

McLeod Cooperative Power NEWS

February 2015

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Official publication of



Plan to attend the 2015 Annual Meeting

The Cooperative's Annual Meeting is planned for Tuesday, April 14, at the Hutchinson Event Center. Doors will open at 8:30 a.m. with entertainment by the Medicine Show Music Company beginning at 8:55 a.m. Members from Districts 4, 5 and 6 who have not voted by mail can register and cast their ballot for director in their district. The business meeting will begin at 10:00 a.m. There will be prize drawings and lunch following the business meeting. Grand prize is a \$300 electric bill credit. Visit the booths to learn more about community solar, load management programs, exede high speed internet, and Heartland Security Services. Mark your calendars for April 14th.



Entertainment by Medicine Show Music Company

Operation Round Up donation applications are being accepted until March 1



Community and civic groups, emergency responders and other 501(c)3 non-profit organizations are welcome to apply to McLeod Cooperative Power's Operation Round Up Trust for donation assistance. The trust is able to donate funds to worthy local projects in McLeod, Renville, Sibley or Carver Counties.

Funding is from the generosity of electric cooperative members who round up their electric bills.

Application forms are available on the Co-op website or by calling the Cooperative at 1-800-494-6272. Applications for funding must be completed and returned to the Cooperative by March 1, 2015.

Experience Washington D.C.



Time for high school juniors and seniors to apply

High school juniors and seniors have until March 2, 2015, to apply for the Cooperative's Washington Youth Tour competition. One local youth will win an all-expense paid trip to Washington D.C. June 13-18, 2015 from the Cooperative.

For over 40 years, electric cooperatives have sponsored the annual Rural Electric Youth Tour by sending their high school students to experience first hand

the essence that is our republic. An information packet is available at www.mcleodcoop.com or call the Co-op at 1-800-494-6272. You will have until March 2, 2015, to submit your application.

Students complete a questionnaire and application to qualify. Please encourage your child or grandchild to apply. They need only attend a high school in or reside in McLeod, Renville, Sibley or western Carver County.

Members adding or altering load management wiring required to call office

MCPA members who are joining a load management program are required to call the Co-op and notify us as soon as your equipment has been installed and wired. The Co-op will come out to make certain the loads are being controlled and the metering has been correctly wired. We want to make sure our members start receiving the proper credit at the lower off-peak rate as soon as their system is installed.

Members are reminded to notify the Co-op on the installation instructions included in each metering package. Failure to do so could result in higher than desirable electric bills, for example, if electric heat was not properly wired and was not being recorded on the off-peak meter. There is no charge to the member for an inspection of their load management wiring by a cooperative employee following an install or change. There

could be a fee charged by the State of Minnesota electrical inspector when he inspects for code compliance, but that is different than the Co-op checking to make sure the metering is wired correctly.

The same responsibility applies to members who are having HVAC or electrical work done at their home. Any alteration of an electrical circuit that is metered on the off-peak rate requires a call to the Co-op. We want to make certain that each member on off-peak receives the full credit for their usage. Changes made to electrical wiring circuits and not reported to the Co-op could alter the accuracy of a member's credit. Billing adjustments are not provided to members when load management circuits are altered, breakers are turned off, or contractors incorrectly wire circuits when the Co-op has not been promptly notified of any changes.

McLEOD COOPERATIVE POWER ASSOCIATION
GLENCOE, MINNESOTA
NOTICE OF ANNUAL MEETING
OF THE MEMBERS

TO THE MEMBERS OF McLEOD COOPERATIVE POWER ASSOCIATION:

You are hereby notified that the Regular Annual Meeting of the Members of the McLeod Cooperative Power Association will be held at Hutchinson Event Center at 1005 Hwy. 15 S., Plaza 15, in the city of Hutchinson, County of McLeod, State of Minnesota, on April 14, 2015, at 10:00 a.m. to take action upon the following matters:

1. The reports of officers, directors and committees.
2. The election of directors of this association for director districts numbers 4, 5 and 6. The polls for the election of directors will be opened at the meeting place at 8:30 a.m. and will be closed at 10:15 a.m. on the date of the meeting, for voting by members who have not returned their ballots by mail.
3. To transact any other business which may properly come before said annual meeting or any adjournment thereof.

Dated at Glencoe, Minnesota this 27th day of January, 2015.



Doug Kirtz, Secretary

March 20 is deadline for nomination by petition

Cooperative members residing in Districts 4, 5, or 6 may petition to have their name added to the slate of candidates for the 2015 director election in their district. To have another name, in addition to the two candidate names selected by the nominating committee, on the ballot, you may file a nomination by petition.

The petition must be signed by 20 or more McLeod Cooperative Power Association electric members residing in your district and it must be submitted to the Cooperative secretary not less than 25 days prior to the Annual Meeting. The last day that a petition can be submitted is March 20, 2015.

The Cooperative secretary shall post at the Cooperative office the names of additional nominations and also persons selected by the nominating committee.

