



How do I install a charger at home?

Preparing for your electric vehicle is easy. Installing a 240-volt Level 2 home charger is much like installing the wiring for a clothes dryer or other heavy appliance. Most homeowners hire an electrician for this, and it can usually be done in a few hours.

Home chargers usually cost between \$500 and \$1000, but many utilities offer rebates that cover much of that.

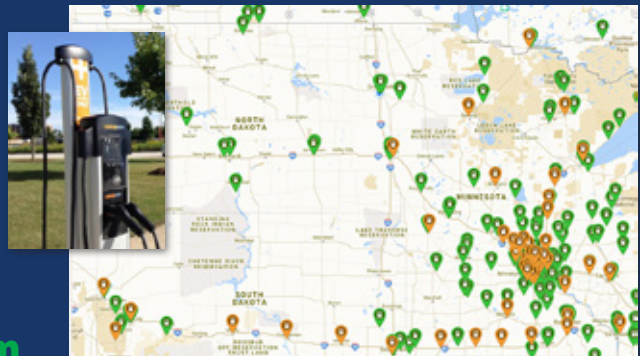
What about winter driving?

All vehicles, electric or otherwise, will experience some level of decreased performance in the winter months. On the coldest days, when drivers are blasting their heaters, EVs may lose up to 40% of their standard charge range. However, that loss can be shortened up to 20% by keeping your vehicle in a warm garage.

Where can I charge on the road?

Public charging options are increasingly available in Minnesota and North Dakota. There are dozens of stations throughout both states, with more popping up all the time. PlugShare.com, a national online charging station locator, is one of many online tools to find charging opportunities between you and your destination.

Learn more at EnergizeYourDrive.com



Tree planting safety

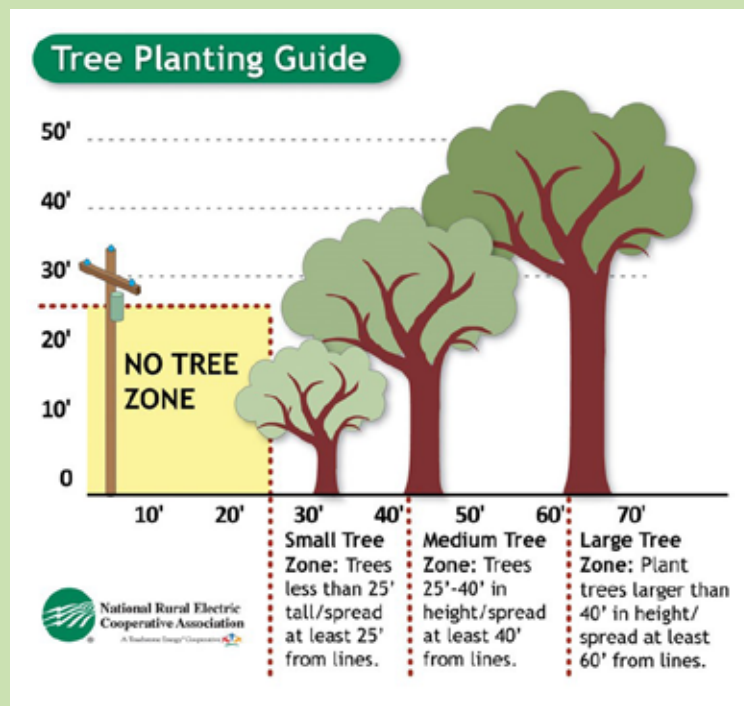
When landscaping property, remember that trees can grow into electric lines and cause power interruptions. The best way to prevent problems is to plant the right tree in the proper location. Before planting, consider the mature size, height and crown characteristics of trees. For example, a 4-foot-tall, 2-foot-wide tree could grow to 60 feet tall and 30 feet across at maturity. Knowing this information before you plant can help you choose the best location for your tree.

Important: Do not allow trees, bushes or plants of any size to grow directly under electric lines. This foliage could interfere with PKM crews performing maintenance or repair.

