ENERGIZING EDUCATION
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The retired manager at Roseau Electric Cooperative had a saying. Actually, to those who knew Mike Adams, he had quite a few sayings. Mike used to divide the year up in thirds. He’d say, “You have the annual meeting (in the spring), you have the fair (mid-summer), then there’s deer huntin’ (late fall) and the year is over.” Well, Mike, the year is just about over.

I was at the PKM office this morning, which would lead most to say, “Good, that’s what we are paying you for.” However, since last February, I’ve been spending half my time at Cavalier Rural Electric Cooperative in Langdon, N.D., filling in for their manager who retired last January. School superintendents and principals have been doing this for years, but that’s not the thrust of my comment. A few employees came in this morning and commented on the wind of the last few days. I just had to smile because in Langdon wind is more typical than not.

Last time we visited, I told of the great idea your employees Scott Slusar and Jeff Rustad came up with for the bus trips to the power plant. Why not focus on high school students in STEM classes? I mentioned that this had the makings of being a great idea. Well, it was and it is and now we have some pictures.

About the time we were putting together the article, CHS was hosting a safety day that attracted elementary students from Marshall County. PKM is proud of the part we played in both efforts and my appreciation to Scott for his leadership in both. I hope that PKM continues to seek out ways to involve our area’s young people.

The lines crews are still building new services and performing maintenance. Office folk are closing out construction paperwork and putting budgets together and the old manager is driving between Langdon and Warren. I only mention this not to elicit any sympathy, because I get to drive a fairly modern Ford pickup, but to tell you that when you have excellent people in both locations, it’s just a matter of staying awake driving. My appreciation to the Cavalier and PKM boards for coming up with this idea to save each a few bucks.
Hunting is a Minnesota favorite, ranking right up there with the fishing opener. Before you head out to the tree stand, review these hunting safety tips:

- Treat every firearm as if it were loaded.
- Be sure of your target before you pull the trigger. When you look through the sight, look beyond your target. Make sure there isn’t another hunter in your sight or a building or structure, such as an electric facility.
- Never point a firearm at anything you don’t intend to shoot.
- Never shoot at electric power lines or electric facilities such as substations or transformers. Not only is it extremely dangerous, it’s against the law.
- Always carry a firearm so that the muzzle is under control.
- Firearms must always be unloaded when carried into camp or not in use.
- Make sure the barrel and action are clear of obstruction.
- Unattended firearms must be unloaded.
- Never climb a fence or ditch with a firearm. Never climb into a tree stand with a loaded firearm – remove the ammunition first.
- Never shoot at flat, hard surfaces or the surface of water. The bullet can hit the surface and travel parallel to it for a long distance.
- If you see a power line on the ground, don’t touch it! Touching an energized power line could kill you. Notify the local utility of a downed line as soon as possible.
- Always avoid alcohol and drugs while hunting.
Live wire

Looking up, the two line workers see wires carrying thousands of volts of electricity. Looking down, they see 45 feet between their boots and the grass. This is not a job for the faint of heart, but for Minnkota Power Cooperative line workers, it has been a routine part of the summer construction season.

Crews have been working safely and efficiently as they move from pole to pole along the cooperative’s power delivery system installing equipment to reduce the impact of blink outages – those 1-3 second losses of power caused by a lightning strike or other power line contact. Stretching from central North Dakota to northern Minnesota, this 2,100-mile network of 69-kilovolt (kV) lines is the focus of an effort to improve system reliability to cooperatives, including PKM Electric Cooperative. From 2015 to 2018, blink outage mitigation equipment will be installed on about 770 miles of this system, specifically focused on the most vulnerable sections as identified by a comprehensive 2015 study.

“It’s not that the frequency of blink outages has necessarily been increasing in recent years, but rather that member standards for reliability continue to rise,” said Skylar Ertman, civil engineer on the project.

Ertman said studies are under way on some of the completed line sections to determine the effectiveness of the installed equipment.

On the job

While it is possible to de-energize a line to complete the work, there are instances when taking that line out of service would cause a widespread power outage. The alternative? Leave those transmission lines active while the necessary work is performed.

Some call it live-line maintenance. Others refer to it as hot-sticking or barehanding. No matter the name, it’s challenging work that requires specialized training and equipment.