District 4 includes: Boon Lake, Preston Lake, Brookfield, Hector, Osceola, and Kingman Townships in Renville County, and East Lake Lillian Township in Kandiyohi County.

District 5 includes: Lynn, Collins, and Round Grove Townships in McLeod County.

District 6 includes: New Auburn, Green Isle, Arlington, Dryden, Transit, and Alfsborg Townships in Sibley County.

Explanation of election process

This is the time of year that we focus on planning for the Annual Meeting as well as the director election process. I believe it is important for you, our members, to understand how this process works and how you can participate in electing a person to represent your district on the MCPA Board of Directors.

The members of McLeod Cooperative Power have, over the years, adopted a democratic and fair process for electing members to the Board of Directors. This procedure is detailed in the Cooperative's Articles of Incorporation and By-Laws. It provides for two names on the ballot, so a director never runs unopposed. It also affords members the opportunity to play a part in the process by volunteering to serve on the Nominating Committee, possibly running for a board seat, and voting to elect candidates from their district.

The Articles and By-Laws allow for each director to be elected by residents of his or her district. This means candidates are elected by their neighbors, usually members living in their township or surrounding townships. Directors are not elected at-large by all the voters from the whole Co-op. This process has served the Cooperative very well.

Members may volunteer to serve on the Nominating Committee for their district. If three members do not volunteer for the Nominating Committee, then the director from that district must find district members to fill the remaining

seats on the committee. The Nominating Committee has the task of selecting two names to appear on the ballot. It is their job to find two qualified candidates even if no one expresses interest to serve. They may choose the incumbent director if running for re-election, any members who express an interest in serving as a director or other members from the district who agree to be a candidate.

Any person who desires to have their name on the ballot, but who has not been selected by the Nominating Committee, can obtain the signatures of 20 MCPA members in their district and submit it to the Cooperative Secretary at least 25 days prior to the Annual Meeting. This is how a member may apply by Nomination By Petition to be a candidate. So using this method, we sometimes have had three or more candidates competing for one seat in a district election.

Director candidates cannot be close relatives of current directors or employees. This protects anyone from having an unfair advantage. Each candidate must be a member in good standing and possess leadership qualities.

All active members in voting districts are mailed a ballot before the Annual Meeting. Members may cast their ballot by mail, return it to the Co-op in person or bring it to the Annual Meeting. Votes are counted by the Nominating Committee under the supervision of the Co-op's legal counsel.

Board of Directors

District 1
Oria Brinkmeier, **Lester Prairie**

District 2
Joe Griebie, **Brownston**

District 3
Roger Karstens, Vice President
Hutchinson

District 4
Doug Kirtz, Secretary-Treasurer
Hector

District 5
Allan Duesterhoeft, **Hutchinson**

District 6
Lester Ranzau, **Glencoe**

District 7
Randy Hlavka, GRE Representative
Silver Lake

District 8
Keith Peterson, President
Hector

District 9
Gerald Roepke, Asst. Secretary-Treasurer
New Germany

McLeod Cooperative Power News

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General Manager: Carrie L. Buckley

The McLeod Cooperative Power News is the official member publication of McLeod Coop Power Association and focuses on our members, programs and events.

All member story ideas and comments are welcome.
Send to Sue Pawelk at the address shown.

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Monday - Friday
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24-hour outage: 1-800-927-5685
Fax: 320-864-4850

Web site: www.mcleodcoop.com

Gopher State One Call 811 or 1-800-252-1166

December Outage Summary and 2014 Recap

December had very few outages. McLeod Cooperative Power had a total of six outages, affecting 95 consumers. Two of those outages were due to motor vehicles or machinery hitting Co-op facilities, two were material or equipment failures, one was unknown, and one was caused by a squirrel.

MCPA finished the year with an average outage time of 74.4 minutes per consumer. This means that the power was on 99.9999% of the time for our average consumer. The year 2014 came in as the fifth lowest in average outage minutes in the past 30 years.

Most outages affect only one or two members. They are frequently caused by small animals, trees in the line, equipment failure, or motor vehicle/machinery accidents. Larger outages affecting hundreds of members at a time are usually caused by transmission outages, storms, equipment failure to substation equipment, or accidents. Restoration time on weekend and evening outages, when line crews are called out from home, usually take a little longer to get back on than outages when crews are already out working on the project.

Power Line Worker Scholarships Offered



Students accepted into one of Minnesota's three power line technology programs for the 2015-16 school term, may apply for a \$500 scholarship. The Cooperative will award one \$500 scholarship for a local student.

If you are graduating from a high school in McLeod, Renville, Sibley or Carver County or are a resident of one of those four counties, and have been accepted into the line worker program at Minnesota West in Jackson, Minnesota State in Wadena or Rosemount Technical College in Rosemount, you are eligible to apply. Applications and informative career brochures are available by calling the Cooperative at 1-800-494-6272. Applications must be completed and returned by April 17, 2015.

