

McLeod Cooperative Power NEWS

August 2014

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Official publication of



www.mcleodcoop.com

Solar installations coming to Maple Grove, Glencoe and other co-op sites

Construction on a 250-kilowatt solar array at Great River Energy's headquarters building is expected to be completed this summer. As construction is being completed on a solar photovoltaic array with 840 panels at Great River Energy's headquarters site in Maple Grove, Minn., the cooperative has additional projects in the works throughout the state at up to 18 of its distribution co-ops. The project will help Great River Energy and its member cooperatives become more familiar with solar technology.

"These projects are teaching us and our members a lot about how solar performs and what it takes to plan, finance and execute a solar project," said Great River Energy Senior Engineering Project Manager Andy Bergrud. "We are learning a lot about the industry in general with this effort."

The headquarters project will measure the performance of new panel technologies, assess the benefits of a variety of inverters, and document lessons learned while designing,



permitting and installing the solar array. Great River Energy has been utilizing and monitoring several different styles of solar panels at its headquarters building since 2008.

Great River Energy has been working with its member cooperatives to identify potential sites for 20-kilowatt solar installations in their communities. Site identification, material procurement and design will take place in the coming months on as

many as 18 installations. Construction of all the facilities are expected to be in service by fall 2015.

Array to be located at MCPA's pole yard location along Hwy. 212

One of the 20 kW arrays is scheduled for installation at MCPA's property southwest of Glencoe, in the spring of 2015. It will be part of Great River Energy's generation mix, supplying electricity to our members from renewable sources. It will utilize TenKsolar panels made in Minnesota.

Meter reading system scheduled for upgrade

The style of Turtle® meter reading devices which McLeod Cooperative Power Association (MCPA) has been using for a decade to collect monthly meter readings will no longer be made by the manufacturer. Soon we will be unable to get replacement units.

In 2013, the staff at MCPA began looking at alternative meter reading systems that could replace the Turtles. A replacement system was selected in February and soon Cooperative employees will begin installing equipment in substations and on poles throughout the MCPA service area. We hope to begin changing out meters/Turtle devices before the end of the year.

It may take most of 2015 or longer to get all of the devices replaced with new meters and meter reading equipment.

MCPA does not expect any problems in gathering meter readings from members during the transition. The Turtle devices in use have been reliable and we have sufficient replacement units available should we have any Turtles that quit working between now and when all members will have their new meter reading device in 2015 or 2016.

The new system will also help to identify the location of outages. This will allow our crews to respond faster when the power goes out.



SOLAR
WISE

Analyzing the Energy Use in Your Home

Where is the most energy being used in my home?

What does it cost me to operate each appliance?

What can I do to reduce my bill?

These are the most common questions asked by members when their electric bill is higher than they expect. These are also the questions that get answered when the Cooperative helps a member analyze the energy use in their home.

The most common cause of a high bill is that one or more appliances are using more energy than the homeowner realizes.

- An appliance is left on without the owner realizing it, such as a strip of electric baseboard left on in a guest room. That could add \$40-\$50 a month to the electric bill.
- Someone switches the furnace fan from AUTO to ON and without anyone realizing it, just increased the electric bill by up to \$70 a month. If it was left in the AUTO mode it would only use \$12-\$24 a month during the heating or cooling season and zero when there is no heating or cooling being used.
- Occasionally, there may be a malfunctioning appliance, such as a septic system lift pump with a stuck float that keeps running 24 hours a day. That can add \$30-\$50 a month to the electric bill.
- A sudden increase of \$50-\$100 a month is sometimes the result of mechanical problems with a well pump pressure switch, a well pipe leaking underground, or a water-logged pressure tank.
- Use of a dehumidifier in a wet basement will add \$9-\$20 a month, depending upon the age and efficiency of the dehumidifier model.
- In summer, bills most commonly go up from use of air conditioning, dehumidifiers, and furnace fans. If you have a swimming pool or hot tub, electric use can increase significantly due to circulating pumps and inline heaters.
- In winter, heating bills climb due to electric space heaters, heat tapes, tank heaters, heated dog dishes and pads, heat lamps, etc.
- Do you have multiple freezers or refrigerators? If you have several refrigerators or freezers plugged in your bill will be much higher than the average consumer.
- The extra refrigerator in the garage may be costing you more than you think. Refrigerators are designed to be operated within a certain room temperature range. They are not designed to operate in very cold or very hot and humid environments. In winter, it is hard on the refrigerator because it may be too cold for the thermostat and refrigerant to operate properly. In summer, the high heat and humidity in an uninsulated garage can cause a refrigerator to run overtime to keep food or beverages cold.
- The largest sector of appliance use that has been on the increase is electronic devices plugged in at every house. Multiple computers, TVs, DVRs, set-top cable/satellite boxes, video game systems, charging stations for ipads, cell phones, MP3 players, and a host of other devices. Walk through your house on a given evening and count the number of outlets in use for these devices. You may be surprised!