An insulated fiberglass hot stick is used to safely install blink outage mitigation equipment on energized lines.

Minnkota line worker Jordan Klein works to remove an old hanging lightning arrester on an energized 69-kilovolt (kV) line.

Minnkota crews making progress on blink outage projects
“Working the wires live is kind of a fun, interesting job,” said Kelly Hebl, heavy crew foreman on one of the live-line crews. “That way we don’t disrupt service to the co-ops.”

On a typical job, one line worker will ride up in a bucket truck with the necessary tools and equipment, while another line worker will climb the wooden pole. Other crew members stay at ground level to serve as spotters, operating equipment and ensuring the work is being done safely.

“We have guys on the ground making sure everyone is keeping their required clearances from the energized line,” Hebl said.

The line work is completed with insulated fiberglass “hot sticks” with various attachments, including wrenches, clamps and ratchets. To create enough space to safely work on the energized line, line workers use their hot sticks to detach the line from the structure. A bucket truck with an insulated attachment atop the boom lifts the wires above the structure.

Communication is constant on-site. As equipment is removed and lowered to the ground, the line worker on top of the structure yells, “Headache,” to gain the attention of the crew members at ground level. They repeat the call to ensure everyone heard it.

The crew can complete about one pole per hour when the line is live, compared to about 30 minutes when it is taken out of service. Still, the extra time is worth it when de-energizing the line would impact a large number of homes, farms, schools and businesses.

“We always want to keep the substation going and the power on,” Hebl said. “When we’re hot-sticking, we’re able to do that.”

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**The basics of blink outage mitigation**

To help reduce the frequency of blink outages, crews are installing four pieces of equipment:

**A. New post-top insulators**
Polymer post-top insulators are installed to replace the aging porcelain insulators. The post-top insulator is attached to the top phase wire at each structure, helping prevent the undesired flow of electricity to the ground.

**B. Hanging lightning arresters**
Hanging lightning arresters attach to the top phase wire and connect to the structure ground. This device routes a lightning strike around the electrical system and safely sends the current to ground.

**C. Poletop helmet**
A poletop helmet is a plastic cone-shaped device that deters birds and other animals from sitting on the structure, protecting them from the energized line.

**D. Pole wrap**
A pole wrap is a sheet of plastic that attaches around the base of the pole creating a slippery surface that deters wildlife from attempting to climb the pole.
The school year started with a crash course in energy for elementary and high school students in PKM Electric Cooperative’s service area.

In September, PKM hosted an energy tour for about 40 Lancaster, Hallock and Karlstad high schoolers and educated elementary students about the importance of electrical safety at home and on the farm.

The high school students traveled 35 miles northwest of Bismarck, N.D., to tour the BNI coal mine and the Milton R. Young Station, a coal-based power plant operated by Minnkota Power Cooperative. The Young Station provides the majority of the energy needed by PKM and 10 other electric cooperatives in eastern North Dakota and northwestern Minnesota.

Students learned how coal is responsibly mined and the reclamation efforts to restore the land to its original (or better) state after mining has been completed. They then followed the process to the adjacent power plant where coal is used to generate electricity. Students were also educated on the innovative technologies that have been installed at the plant to significantly reduce emissions levels.

The tour included a stop at the Energy & Environmental Research Center at the University of North Dakota to learn more about the cutting-edge energy research being conducted by the organization’s scientists and engineers.

In addition to the educational benefits, the tour also prompted students to start thinking about career opportunities, according to Scott Slusar, PKM Electric line sub foreman, who chaperoned the tour.
“I think it opened a lot of their eyes about the good jobs that are out there in the energy industry,” Slusar said.

The tour was the first of its kind for PKM. The cooperative hopes to make it an annual event with other schools in its service area.

**Progressive Safety Day**

About 125 second and third graders from Warren-Alvarado-Oslo and Stephen-Argyle schools participated in Progressive Agriculture Safety Day on Sept. 19 at CHS in Warren. The program was one of about 400 held across the country and Canada this fall.

Brian Kuhl, director of CHS strategic sourcing, helps organize and coordinate Safety Day events, with help from countless organizations. He said the goal is to create safety ambassadors at an early age.