Lower the operating cost on your swimming pool

There are more than 5 million in-ground pools installed across America and over 150,000 new pools are built annually. A key component of these pools is the pool pump, which re-circulates water through a filter to maintain water clarity and hygiene. All swimming pools have at least one recirculation pump, but many have multiple pumps. Many pool owners don't realize how much energy their pool pump may be wasting. Pool pump speeds vary based on the pool's operation. Filtration, for example, only requires half the flow rate of running a pool cleaner. Conventional pool pumps, with only one speed, are set to run at the higher speeds required of the pool cleaner and waste energy during filtration operation by running faster than necessary.

An ENERGY STAR® certified pool pump can run at different speeds and be programmed to match the pool operation with its appropriate pool pump speed. The energy saved is considerable; reducing pump speed by one-half allows the pump to use just one-eighth as much energy. ENERGY STAR certified pool pumps will:

- Save you over a thousand dollars over their lifetime.
- Pay for themselves in less than 2 years
- Run quieter
- Prolong the life of your pool's filtering system. On average, an ENERGY STAR certified pool pump can save you over \$300 per year. In warmer climates where pools are



used year-round, savings can be significantly higher.

Rebates: McLeod Co-op Power members installing an ENERGY STAR-rated variable speed, multi-speed, or variable-flow pump for their residential swimming pool, may apply for a \$200 rebate. The pump must have an Energy Factor greater than or equal to 3.8 for the most efficient speed. The most efficient speed is the speed with the highest Energy Factor for a given pump. Check online at <http://www.energystar.gov> to verify if the pump you plan on purchasing is ENERGY STAR rated.

Variable speed pumps have the ability to adjust automatically via pressure sensors and can also be scheduled through built-in

automation systems to align with pool usage patterns. Many residential pool pumps are oversized or operate on a higher than necessary speed, causing great energy use and cost for the owner of the pool. Work with your pool company to make sure you have the right size pump for the gallon size of your pool and that your pump is not operating on high speed more hours than necessary.

Members putting in a new pool or replacing a pool heater may qualify for a \$400 rebate if installing an air source heat pump (ASHP) pool heater with a coefficient of performance of at least 5.0. Check with the Cooperative before making a purchase to make sure the heater meets minimum standards to receive the rebate. An ASHP heater can save over \$800 per year.

Efficient indoor lighting for your home

Dear Jim: We are remodeling some rooms in our home and need new lighting options. I always used 60- and 100-watt bulbs, but they are difficult to find now. What new types of lights are best to use? - Michael S.

Dear Michael: The standard high-wattage incandescent bulb technology is certainly not illegal, but it does not meet the current energy efficiency standards. Also, the bulb life is very short when compared to newer-technology standards, so the overall cost of using the older bulbs is high.

The wattage of a light bulb refers to how much electricity it consumes, not how much

bulb determine the light quality and color.

CFLs can produce true full-spectrum (simulates natural sunlight) light quality and can be purchased with warm white, cool white and daylight color temperatures.

LEDs are the newest and most efficient light source available and provide an excellent payback. A 12-watt LED produces as much light as a 60-watt incandescent bulb. The LED bulb should also last a minimum of 20,000 hours. Most of them are dimmable, work well at cold temperatures and reach full brightness immediately.



All types and styles of LED bulbs are now available to replace almost any incandescent bulbs.

Photo credit - CREE Lighting

light it produces. The amount of light is measured in units called lumens. A 60-watt incandescent light bulb produces about 800 lumens of light and a 100-watt bulb about 1,600 lumens.

Today, your primary choices of bulb are halogen, CFLs (compact fluorescent lights) and LEDs (light emitting diodes), which I listed in the order of increasing efficiency. For many home applications, LEDs are the best choice even though they cost more initially.

Halogen bulbs are basically incandescent bulbs with halogen gas around the filament to improve efficiency enough to meet efficiency standards. CFLs are much more efficient, using only about 25 percent as much electricity as incandescent bulbs to produce the same amount of light – and they last 10 times longer.

Today's CFLs have improved when compared to the original versions. Instant start models are available, and some are dimmable using a standard dimmer wall switch. The types of phosphor layers on the inside surface of the

LEDs gradually get dimmer over time. When a LED is rated for 20,000 hours, its output will stay above 70 percent of its original brightness for that time.

If you have been using incandescent bulbs, you are probably accustomed to a yellowish light quality. This is called the "color temperature" of a bulb. Incandescent bulbs are in the 2700-degree K range. The whiter "daylight" LEDs and CFLs are in the 4,000- to 5,000-degree K range. Most people grow accustomed to the whiter light and prefer it. The color temperature is listed on the packaging.

CRI (color rendering index) is another quality of the light bulb to consider. A higher CRI makes objects in a room look more like they would look under natural sunlight. A CRI above 80 is considered adequate for homes, but 90 or above makes everything look better and doesn't cost much more.