Just how much do my appliances cost me to operate?

	kWh/month	Est. \$/month
Clothes washer, 4 loads/week.....	10	\$1.17
Clothes washer, 10 loads/week.....	24	2.82
Electric clothes dryer, 4 loads/week	40	4.70
Electric clothes dryer, 10 loads/week.....	100	11.74
FREEZERS: (16.7 cu ft. size)		
Chest freezer (any age).....	34	3.99
Upright manual defrost freezer purchased before 1990	133	15.61
ENERGY STAR upright freezer	53	6.22
Frost-free upright freezer purchased before 1990	250	29.35
REFRIGERATORS:		
Top freezer — purchased before 1990	142	16.67
Top freezer — purchased 1990-2000.....	86	10.10
Top freezer — purchased after 2000.....	45	5.28
ENERGY STAR top freezer	34	3.99
Side-by-side — purchased before 1990	183	21.48
Side-by-side — purchased 1990-2000	114	13.38
Side-by-side — purchased after 2000	58	6.81
ENERGY STAR side-by-side.....	44	5.17
Bottom freezer — purchased before 1990	157	18.43
Bottom freezer — purchased 1990-2000	95	11.15
Bottom freezer — purchased after 2000	50	5.87
ENERGY STAR bottom freezer	38	4.46
KITCHEN:		
Dishwasher	30	3.52
ENERGY STAR Dishwasher.....	26	3.05
Oven, 9 kW/ hour used, 30 min/day avg.....	135	15.85
Range top, 3 kW/ hour used/burner, 30 min/day avg.....	45	5.28
Microwave oven, 30 min/day avg.....	17	2.00
Toaster oven	4	.47
Coffee maker, One pot/day.....	10	1.17
Crock pot cooker, One kWh/2.5 hrs of use	16	1.88
Toaster	4	.47
TELEVISIONS & ELECTRONICS:		
Less than 40" Analog.....	15	1.76
Larger than 40" Analog.....	26	3.05
Less than 40" Digital HD.....	25	2.94
Larger than 40" Digital HD, LCD.....	12-98	1.41-11.50
42" Plasma Flat Screen.....	17-233	2.00-27.35

(TVs less than 40" are estimated on 3 hours/day and TVs larger than 40" are estimated on 5 hours/day.)

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McLeod Cooperative Power News

USPS 2220
Periodicals Postage Paid at Hutchinson, MN
POSTMASTER: Send address changes to
McLeod Cooperative Power News
P O Box 70, Glencoe, MN 55336-0070

The **McLeod Cooperative Power News** is published monthly for \$4.80 per year for members and \$8 per year for non-members by McLeod Cooperative Power Association
1231 Ford Ave. North, Glencoe, MN 55336-0070

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

	kWh/month	Est. \$/month
DVD Player/VCR	7	.82
DVR	23	2.70
Set Top Cable Box	15	1.76
Video Game System (left on when not in use).....	8-130	.94-15.26
Video Game System (turned off when not in use)	3-13	.35-1.53
Standby power (electricity used by items turned off)	42	4.93
Cellular Phone	1-3	.12-.35
Desktop PC	20	2.34
Laptop PC.....	6	.70
Stereo System	10	1.17
Printer	14	1.64