“It’s all about safety,” Kuhl said. “When you think of our rural communities and farms, you want to get these kids thinking about safety early.”

Eight interactive stations were set up covering topics such as fire safety, first aid, chemical and propane safety, farm safety, drug awareness and electrical safety. Slusar presented to the rotating groups using an energized display to show the dangers of overhead and underground power lines.

Using his insulated safety gear, Slusar used a pickle to show how quickly contact with electricity can cause an injury. He also provided safety tips on what to do should your vehicle or farm equipment come in contact with power lines.

Kuhl said that support from local organizations is crucial to make Safety Day possible. He said electric cooperatives are usually first in line to help out.

“All these groups jump at the opportunity,” Kuhl said. “It’s not only about teaching the safety aspect, but bringing the community together to do it.”
It’s hard to believe winter is right around the corner. Since weather conditions and future wholesale power market prices make the amount of load control hours hard to predict, all of our off-peak members are encouraged to have a reliable, automatic dual heating system in place and ready to use.

To ensure your total comfort this winter, consider the following questions about your backup heating system:

1. Is the system sized to heat your entire home or business?
2. Does it maintain an adequate comfort level?
3. Is it reliable?
4. Is it fully automatic?

Check current fuel prices and be sure to fill your propane or fuel oil tank at the beginning of the season. Also, make sure your tank is large enough to hold an adequate supply. Remember, prices typically rise as demand increases during the heating season.

Our member services department is glad to answer any off-peak questions you may have. A loan program is also available to assist you in replacing your old, inadequate off-peak heating system.
Problems paying your electric bill?

Energy assistance may be available!

If you are receiving a low income or 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.

Northwest Community Action
PO Box 87
Badger, MN 56714-0067
(218) 528-3258 or 800-568-5329
northwestcap.org

Tri-Valley Opportunity Council, Inc.
1407 Erskine Street
Crookston, MN 56716
(218) 281-9080
Toll Free (866) 264-3729

The Hidden Battery
Using Your Electric Water Heater for Heating Storage

How it Works

1. Electric water heater: Controllable, high-efficiency electric water heaters are in homes.

2. During times of high demand: Co-op cuts power to water heaters.

3. When demand drops: Water heaters are turned back on to run during the night and provide warm water for the next day.

Benefits

- Co-ops avoid peak pricing.
- Members use power when it’s cheaper.
- Helps avert need for new power plants.

Water heater storage

Electric water heaters are essentially pre-installed thermal batteries that can be used to manage the storage of heat energy, allowing the co-op to take heavy energy loads off-line during peak periods. This saves energy and money for members.

Contact PKM Electric Cooperative to learn more about load management programs.

ALWAYS CALL 811 BEFORE YOU DIG

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.

Visit www.call811.com for more information.
A regular meeting of the board was held Tuesday, July 25, 2017.

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

The manager of operations presented the monthly safety report, indicating no accidents and no lost time. He mentioned that MREA is holding a safety meeting today on ATV/UTV safety.

He did report that we had a member, who was mowing CRP, run over a three-phase underground junction box one mile from the Strandquist sub. There was extended outage time on that circuit; some of the cables were cut while others remained energized. The cabinet and all repairs were made, and thankfully, no one was injured.

The manager of operations concluded his monthly report detailing activities of the line crews and reporting connected members stood at 3,832, representing a net gain of 27 from the previous year.

Members of the management staff and the manager presented their monthly reports to the board, with all questions from directors being responded to affirmatively.

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

The assistant manager discussed with the board of directors refinancing existing RUS debt; mentioning that because we are a FFB borrower as well, refinancing this debt at a lower interest rate would not affect our ability to borrow from RUS in the future. The board of directors reviewed proposals from CoBank and CFC.

The board determined after full study and consideration that it is in the best interest of applicant and its membership that it prepay all of its outstanding repairs will be taken care of.

The applicant hereby authorizes the release of information from RUS to CFC in connection with the system as it relates to this application.

The manager discussed with the board of directors to two Restatements of the Retirement Security Plan for the cooperative. He mentioned to the board of directors that these Restatements include no improvement to the Plan but are boilerplate restatements of existing plans. The cooperative has two plans because Union and Non-union employees are separated.