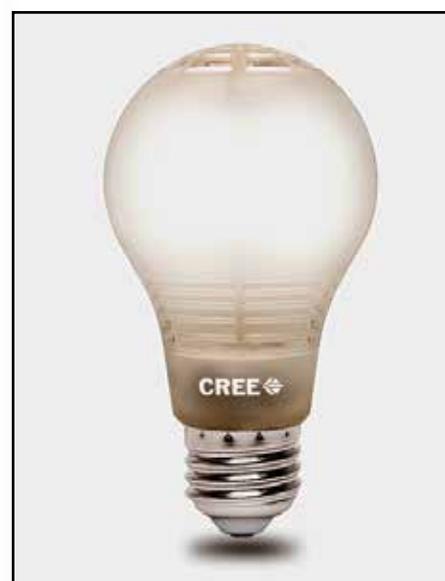
There are four general types of lighting uses - ambient, accent, decorative and task. Ambient lighting is for general illumination

Energy Efficiency & Energy Costs	 Light Emitting Diodes (LEDs)	 Incandescent Light Bulbs	 Compact Fluorescents (CFLs)
Life Span (average)	50,000 hours	1,200 hours	8,000 hours
Watts of electricity used (equivalent to 60 watt bulb). LEDs use less power (watts) per unit of light generated (lumens). LEDs help reduce greenhouse gas emissions from power plants and lower electric bills	6 - 8 watts	60 watts	13-15 watts
Kilo-watts of Electricity used (30 Incandescent Bulbs per year equivalent)	329 KWh/yr.	3285 KWh/yr.	767 KWh/yr.
Annual Operating Cost (30 Incandescent Bulbs per year equivalent)	\$32.85/year	\$328.59/year	\$76.65/year

with comfortable brightness. Accent lighting can create a mood in the room or highlight areas or objects. Decorative lighting is when the light itself is the object, such as a chandelier. Task lighting is for reading or doing a specific activity.

For effective lighting in your new rooms, install several grouped circuits with dimmers to control and vary the lighting schemes. For example, choose high-CRI bulbs over a dining table to enhance the appearance of food. An

overhead high color-temperature bulb above a chair would be good for reading or other tasks.



Dimmable LED bulbs.jpg - New efficient dimmable LED bulbs look similar to old incandescent bulbs. Photo credit - CREE Lighting

For existing rooms, where it may not be easy to rewire or add circuits, switch to LEDs in most fixtures, and install dimmer wall switches. There are many new types of LEDs available to replace almost any incandescent bulb. Unlike incandescent bulbs, LEDs do not

lose efficiency as they are dimmed.

The goal for lighting efficiency is to use as little lighting as needed. Where you do not have a wall switch, such as with a table lamp, install a three-way socket and use a new three-way LED. Add a four-bulb lighting kit to a ceiling fan with a switch to allow you to switch on fewer than all four lights.



New three-way LED bulb provides for several levels of lighting without a dimmer switch.