Planting near pad-mounted transformers

In areas with underground electric service, do not plant shrubs or other foliage around pad-mounted transformers. This foliage will make repair or maintenance work difficult for PKM crews. Dense growth around these transformers can also provide a home for undesirable wildlife and insects.

Ten feet of clearance is needed in front of equipment so crews can safely open it. Some larger pad-mounted switchgear will require 10 feet of clearance in the front and back.



Wise tree choices

Plant trees that will grow up to 25 feet tall at least 10 feet from power lines. Trees up to 40 feet tall should be planted 20 feet from lines. Those over 50 feet tall should be planted 50 feet away.

Board meeting highlights *July and August*

A special meeting of the board was held Wednesday, July 24, 2019.

Tom Woinarowicz, president who presided, asked for roll call. Upon calling the roll, the secretary reported that all directors were present.

The president discussed MREA recent activities, including the school bus replacement grants available in Minnesota. Due to the overwhelming response to the grants offered in 2018, the MPCA has created an additional funding opportunity for school buses.

The CEO provided an update to the directors regarding recent Minnkota Power Cooperative business activities. There will be a board meeting on Thursday, July 25, with a managers' meeting to follow. He will communicate via email if there is pertinent information to share.

Director Aakre relayed to the directors that the Square Butte June report had not been released yet. Square Butte has submitted a federal grant application. The results should be available in approximately three weeks.

Line superintendent Joe Marcotte presented the monthly safety and operations report, indicating no accidents and no lost time. Highlights from his report included MREA safety training on July 9 and completed cable replacements and service improvements. He shared with the directors news of ongoing truck issues, including a bad sensor and a possible fuel issue with hopeful resolution by the end of the week. An update to the pending new service construction in Lancaster was also discussed. Conversations with landowners and the member continue with anticipated construction to begin soon. There were 3,898 connected members reported for the end of June, representing a net gain of 45 from the same period last year.

The manager of member services provided his report via the emailed monthly board packet as he was unable to attend due to his attendance at the Farmers Union meeting in Lancaster.

The CFO reported to the directors on recent activity within the office including report submissions, quarterly tax filings and the utility billing statement redesign process. The PKM Electric website also had a complete redesign and has officially launched online at www.pkmcoop.com. The office employees, including the CEO and CFO, will be holding a meeting to review cross-training and implementing digital procedures manuals. The 2019 load forecast draft has been reviewed with a conference call scheduled to review the final version. She also reported on an in-depth discussion held at the District 1 Finance Managers Meeting regarding the MN Wage Law effective Aug. 1, 2019.

The CFO continued with the presentation of the operating and financial report for the cooperative. June revenue sales were higher than those reported in 2018 and the 2019 budgeted numbers. However, unexpected expenses, lack of additional revenue from aid to construction and higher power costs are represented in the reported June margins.

The CEO referenced his written report outlining recent meetings he has attended and highlighted information received at the CFC Forum in New York City. He also shared with the directors reported financial savings to the cooperative by joining the MN Workers Comp group.

Upon presentation of the reports from the management staff and CEO, questions and comments from the board concerning their reports were addressed.

Second quarter financials were reviewed by the board and found to be an accurate representation of the first half financial transactions.

Both the CEO and CFO discussed with the board hourly wages for non-bargaining wages at this time and presented their recommendation.

The president stated if there were to be changes in voting delegates for associations of which the cooperative has membership, now would be an excellent time to make those. The board caucused and determined the CRC delegate would be Paul Aakre; alternate, Wayne Malm. The remaining delegates for 2019/20 would remain the same.

The CEO referenced the 2018 KRTA Executive Summary included in the board packet. The report is also available in its entirety by request. He noted that the average customers per mile is a big factor when comparing reported cooperative totals.

Subsidiary financial and informational updates were presented by the CEO. Carr's Tree Service will have their next meeting at the REMA CEO conference in September. Karian/Peterson will be holding their executive meeting via phone conference Aug. 6, 2019.