Miscellaneous Household

Standard Electric Water Heater — Family of 4	500	58.70
Standard Electric Water Heater — Family of 2	250	29.34
Off Peak Storage Water Heater — Family of 4 (\$0.05/kWh)	500	25.00
Off Peak Storage Water Heater — Family of 2 (\$0.05/kWh)	250	12.50
Dehumidifier	81-170	9.51-19.96
Furnace Fan (Automatic).....	100-200	11.74-23.48
Furnace Fan (Constant)	250-500	29.34-58.70
Ceiling Fan	7-30	.82-3.52

	kWh/month	Est. \$/month
Air Handler/Heat Exchanger.....	62	7.28
Portable Heater (1,500 Watts)	280-1080	32.87-126.79
Water Bed Heater	100-200	11.74-23.18
Hair Dryer.....	3	.35
Portable Spa/Hot Tub.....	200-500	23.48-58.70
Pool Pump (1 hp)	66-540	7.74-63.37
Well Pump.....	7-108	.82-12.68
Heat Tape.....	130	15.26
Engine Block Heater (With Timer)	62	7.28
Engine Block Heater (Without Timer plugged in overnight).....	450	52.83

Lighting

9-Watt LED Lamp.....	1	.12
18-Watt Compact Fluorescent Lamp.....	2	.23
60-Watt Incandescent Lamp	7	.82
100-Watt Incandescent Lamp	12	1.40
300-Watt Halogen Torchiere Lamp	37	4.34

(Lighting figures based on 4 hours of use per day.)

These figures are based on the average use of an appliance in good working condition and are based on national averages and independent research. Actual use will vary based on the number of hours used, and the age and condition of equipment. Cost calculation is based on 2013 average MCPA energy rate of \$0.1174/kWh.

Have appliances gotten more efficient?

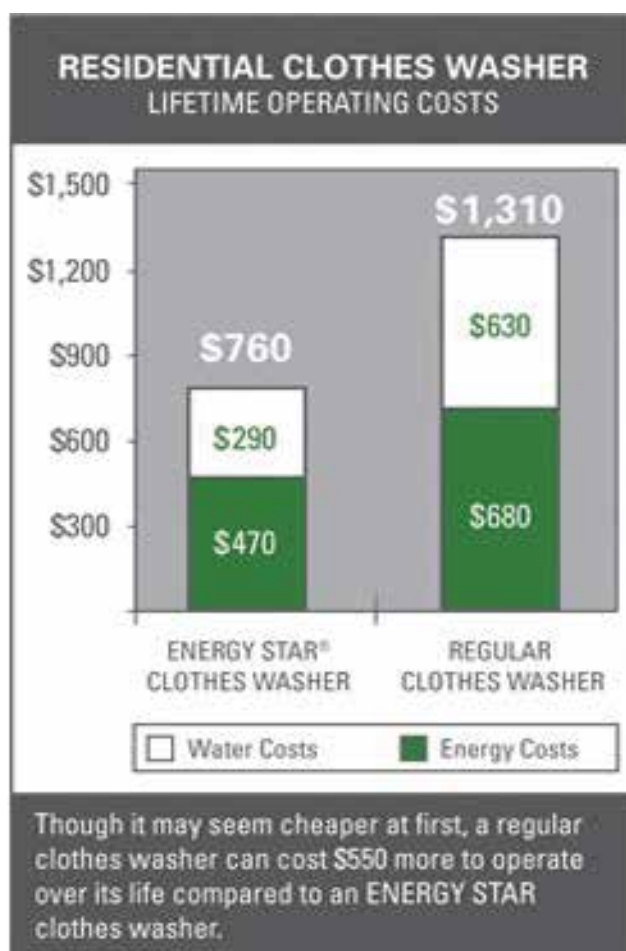
Of all the appliance improvements over the past 25 years, the front loading washer has been one of the biggest energy savers for consumers. Replacing an old top loader with an ENERGY STAR certified front loading machine saves energy not only in washing the clothes; it also reduces significantly the amount of water used, which in turn reduces the run time of your well pump, the frequency your water softener needs to cycle, the operation of your septic tank pump (if you have one), and the heating of water by your water heater. The front loader also uses less detergent and spins clothes much drier, so the drying time is reduced. The energy savings associated with an ENERGY STAR front loading washer goes far beyond the washing machine energy use.