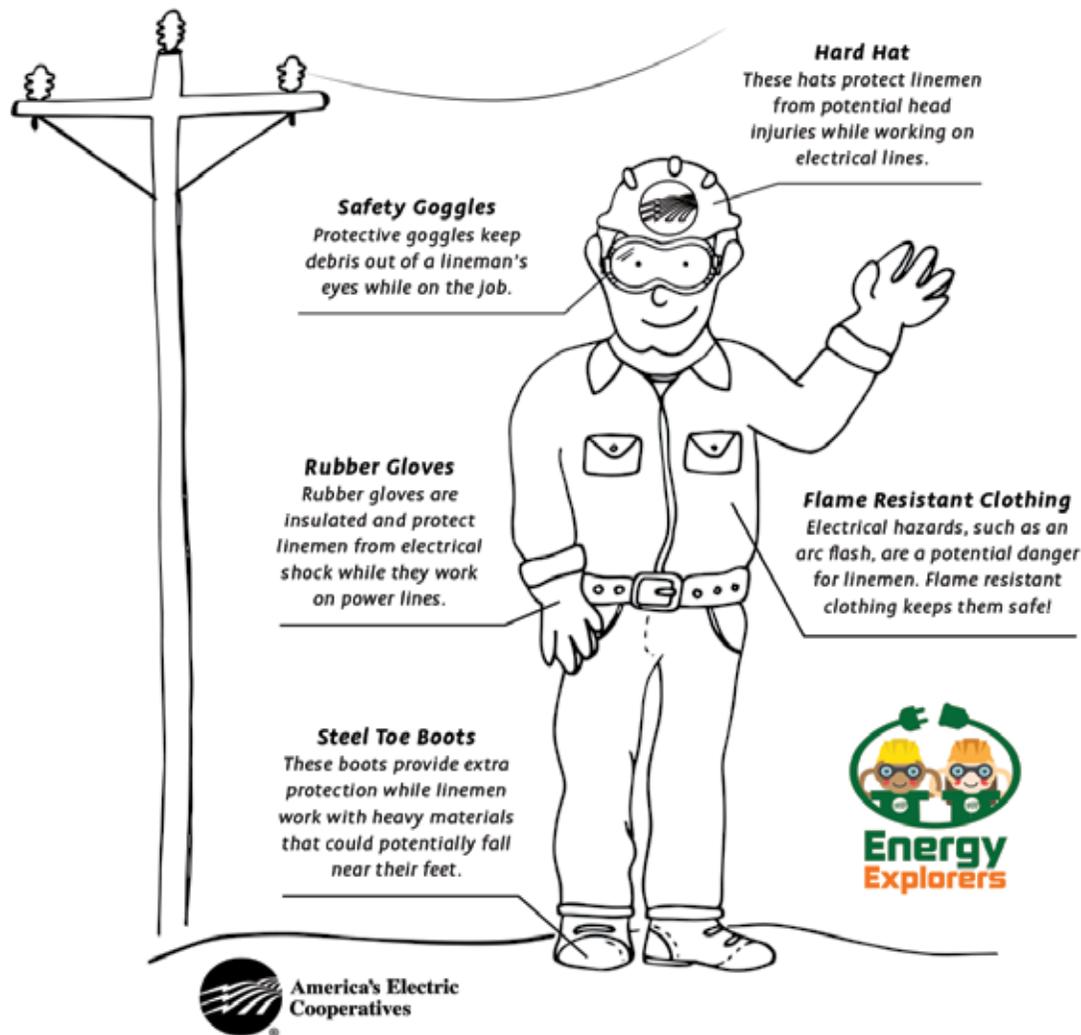
Photo credit - James Dulley

Remember to turn off lights when you leave a room. A rule of thumb for CFLs is to switch them off if you plan to be out of the room for 15 minutes or more. Switching them on and off more often will shorten their life. Contrary to popular belief, with the new electronic ballasts, "switching" does not use a large amount of current each time they're switched on.

Source: COPYRIGHT 2015 JAMES DULLEY

Linemen Gear Up For Safety

Did you know electric co-op linemen wear special safety gear to protect them on the job? Complete this coloring sheet and learn how they stay safe. Remember to always look up and practice safety when playing outdoors near power lines!



Industry News

MISO plans more exhaustive studies on CO2 rule

The second largest US power grid aims by summer to finish projections on how much new transmission and pipeline capacity could be needed because of the Environmental Protection Agency's (EPA) proposed limits on power sector CO2 emissions.

The Midcontinent Independent System Operator (MISO) already has run two studies on potential cost increases and generator retirements that could arise as the 15 states in its balancing area try to comply with CO2 emission targets that could take effect as early as 2020. But those studies focused only on the generation-side of the rule and did not account for the costs of transmission or pipelines. Those studies estimated compliance costs at \$5bn-\$8bn/yr.

MISO limited the scope of those studies so it could finish them ahead of a deadline last month to comment on the proposed rule. EPA does not expect to finalize the rule until this summer, giving the midcontinent grid about six months to run more comprehensive reviews of the rule and build on its previous analyses.

The upcoming studies, like the two studies MISO completed last year, will estimate incremental power production costs and generator retirements that could occur because of the rule. But the new studies will also factor in the cost and time it will take to add pipeline and transmission infrastructure, interactions with neighboring grids and where new generation might be needed.

Those added factors could significantly change MISO's costs and ability to comply with the rule. EPA expects that large amounts of the CO2 emission cuts can be achieved by shifting dispatch from coal generation to gas and renewables. But such a shift could require new transmission and pipeline infrastructure that would take years to build. MISO also expects it will need to upgrade transmission as up to 14GW of coal generation retires because of the rule.

MISO in its next phase of studies has proposed modeling the reliability impacts and economic effects of five scenarios, senior policy studies engineer Jordan Bakke said today at a meeting of the grid's planning advisory committee in Carmel, Indiana.

The first scenario would be business as usual without having to comply with the rule. Two other scenarios will study the effects of MISO trying to comply with the rule using its existing grid and pipelines or converting 25pc of its coal capacity to natural gas. The final two scenarios look at retiring 25pc of coal capacity and replacing it with new gas or a mix of gas and wind.

The state-specific CO2 emission targets could change by the time EPA finalizes the rule, potentially limiting the applicability of the upcoming grid studies. But MISO wants a framework in place for studying the rule so it can quickly run the studies again once the final rule is released this summer, given the need to start planning for implementation.

-Argus Media

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No Worries. Just Hot Water



Rebate for joining Water Storage Program is \$300

While rebate funds last, the Cooperative is providing a \$300 rebate for each member installing the Water Storage Program. Get on board now and start saving more than 50 percent on your water heating costs today by heating water at night on the storage rate.

By installing a Marathon water heater or equivalent high-efficiency water heater with at least 100 gallons of capacity on the storage program, you will receive the rebate plus savings every month of the year on your

water heating. A water heater that is 85 gallons with a mixing valve qualifies as 100-plus gallons of capacity.

Call the Co-op to sign up for the storage water heating program today. Over 1,250 Co-op members participate. They are all saving over six cents per kWh on all of their water heating by charging their water heater from 11 p.m. to 7 a.m. when excess energy is available. The larger tank is needed because the water heater remains off for the 16 hours from 7 a.m. to 11 p.m.