The proposed affirmative action and civil rights development programs policy reviewed by the policy bulletin committee was presented for discussion and adoption. The committee recommended existing policy bulletin 3-6b: Civil Rights Development Program be rescinded with its contents placed into one, cohesive policy 3-6.1: Affirmative Action and Civil Rights Development Programs. The policy objective is to ensure that all procedures and practices of PKM Electric Cooperative, Inc., shall be carried out without regard to the following status items: race; creed; color; national origin; sex; age; disabled veteran or handicap. It is the further purpose of this program to reaffirm that the cooperative is an equal opportunity employer and provider. The board rescinded Policy Bulletin 3-6b Civil Rights Development Program, and approved and adopted the policy contents outlined in the Policy Bulletin 3-6.1: Affirmative Action & Civil Rights Development Program effective July 24, 2019.

The proposed bank accounts policy thoroughly reviewed by the policy bulletin committee was presented for discussion and adoption. The committee recommended rescinding policy bulletin 4-3.8: Bank Accounts – Withdrawal of Funds and placing its contents into policy bulletin 4-2.1: Selection & Approval of Depositories. Once combined, there is a recommendation to change the name of the bulletin to Bank Accounts. The objective of the policy is to establish terms for the selection and approval of depositories and, furthermore, determine standards for the withdrawal of funds. The board rescinded Policy Bulletin 4-3.8: Bank Accounts – Withdrawal of Funds, and approved and adopted the policy contents outlined in the Policy Bulletin 4-2.2: Bank Accounts effective July 24, 2019.

The proposed meetings of the board of directors policy thoroughly reviewed by the policy bulletin committee was presented for discussion and adoption. The committee recommended rescinding policy bulletin 5-2: Board of Directors – Provision of Member Appearances at Meetings and placing its contents into policy bulletin 5-1.4: Board of Directors – Meetings of the Board. The policy details the schedule for the meetings of the board of PKM Electric Cooperative, Inc., as outlined in the bylaws. The policy also affirms the historic unwritten practice of the board in respect to member appearances at its meetings. The board rescinded Policy Bulletin 5-2: Board of Directors – Provision for Member Appearances at Meetings, and approved and adopted the policy contents outlined in the Policy Bulletin 5-1.5: Board of Directors' Meetings effective July 24, 2019.

The policy bulletin committee addressed numerous, minor verbiage changes to existing bulletins. The recommended changes included management title change from general manager to CEO; replacing "He/Him" with gender neutral references "He/She or Him/Her"; and replacing all member references "patron, customer, consumer, member or owner" to "member/owner." Adding applicable phrases and current cost of living factors to existing policies were also items addressed during review.

The committee made the recommendation to the board to

adopt these changes as presented in a blanket resolution. The policies for consideration include: 3-1.3: Employee Advances & Accounts Receivable; 3-2.3: Representation & Attendance at Meetings; 3-3.21: Expenses & Fees for Attendance at Meetings; 3-4.22: Wage Schedule Covering Office Employees; 3-5.1 Sexual Harassment & Workplace Violence; 3-9.1: Employee Participation in Board Nominations & Elections; 3-10: Member Confidentiality; and 5-3: Cooperative Records & Member Access. The board approved and adopted the policy bulletin recommendations outlined by the policy bulletin review committee with the use of a blanket resolution effective July 24, 2019.

A special meeting of the board was held Friday, Aug. 2, 2019, via telephone conference.

Tom Woinarowicz, president who presided, asked for roll call. Upon calling the roll, the secretary reported that all directors were present. The president stated there was no formal agenda and no previous minutes requiring approvals.

The operations manager presented recent information regarding pending construction of a service near Lancaster, Minn. The involved parties have brought forth questions requiring construction to halt. The pending service is inside PKM territory boundaries but is currently being serviced by Otter Tail Power Company. A request was made by the president to pursue discussion with Otter Tail Power Company and seek a signed agreement outlining the terms specific to this service location. The board rescinded their decision to provide electrical service to northwest corner Lot 3 of Section 18, Poppleton Township, Kittson County, Minnesota due to fiduciary responsibilities to the cooperative and the potential member based upon the data received from the member, and this decision is contingent on a signed agreement with Otter Tail Power Company outlining the terms solely applying to the defined service area and that all existing and future service agreements have their own conditions separate to this agreement.