Refrigerators and freezers have been improved. Electricity use in new ENERGY

STAR models is a fraction of what an older 1990 model would use. Manufacturers have made wonderful strides in making more efficient refrigerators and freezers.

Air conditioners and air source heat pumps have also improved in efficiency over the years. Government standards now require much higher Seasonal Energy Efficiency Ratio (SEER) ratings on new units than even 10 years ago. The minimum efficiency that can be manufactured today is 13 SEER, where less than ten years ago 10 SEER units could be manufactured and people were still using 8 SEER units.

Lighting: The transition from incandescent to CFL to LED bulbs has made home lighting more efficient. Using LED bulbs today can reduce your energy use and your electric bill.



Determining your electricity use

Your home is unique. Factors that affect your energy use range from the number of people in your family, to the type of heating and cooling you use, to how often you entertain guests.

Other factors can affect energy costs as well. Was it colder or hotter than normal? Did you finally buy that new stereo system you've been saving up for?

The chart below estimates what most people buy with their energy dollar.

▶ WATER HEATING

Your water use habits affect more than your water bill. Homes use an immense amount of energy to heat water for laundry, showers, dishes and cooking. Small fixes like low-flow shower heads and faucet aerators can make a difference on your bill.

▶ HEATING AND COOLING

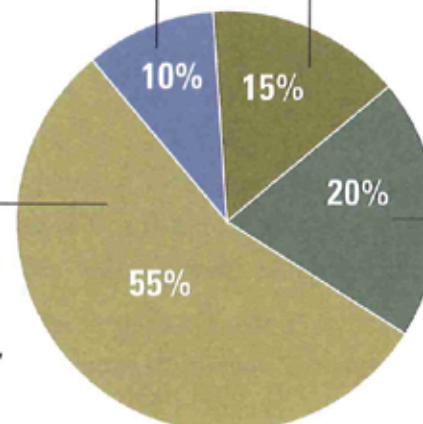
More than half of your home energy use is dedicated to heating and cooling. However, several factors can affect how much energy you need to keep your home comfortable, including the efficiency of your heating or air conditioning unit, your home's insulation, and even its sun exposure.

▶ APPLIANCES

Appliances can save you a lot of time and work, but they can hurt on your energy bills. The number of electric appliances you have, how efficient they are and how frequently you use them affects your energy expenses.

▶ LIGHTING

The average household has more than 40 light sockets. Depending on what type of light bulbs you use – compact fluorescent lamps (CFLs) or traditional bulbs – and your habits – whether you shut off unnecessary lights – you may be able to easily save energy on lighting.



Source: Minnesota Department of Commerce Office of Energy Security

The Chrasts feel more secure with dual fuel

Gene and Grace Chrast of rural Dassel remember last winter and they never want to experience anything like it again.

“I remember talking with a lady at church about the high propane prices,” Grace said. “I told her that we had just paid over \$4 a gallon the last time we filled, and she informed me that propane was already selling for more than \$6 a gallon! So we went home, turned down all the thermostats, put on sweat shirts and sweat pants and used space heaters to try to keep warm.”

“We froze our tooshies!” Gene said. “Our electrician son-in-law told us how much energy those space heaters use. And it’s true. If you look at your meter before you turn one on, and then look at it after.”

The Chrasts suspected that even if the propane price went down this winter, it would never be as low as it had been, and could go higher at a moment’s notice.

“You keep hearing about embargoes and more international competition for our propane,” Grace said. “You know if we export more, that will mean less propane and higher prices for us.”

The Chrasts knew something had to be done. Their furnace was 14 years old already and they had no intention of waiting to see how high propane prices would get.

“It cost us \$1,400 to fill our tank this past winter,” Gene said. “We usually fill about three times per year. That’s our vacation spent on propane.”

They didn’t know much about heating systems, so they attended seminars and talked to the Co-op and area contractors.

“You need to get out and ask questions,” Gene said. “Ask the people who know what’s what.”