Electrical safety in the schools



Central teacher Mr. Evenski tried on the lineman work gear during the electrical safety program at Norwood Young America, which delighted his students. He was assisted by MCPA line foreman Grant Miller, on left.



McLeod Co-op Power offers electrical safety programs to schools within our area. On January 26, cooperative employees presented an electrical safety program to 75 fourth grade students at Central Schools in Norwood Young America. Electrical safety awareness is an important program that helps keep our young people safe. The program is co-sponsored by Dairy Queen, which provides a treat coupon to students participating in the training.

MCPA News Ads — Free want ad service for members.

Please limit your ad to nine words. Use the coupon printed below or available at McLeod Cooperative's front desk to submit your ad. Ads will be printed for one month only. Please submit a new ad if you want it published more than one month. Include your name and address, which will be used for identification purposes only. Ads must be received by **Feb. 27** to be included in the March issue. Thank you!

Please run this ad in the next MCPA News

Name: _____

Address: _____

Telephone number: _____

Please check ad category

- Giveaway
- For Rent
- For Sale
- Wanted

Remember to limit your ad to nine words!

1 _____ 2 _____ 3 _____

4 _____ 5 _____ 6 _____

7 _____ 8 _____ 9 _____

Clip and Send to: McLeod Cooperative Power, ATTN: Classified Ads
P.O. Box 70, Glencoe, MN 55336

For Sale - Miscellaneous

- 6 X 345 John Deere lawn mower 54 in deck, 733 hrs. \$3,000. 320-579-0267
- 42" John Deere riding snow blower hydraulic w/chains. \$1,200/OBO. 320-327-2472
- 2000 Buick LeSaber, good condition. \$1,500/OBO. 320-327-2472

Cleaning out your garage, attic or spare room? Try listing it for free in the MCPA classifieds?

These want ads are designed to help members buy items from or sell items to other members, or rent their property to members. They are not designed to advertise services or for-profit business pursuits. That is why we do not offer a services column and do not accept advertisements for commercial businesses.

Giveaway

- Free furniture: Couch, love seat, leather chair, sewing machines. 612-232-7700

Wanted

- Copies of "New Auburn Herald" 1904-1910. 320-864-4218
- Back blades for 3pt category 1. 952-955-2469

Disclaimer – McLeod Cooperative Power Association (MCPA) assumes no liability for the content of, or reply to, any item posted. The party posting any advertisement assumes complete liability for the content of, and all replies to, any advertisement and for any claims against MCPA as a result thereof, and agrees to indemnify and hold MCPA harmless from all costs, expenses, liabilities and damages resulting from, or caused by, any advertisement or reply thereto.

What is included in the Monthly Fixed Charge?

The monthly fixed charge is often questioned by our member-owners. Many members see the charge on their bill but still do not understand its meaning, especially since the charge can vary among electric utilities.

The monthly fixed charge recovers a portion of the Cooperative's fixed costs which include the costs to maintain and operate the 1,891 miles of line that serve our member-owners. The fixed costs include poles, wires, transformers, the depreciation expenses and principal and interest payments on the debt that was borrowed to maintain the existing plant and build new plant. It also helps cover taxes, facility expenses (lighting, heating, phones, etc), customer service functions such as line maintenance, right-of-way clearing, billing expenses, monthly newsletter, and general and administrative expenses such as accounting, crew dispatching, information technology, etc. These costs are the same for each of the member-owners in a particular rate class whether that member uses zero kWh or 5,000 kWh each month. The remaining fixed costs that aren't recovered in the monthly service charge, are recovered in the energy charge.

Why is our fixed charge more or less than other utilities?

This can be explained by looking at the density of our service territory. While McLeod Co-op Power serves 3.5 accounts per mile of line, the average cooperative in Minnesota has six accounts per mile of line. Investor-owned utilities average 38 customers per mile of line and municipal utilities average 48 consumers per mile of line. These utilities have more accounts per mile to help share in paying these fixed costs. As you can see by the numbers, McLeod Co-op Power has fewer member-owners to help share in paying these costs and we have a lot of plant (1,891 miles of line) to serve our existing members.

Periodically, the Cooperative conducts a rate study to aid in determining the approximate cost for each rate class and whether the current rate structure distributes the costs fairly. In order to help maintain the financial health of your cooperative, McLeod Co-op Power must recover a portion of the cost of delivering electricity to all members, as well as have the ability to prepare for the Cooperative's future.

Your Cooperative is working to keep your rates affordable and provide you with the service you have learned to trust through efficient use of technology, effective budgeting, training, and work processes.

Steffes Comfort Plus Furnace

The smart heating solution for new home construction, remodeling or retrofits

By taking advantage of McLeod Co-op's Off-Peak Electric Rate you can enjoy lower heating costs and higher comfort.



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Contact the
EXPERTS TODAY to
find out how you can be
comfortable and save money!



Put a Stop to Ice Dams

Ice dams are one of many challenges that homeowners face during the winter months. As the name implies, an ice dam occurs when a thick ridge of ice forms at the edge of the roof, building up along the eaves. This buildup of ice prevents melting snow from draining off the roof as it should. When this occurs, water could leak into the home, causing everything from warped floors, walls and ceilings to soggy attic insulation — the perfect environment for mold and mildew.