The CEO provided an update to the directors regarding the cooperative subsidiary Karian/Peterson. The business has requested an increase to their CoBank line of credit. There will be an executive phone conference meeting of the full board of governors on Tuesday, Aug. 6, 2019, to discuss financial responsibility of the business owners and ongoing business practices of Karian/Peterson. The board directed the CEO to withhold from signing the written agreement requesting a \$300,000 extension to the Karian/Peterson line of credit provided by CoBank.

A special meeting of the board was held Friday, Aug. 23, 2019.

Tom Woinarowicz, president who presided, asked for roll call. Upon calling the roll, the secretary reported that all directors were present with the exception of Directors Aakre, Beaudry, Folland and Owens.

The president discussed MREA recent activities including confirmation that the budget will move forward with the request for more focus being placed on cooperative governance. There is continued discussion regarding the hiring of an individual responsible for communicating the cooperative way message with the message reinforced on social media platforms. The formula for charging MN cooperatives dues is also being reevaluated.

The CEO provided an update to the directors regarding recent Minnkota Power Cooperative business activities on behalf of Director Folland. Environmental issues and their impact on the monarch butterfly population has been discussed. Highlights also included MPC now offering IT managed services to their owner-cooperatives, Red Lake Tribal right-of-way issues and possible taxation for the

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MPC lines constructed on the Red Lake Reservation. There will be a business planning meeting followed by a board meeting on Aug. 28-29, 2019. He will communicate via email if there is pertinent information to share.

The president shared highlights from Square Butte in the absence of Director Aakre including Stacey Dahl's recap of Project Tundra. There is concern if MN will accept the project's carbon sequestration and if it will apply to MN mandated carbon-free requirements.

Directors Woinarowicz and Hatton shared highlights from their attendance at the MREA Energy Issues Summit and the pre-conference sessions held beforehand. The president attended the Board Chair roundtable and Governance facilitated workshop where CEOs were invited to join for lunch and a half-day governance workshop in the afternoon. Director Hatton completed the NRECA Board Leadership Course 905.1 - Assessing Governance: Taking a Continuous Approach to Governing Your Co-op. Director Aakre and the CEO were also in attendance at the MREA Energy Issues Summit.

Line superintendent Joe Marcotte presented the monthly safety and operations report, indicating no accidents and no lost time. Highlights from his report included MREA crew observations held on Aug. 20, service improvements and a number of new service installs. Unfortunately, truck issues remain in the department. The cable plow has been having electrical issues, but RDO of Grand Forks is currently working to resolve this. There were 3,901 connected members reported for the end of July, representing a net gain of 47 from the same period last year.

The manager of member services updated the directors with recent happenings in his department. He recently attended and spoke at a Farmers Union meeting in Lancaster where lobbyists were also invited to speak. Many questions relating to PKM, including coal power and renewables, were discussed. There is interest in a more active Farmers Union group in Kittson County. Meter changeouts continue and with the cooler weather approaching, members have been utilizing the access to interest free loans provided by PKM for the installation of updated heating systems. In addition to the loans, approximately \$9,550 in rebates have been paid out to our members in the last few months.

The CEO provided the administrative and financial report on behalf of the CFO as she was attending the REMA Financial Managers fall meeting in Duluth. She did send a full written report that was included in the monthly board packet detailing a number of trainings and meetings attended; implementation of the new NISC SUPP package and other NISC modules remain on schedule with a goal of all features fully in place by the first quarter of 2020; the ongoing succession planning and cross-training to ensure smooth, operational business in the office; and the recent conference call to finalize the 2-year load forecast data.

The CEO continued with the presentation of the operating and financial report for the cooperative. He directed the directors' attention to the 3-year historical graphs included in the report and elaborated on the data shown. July revenue sales remain strong with a respectable increase over 2018. However, expenses remain high for the reported period. The staff will continue to examine the expenses in detail and report findings to the directors. Thankfully, the cooperative has experienced relatively low outage time in comparison to 2018, which helps to offset the continued vehicle expenses.