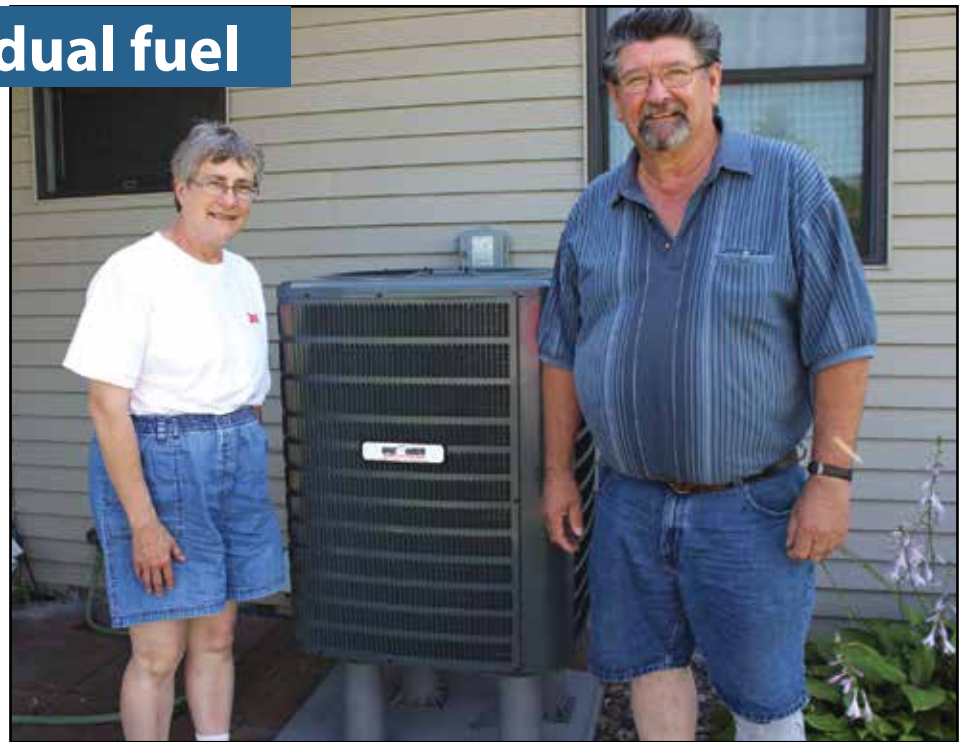
After looking at the options and having discussions with Co-op personnel, contractors and their son-in-law, they decided to go dual fuel with a new propane furnace, a plenum heater and an air source heat pump.

If a member already has a propane furnace, simply adding a plenum heater qualifies the system as a dual fuel system and gets the low electric rate. The Chrasts took it one step further to lower their heating costs even more by adding a super-efficient air source heat pump.

At about 200% efficiency, an air source heat pump doesn’t create heat. Instead, it pulls heat from the outside air and transfers it into the home. When the outside temperatures dip below about 20 degrees, there may not be enough heat in the air to adequately warm the home. That’s when the plenum heater kicks in with supplemental electric heat at about 100% efficiency. In contrast, a propane furnace operates at about 90% efficiency, costing more to run for the same amount of heat.

In the summer, an air source heat pump does double duty as a central air conditioner, pulling the heat from the home and taking it outside; no need for a separate central air unit. Plus, at 200% efficiency, you’re getting twice the benefit for the money you put in. Members who utilize dual fuel claim to get a pay-back in 5-7 years.

“We used to suffer in the summer,” Gene said. “Now we stay nice and cool, even on the cycled air program. We never really notice when the



Co-op cycles our air conditioning on and off during peaks.”

“To us, it’s an investment,” Gene said. “It costs money to save money. The rebates we received and energy tax credits helped a lot with the costs.”

The Chrasts are on the dual fuel program, which means during times of peak energy use, the Co-op will control the primary electric heat and the back-up propane furnace will kick in automatically to heat the home for a few hours until the peak is over. In exchange for allowing the Co-op to control (which saves substantial amounts of money in energy costs for the Co-op), dual fuel members receive the low dual fuel electric rate.

Members regularly claim to save hundreds of dollars each year with dual fuel. The amount of propane use on a dual fuel system is relatively low and some members are able to go multiple years on one tank of propane, depending on weather and how many other gas appliances they use in the home.