How it happens

Ice dams form when heat collects in the attic and warms up portions of the roof, but not the eaves. Snow begins to melt on the warm roof, but then it freezes when it reaches the cold eaves. A dam forms, water backs up behind it, and then it flows under the shingles and into the house. When icicles form along the edges of your roof, it's often the sign of an ice dam problem.

What causes the roof to warm up in certain areas and stay cold in others? The answer is fairly simple: heat leaking from the house into the attic and to the roof. This can take place via conduction, which happens when heat travels through solid; convection, or rising air; and radiation, which is the transfer of heat through electromagnetic waves.

Let's take a closer look:

- **Conduction** — Heat moves through the house by conduction through parts of the ceiling where there may not be adequate space for insulation.
- **Convection** — The attic surface is warmer than the surrounding space. The air near the surface is heated and rises to the roof.



Source: iStock

- **Radiation** — The temperature along the top surface of the insulation is higher than the temperature of the roof sheathing, and that transfers heat outward by radiation.

Heat is transferred via leaks in the attic, through exhaust systems in the kitchen or bathroom, and through wood stoves and fireplaces, to name a few.

What you can do?

If the problem occurs before you've had a chance to take preventive measures, use a roof rake to carefully remove the snow from your roof. Use a proper rake that won't damage your shingles. If water is leaking into your house, create channels in the ice dam that make it possible for water to drain off the roof. Remember, controlling ice dams begins with eliminating heat loss and keeping your entire roof the same temperature. Here's how:

- Increase ventilation in the space between the insulation and the roof sheathing to carry away any heat that leaks through.
- Add insulation to your attic to prevent the conduction and convection of heat through the ceiling.
- Seal any areas where warm air may leak from your living space into the attic, such as a poorly fitting hatchway or pull-down staircase.

Rebate program for 2015

Ground Source Heat Pumps (controlled or uncontrolled)

Residential	\$400/ton
Commercial	\$400/ton

Air Source Heat Pump

14.5 SEER	\$480
15 SEER	\$580
16 SEER or higher	\$630

Ductless Air Source Heat Pump..... \$300

Storage Space Heating

\$40/kW

ECM Motor

\$100

ENERGY STAR Dehumidifier..... \$ 25

Storage Water Heating*

\$300

ENERGY STAR Refrigerator
with recycling of old unit..... \$75

ENERGY STAR Freezer
with recycling of old unit..... \$75

Recycling of old refrigerator or freezer
with documented proof of recycling

\$75

LED Yard Light

\$60

ENERGY STAR Swimming Pool
Variable speed pump

\$200

Air source heat pump

\$400

\$300* Marathon or equivalent energy rated heater that is being installed on the Storage Program.

There is a \$2,000 maximum rebate per member. Rebates are always on a first come, first serve basis so please turn your paperwork in promptly. Rebate forms are available for download from the Co-op's web site. Air source heat pump rebate form should be completed by the installing contractor.

Rebates for high-efficiency heat pumps will continue to require installation by a "registered contractor" which has been designated as a quality installer and is listed on the hvacreducation.net web site. A list of all "registered contractors" in Minnesota is on our Cooperative web site at www.mcleodcoop.com. There will be no rebates on central air conditioners in 2015.



The Cooperative encourages any member replacing their air conditioner to upgrade to an ENERGY STAR rated air source heat pump.

* Rebate forms must be received by Dec. 21, 2015 to be eligible for 2015 rebates.

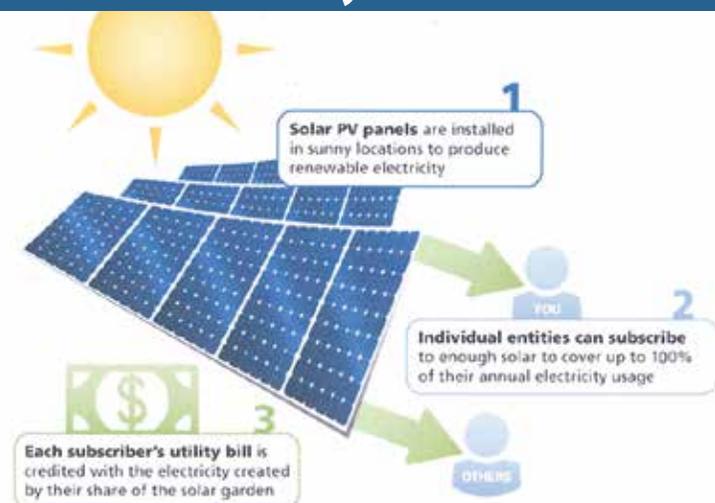
Brand new sites added to 2015 Coal Creek Tour



Members who sign up for the Coal Creek tour will get to visit some new sites never before offered by the Co-op. This year, a drive-by tour of Spiritwood Station, Dakota Spirit Ag Energy ethanol plant, and Cargill Malt plant near Jamestown will hopefully be added to the itinerary. The trip will include tours of Falkirk Coal Mine, Coal Creek Generating Station, Garrison Dam, and the newly redone North Dakota Heritage Center.