The CEO referenced his written report outlining recent meetings he has attended and provided the directors with an update to continued conversation with the Union regarding the proposed Driver's License Suspension Policy Bulletin. He has also contacted the Pride Group requesting a cost proposal for a Cost of Service Study to be completed after the cooperative 2019 close of books.

Upon presentation of the reports from the management staff and CEO, questions and comments from the board concerning their reports were addressed.

The CEO briefed the directors on the status of the pending service agreement with Otter Tail Power Company and recent conversations with the service owners. He also shared an update from the most recent Karian/Peterson conference call. There will be an additional meeting in two weeks for continued business discussion.

A proposed active shooter policy was presented to the directors for discussion. Miff Soderberg from MN Safety has recommended that all MN cooperatives adopt a version of the policy to outline the necessary steps for protection. The policy committee will review and formulate a draft for consideration at the next board meeting.

Director Hatton requested that the waiting period outlined in Policy Bulletin 3-9.1: Employee Participation in Board Nominations & Elections be reevaluated. Currently, any former employee interested in running for a seat on the PKM board must serve a one (1) year waiting period. This topic was discussed in detail during the BLC course he recently completed during the MREA EIS. It was proposed that the current waiting period be extended to three (3) years. The board approved the 3-year waiting period outlined in Policy Bulletin 3-9.2 effective Aug. 23, 2019.

The policy bulletin review committee presented their recommendations to the directors for discussion. It was suggested

Statistical and financial report

Year-to-date: August 2019

	Last Year	This Year	Budget
Total income	\$ 9,334,073	\$ 9,342,605	\$ 8,844,392
Total expense	\$ 9,316,827	\$ 9,267,114	\$ 8,694,392
Net operating margins	\$ 472,595	\$ 514	\$ 128,645
Total kWh sold	76,958,363	75,419,558	78,298,637
Avg. kWh sold per member	2,505	2,453	
Line loss	4.2%	6.3%	
Del. cost per kWh purchased	8.07¢	8.56¢	
Average sale price per kWh	12.13¢	12.39¢	
Percent kWh sales increase	4.8%	(2.0%)	
Members billed	3,842	3,872	
Miles of line in service	2,267	2,274	

that Policy Bulletin 6-1: Boundaries – Cooperative Area of Operations be rescinded as current operations standards refer to official PUC mapping when considering service construction or member/owner requests and inquiries. The board rescinded Policy Bulletin 6-1: Boundaries – Cooperative Area of Operations.

The committee proposed that Policy Bulletins 12-1.7 and 14.1.5 be rescinded with their policy contents be included in Policy Bulletin 9-1: Line Maintenance, Inspection and Construction to provide accurate and concise information in one cohesive bulletin. The board rescinded Policy Bulletin 12-1.7: Main Service Facilities – Cooperative's Installation Policy and Policy Bulletin 14-1.5: Disconnects – Member Obligation Upon Reconnection at Same Location, and approved and adopted the policy contents outlined in the Policy Bulletin 9-1.1: Line Maintenance, Inspection and Construction effective Aug. 23, 2019.

The committee made the recommendation to the directors to rescind Policy Bulletin 9-7: Environment. The contents outlined in the bulletin are now standard operating practices and any new requirements are implemented as proposed. The board rescinded Policy Bulletin 9-7: Environment.

The directors discussed policy contents pertaining to standard practices and procedures when unpaid electrical balances are determined by management to be uncollectable. There is a recommendation from the review committee to rescind Policy Bulletin 13-1 and place its contents within Policy Bulletin 10-4 to effectively communicate clear, concise procedures for write-offs. The board rescinded Policy Bulletin 13-1: Write-offs – Proper Procedure in Handling, and approved and adopted the policy contents outlined in the Policy Bulletin 10-4.1 Policy Concerning Write-off of Uncollectable Accounts effective Aug. 23, 2019.

At this time, the directors discussed the numerous policy bulletins that outlined procedures for line extensions. The review committee recommended that each individual policy and its contents be combined into one cohesive policy and any future line

extension procedures also be included in this proposed bulletin.