The Chrasts began using their new heating system in March. Their

energy usage on their load control meter (which reads only their heat) for the months of March, April and May was \$110 total. Since these months are “shoulder months” and not exceptionally cold, they were able to use their air source heat pump exclusively and their plenum heater didn’t have to kick in.

“We’re very comfortable now with nice, even heat and air conditioning,” Gene said. “And we’ve increased the saleability of our home. Who wouldn’t want a home with an energy-efficient heating and cooling system?”

A dual fuel system also gives the Chrasts peace of mind. Having both an electric heating system and a propane heating system, they can take advantage of whichever system is cheapest, should propane prices fall dramatically.

“We feel much more secure now going into this next winter,” Grace said.

“And we can afford to go on vacation.” Gene said.



**Know what's below.
Call before you dig.**

The Gopher State One Call system is designed to notify utilities which might have underground facilities in the area that digging is planned. The utilities mark any lines they have in the immediate area. It is the homeowner’s responsibility to locate or hire someone to locate their own personal underground facilities such as underground electric wires between the meter and the house, or between the meter/house and other buildings. You should hire a licensed electrician or cable locating company to mark your personal lines. A list of private locators is available on the www.gopherstateonecall.org site.

ELECTRICITY WORD SEARCH

Can you find all of the words associated with electricity? Use the word box below for help, and circle each word when you find it!



- | | | | |
|-------------|--------|--------|-------------|
| Appliances | Energy | Outlet | Substation |
| Circuit | Fire | Pole | Transformer |
| Cord | Fuse | Power | Utility |
| Danger | Light | Shock | Voltage |
| Electrician | Meter | Switch | Watts |
| | | | Wire |

S U B S T A T I O N S E J F
 N A I C I R T C E L E N F U
 A U S T K G L E R I F E U T
 S C I R C U I T E G S R S O
 W R E W O P N R T H W G E U
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 E U R T H R E G N A D T K O
 A P P L I A N C E S T U O R

Industry News

Covanta & GRE join group to accelerate commercialization of Electro-dynamic Combustion Control™ technology

ClearSign Combustion Corporation, an emerging leader in combustion and emissions control technology for industrial, commercial and utility markets, today announced the formation of a Solid Fuel Working Group. According to the company, this group of key industry stakeholders has a shared interest in the clean, efficient use of solid fuels and in the potential for ClearSign's technology to address some of their most challenging operating and environmental challenges. The group was formed to help guide and support product development efforts and to help accelerate the commercialization of the company's Electrodynamic Combustion Control(TM) (ECC(TM)) technology, and member companies have already provided great insight into key challenges and opportunities.

The founding members of ClearSign's working group are Covanta, a world leader in sustainable waste management and renewable energy and Great River Energy, a regional energy cooperative based in Minnesota that provides energy from a range of sources including both coal and biomass-based waste to energy systems. Several other US companies have committed to join and support the working group and ClearSign has recently extended an invitation to several international companies as well.

Working group member companies have pledged a combination of development funding and in-kind support as well as access to candidate sites for testing and eventual commercial deployment of ClearSign's ECC technology.

ClearSign's goal is to employ its proprietary techniques for applying high-voltage electrostatic charges to flames to deliver retrofit solutions and new designs that it believes may substantially improve both the environmental performance and operating economics of industrial and utility scale combustion systems that use solid fuels as their primary feedstock. The company will target improvements in thermal performance, energy efficiency and process throughput along with reductions in criteria pollutants including particulate matter and PM2.5, carbon monoxide (CO) and NOx, and has already seen very promising results in several areas.

~Press release

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June Outage Summary

During the month of June the Cooperative had a total of 88 outages affecting 702 consumers. Twenty-eight outages were caused by lightning and 25 were caused by tree branches hanging over or getting into lines.

The largest outage for June was Thursday, June 19, about 11:27 a.m. South of Hutchinson where 140 members were without power for one hour and 17 minutes due to a tree in the line. The second largest outage was Friday, June 13, about 6:45 p.m. when

machinery or a motor vehicle caused an outage for 84 members northeast of Hutchinson. Consumers were out for one hour and 20 minutes.