Tour dates are Tuesday, July 21 through Thursday, July 23, 2015. Cost is \$250 per person and includes two nights lodging at Hampton Inn, complimentary hotel breakfasts, motor coach transportation, three lunches, and seeing some highly educational energy facilities. Call Katie at 1-800-494-6272 to make your reservation.

MCPA Community Solar FAQs



How large is the MCPA Community Solar Project?

The Cooperative has available 100 solar panels, which is equal to 41 kilowatt (kWdc). Approximately 40% of the subscriptions have been purchased.

How can I participate in MCPA's Community Solar Project?

It's very simple. Complete the Licensed Agreement Form and return it to McLeod Co-op Power with payment. Phone payments are accepted. You can call us at 320-864-3148 or 1-800-494-6272 or stop by the office and we can assist you with your questions and provide you with a copy of the agreement. You must be a member of McLeod Cooperative Power. Agreements are available on the Co-op's website www.mcleodcoop.com.

What is the cost?

To purchase the output from one panel for 20 years is \$1,550. Two panels would be \$3,100. Cash, check or credit card payment is made when subscription is reserved.

Is there a limit on how many I can purchase?

A member may license the output of multiple solar panels, provided, that no agreement may be obtained for a number of solar panels that produce combined output credits that exceeds the most recent 12 month average used

at the location/account at which they are applied. Excess Solar Panel Output credits at calendar year-end will not be refunded, transferred or donated.

How much would my credit be worth each month?

If you purchased the output from one panel, it is estimated to produce an average of 42 kWh per month. At 2014 rates, this would be equivalent to reducing your electric bill about \$5.07 a month. It is assumed that if the cost of electricity continues to increase over the next 20 years, the value of your kWh would increase incrementally as well.

Does the weather and change in seasons affect the solar production?

Both the weather and seasonal changes will affect the amount of sun reaching the panels. During the summer, the panels will produce more energy because the days are longer and the sun is higher. If it's a cloudy day, the panels will produce less. During the winter, there will be less production because of limited hours of sunlight and, at times potential snow coverage.

More questions and answers are available on the Co-op's web site at www.mcleodcoop.com. The license agreement is also available for review or download/printing on the web site. Or call the Co-op and talk with one of our employees.

Shedding light on LED yard light confusion



Last month's announcement of a rebate for installation of an LED yard light prompted a lot of calls and questions from members. We hope the information below clarifies any confusion.

Members with a rental yard light from the Co-op

McLeod Cooperative Power rents yard lights to any member who requests one, provided that the member has an electric pole with a transformer or meter on it. For many years the Co-op has rented mercury vapor and high pressure sodium lights. The Co-op installed a limited number of LED yard lights as a test project. Now the Co-op is starting to transition to LED lights on new light installations.

McLeod Co-op Power is waiting for approval of its next work plan from Rural Utility Services. After it is approved, we will start to change out the types of rental lights that fail most often and have the highest maintenance costs, to the new LED style light. The conversion to all rental yard lights being LED will take several years and will be planned out in the most efficient and cost-effective manner possible. We are sorry, but the Co-op cannot accept requests from members wanting their rental light changed to LED, as it is not cost-effective to remove and throw away a perfectly good light that is working fine.

Rental lights are not eligible for any rebate. They are owned and maintained by the Co-op. This is a very popular program with over 2,000 members renting lights.

Members installing an LED yard light on their own

Any member may purchase a LED yard light and have their electrician install it on their own building or private structure. The light may be purchased from a retail store, on-line store, electrician or other lighting wholesaler. The \$60 rebate offered by the Co-op should help members with underground services, to pay for the purchase and installation of a private light. (Generally, underground services do not have the pole with an overhead transformer or meter needed to power a rental yard light.)

Members can apply for the \$60 rebate from the Co-op for purchasing and installing a 50-100 watt LED light fixture on their property. The light fixture must be either an ENERGY STAR® or Design Lights Consortium (DLC) rated LED yard-light fixture. It must be purchased on or after January 1, 2015. The purchased product must be installed where electricity is supplied by the cooperative.

Rebate submittal must follow the guidelines as outlined by the cooperative. To qualify for the rebate, a 50-100W LED must replace a high pressure sodium, mercury vapor, or metal halide fixture or be a new installation. The cooperative is not responsible for inaccurate information supplied by retailers. Rebates will be issued only for LED fixtures that are ENERGY STAR or DLC rated. To verify ENERGY STAR® certification for lighting, visit www.energystar.gov or call 1-888-STAR-YES. We recommend checking the product package before purchasing to make certain it qualifies for the rebate. Rebate forms and requirements are available on the Co-op's website at www.mcleodcoop.com. MCPA's rebate program is subject to change or cancellation without notice. Call the cooperative to verify rebate program status and availability of rebates.