This method promotes clear, concise procedures and can be easily referenced when needed. The board rescinded Policy Bulletin 9-2: Line Extensions – Service to Persons Now Receiving Central Station Service, Policy Bulletin 9-3: Line Extensions – Service to Persons Outside Cooperative Boundaries, Policy Bulletin 9-4.3: Line Extensions – Advance Payment Requirements, Policy Bulletin 9-5.2: Line Extensions – Terms Under Which Temporary Service May Be Furnished, and approved and adopted the policy contents outlined in the Policy Bulletin 9-6.11: Line Extensions effective Aug. 23, 2019.

The policy bulletin committee addressed numerous, minor verbiage changes to existing bulletins. The recommended changes included management title change from general manager to CEO; replacing "He/Him" with gender neutral references "He/She or Him/Her"; and replacing all member references "patron, customer, consumer, member or owner" to "member/owner." Adding applicable phrases, current cost of living factors and updated standard operating practices and procedures to existing policies were also items addressed during review.

The committee made the recommendation to the PKM board to adopt these changes as presented in a blanket resolution. The policies for consideration include: 7-1.4: Disposition of Idle Services; 7-2: Identity Theft Prevention Program; 7-3: Safety, Reliability & Service Quality; 7-4: Neutral to Earth Voltage – Stray Voltage; 8-1.6: Service Charges; 8-2.6: Charge for Installation of Underground Service; 8-3.4: Charge for Relocation of Cooperative Facilities; and, 10-5.1: Cold Weather Rule. The board approved and adopted the policy bulletin recommendations outlined by the policy bulletin review committee with the use of a blanket resolution effective Aug. 23, 2019.

The board entered into executive session at 8:39 a.m. The president returned the meeting to regular order concluding the executive session at 9:00 a.m.

Who says you can't get anything for \$1?

\$1 of electricity gets you:





Ready to respond

MINNKOTA AND ITS MEMBERS PREPARE FOR WINTER DEMAND RESPONSE, ESTIMATE NORMAL CONTROL HOURS

Northerners remember the January 2019 polar vortex unkindly – cars that wouldn't start, wind that hurt the skin and dangerous overnight lows.

Fortunately for Minnkota Power Cooperative's service territory of eastern North Dakota and northwestern Minnesota, including PKM Electric Cooperative, homes and businesses stayed warm as the power stayed on. Energy teams were able to balance overwhelming electricity needs across the region by leveraging the energy market and demand response – a technique that allows a cooperative to temporarily interrupt service to a member's off-peak loads (electric heating, large-capacity water heaters, electric vehicle chargers, etc.) in exchange for a lower electric rate.

"If you have a polar vortex where there's no wind, or the temperatures are so cold that the wind isn't generating, that is going to result in demand response," explained Todd Sailer, Minnkota senior manager of power supply & resource planning. Sailer added that wind generators start to shut down somewhere between 20 and 25 below zero, temperatures that the entire Midwest experienced for multiple days.

"The cold temperatures were over a wider area of the country, which put additional stress on our system. That led to higher electrical needs, which resulted in higher energy costs across the region," Sailer said. "Our demand response program was very helpful in the ability for us to not only manage our costs, but also our consumer electricity needs during widespread emergency weather conditions."

Every winter is different, but the planning team projects this year will bring a normal 200-250 hours of estimated demand response. Minnkota is typically able to cover its demand with its own energy resources. However, there are times during planned generator outages, extreme weather events or low wind supply that Minnkota must buy power.

"When the market prices are high, that's when we initiate demand response. We're doing it to keep costs down," Sailer said.

The demand response system was established to avoid building more generation facilities for peak need that only comes a few times a year. That, in turn, keeps rates low for consumers. By being a part of the off-peak load control program, consumers can also take advantage of an even lower electric rate without any disruption in comfort.

Sailer says those on the off-peak program need to check their backup heating sources to make sure their fuel tanks are full and functioning. Minnkota will run a demand response test in early December, and members should reach out to their power providers with any questions or concerns before extreme weather hits.

"The polar vortex showed that you need to make sure your systems are working properly so that when we end up in those events, everybody is able to get through it safely and without too much inconvenience," Sailer said.