The board, understanding the restatements of the R&S Plans to be boilerplate, including no changes to the existing plans, affixed their signatures and approved the restatement.

The manager presented to the board of directors his salary recommendations for the staff consisting of assistant manager, operations manager and marketing/service manager. The manager stated this his salary recommendations are more than $2 less than the median for the state of Minnesota, and in the Minkost system PKM holds down the middle ground. The president added that the recommendations of the staff salaries of the manager clearly come under his authority and he is presenting these as information for the board of directors.

The manager reminded the board of directors of NRECA’s International Program, which leverages contributions for electrifying third world countries with federal development funds. The board authorized management to contribute $500 to the NRECA International Program.

The board of directors took up 216B.164 or is commonly referred to as Local Democracy bill. The manager stated that the cooperative has taken the steps to advise the membership in the cooperative’s newsletter and it is posted prominently on the cooperative’s website. The manager stated no members have expressed interest in discussing the matter. Even so, the board of directors deferred action until the September 2017 board meeting.

The manager referred the board to his letter of retirement, which will be effective Jan. 31, 2018, coinciding with the agreement to Cavalier Rural Electric Cooperative for management services. The manager did not belabor the issue but stated his letter speaks for itself.

The president stated he had the manager and executive assistant work on updating the vision and mission statements for the cooperative to amend PKM Policy Bulletin 1-1. The president referred the directors to Policy Bulletin 1-1 and discussion ensued. The policy revisions were adopted.

Due to scheduling conflicts with the Fall Legislative visit, the next meeting of the board of directors would be a special meeting to be held Sept. 22, 2017, at 7:00 a.m., at the headquarters of the cooperative in Warren, Minn. The president stated that a resolution for that special meeting would be in order. The board resolved to move the meeting date.
Pumpkin Cream Cheese Bars
Bernadine Abel
Strandquist, MN

INGREDIENTS:
• 4 1/2 c. flour
• 3/4 c. sugar (divided)
• 1/2 c. brown sugar (packed)
• 3/4 c. cold butter (cubed)
• 1 c. old fashioned oats
• 1/2 c. pecans (chopped)
• 1 (8 oz.) pkg. cream cheese (softened & cubed)
• 2 tsp. cinnamon
• 1 tsp. all spice

• 1 (15 oz.) can solid pack pumpkin
• 1 tsp. vanilla
• 3 eggs (lightly beaten)

Air-source heat pumps are a very efficient way of cooling and heating your home, providing year-round versatility. Since heating and cooling account for more than half of the energy used by a typical household, those efficiencies can be very positive for the pocketbook, especially when you factor in rebates from your cooperative of up to $900.

Heat pumps work exactly like a central air conditioner in the summer, transferring heat from the inside to the outside. In the winter, a reversing valve allows them to transfer heating from the outside to the inside of the home. They provide all of a home’s summer cooling needs and much of its heating needs down to about 20-30 degrees. After that, a backup heating system like a gas furnace kicks in. Or you can blend a heat pump with a modulating plenum heater on the off-peak rate and get very efficient and competitive heat down to about 5 degrees.

PKM Electric Cooperative’s rebates are designed to pay for a significant portion of the upgrade cost to go from a central air conditioner to a heat pump. Criteria does apply so please call Member Services for details.

Regardless, of whether a heat pump is put on our off-peak rate (with qualified backup) or not, its high efficiency makes a competitive and smart choice for cooling and supplemental heating.

Having the ability to choose fuel sources based on price also makes a heat pump a valuable addition to a gas furnace. Gas prices are typically much more volatile than electric prices.

For information on rebates, off-peak and a loan option for heat pumps, please call Member Services at 218-745-4711.

[Price difference in heating fuels per million Btus of heat]

<table>
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<tr>
<th></th>
<th>Off-Peak Air-Source Heat Pump 9 HSPF 6.5 cents/kWh</th>
<th>Air-Source Heat Pump 9 HSPF 12.1 cents/kWh</th>
<th>Propane 95% Efficient $1.35/Gal.</th>
<th>Natural Gas 95% Efficient $1.28/Therm</th>
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<tr>
<td>Price difference</td>
<td>$7.24*</td>
<td>$13.48*</td>
<td>$15.51</td>
<td>$13.47</td>
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*Note: 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.