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.

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 **August 29** to be included in the Sept. 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

- 40 gallon fish tank w/stand. All accessories included. 320-583-2588
- 1973 Holiday camper, air conditioning, furnace, stove, bath. \$800. 320-327-2781
- Five station metal swing set \$40. 952-657-2472
- 2008 Pontiac Grand-Prix 3.8-V6, 4 door, 120,000 miles. Excellent condition. \$8,150. 320-587-7942
- Organ/piano bench good condition. \$45. 507-964-5574

- 1998 Chevrolet S-10 pickup. Good Runner. \$1,400. 320-510-0404
- 16ft boat, 65hp motor, trolling motor and trailer. \$1,525. 320-587-7746
- Fold up Frederick-Willus 8ft pool table, includes wood cover. 507-647-2395
- New Razor scooter/helmet. Prize won never used. 507-647-2395
- 1993 Chevy Suburban, clean, 5.7L V8, 180,000 miles 4WD. \$2,000. 320-587-9274
- 2 - 4' X 12' panels of corrugated fiberglass. 320-510-0983

For Sale - Farm

- 1998 37ft Mallard camper, 1 slide, ac, sleeps 10. \$8,700/OBO. 320-864-5980/leave msg
- 656 gas Hydro wide front tractor. 320-587-7671
- 60FT 800 gallon sprayer w/Ravan controller. \$3,500 OBO. 320-522-2167
- Ford 900, power steering, 3pt hydraulics, great shape & runner. 612-803-4475

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.

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.

Increase your water heater's efficiency

In addition to cutting the demand for hot water, there are many things you can do to improve the efficiency of your existing water heating system. Some of these upgrades cost just a few dollars and will take you only a few minutes to complete — while others require a larger investment and installation by a professional technician — but all will pay for themselves through reduced utility bills during the normal lifespan of a water heater.

Insulate the hot water pipes

A great deal of energy and water is wasted — literally going down the drain — while you wait for hot water to reach the sink or shower. Insulating your hot water pipes will help reduce heat losses as the hot water flows to your faucet or showerhead, and it will help minimize standby losses when the tap is turned on more than once an hour. Even with insulated pipes, the water eventually will cool — but the water will stay warmer longer than it would if the pipes were not insulated.

Your hot water system is a good candidate for pipe insulation if:

- You use water frequently throughout the day; e.g., everyone in your home takes a shower in the morning, one right after the other.
- The water pipe runs in your home are long.
- The pipes pass through an uninsulated crawl space or basement.

These types of water pipe insulation are available:

- Fiberglass batts. These thin batts come on a roll, and wrap the pipe, securing the batt in place with tape as you go.
- Foam or fiberglass tape. Both types come on a roll, and they're self-adhesive so they'll stick in place as you wrap the pipes.
- Foam or synthetic rubber tubes. Commonly sold in six-foot lengths, these tubes are split lengthwise so all you do is slip them over the pipes and secure them.



Before you go shopping, measure the length and diameter of the water pipes you want to insulate. You may need a couple of sizes if you're planning to insulate both the main hot water supply line (often 3/4-inch pipe) and the branch lines (1/2 inch) to individual fixtures and appliances.

Vacuum the dust and debris off the pipes before you begin installation; wear safety glasses to keep any remaining debris that gets knocked loose from falling in your eyes; for fiberglass insulations, wear gloves and a dust mask too. Insulate the first six feet of both the hot and cold water pipes, starting where the pipes go into the water heater. Also insulate the hot water pipe runs that go to frequently used fixtures or appliances.

Add a load controller to an electric water heater

Contact the Co-op to learn about the Storage Water Heater Program. The Co-op will provide equipment that will automatically control your water heater during the daytime hours and heat your water for 8 hours overnight. By having a larger storage water heater, you are able to store all the hot water you will need during the day. The savings to the consumer is significant since water is heated for less than half the regular electric rate. An average family of four will save about \$35 a month. That is over \$400 a year that you can spend on something else.

Follow these steps to use less hot water

Saving water and reducing water-heating costs go hand-in-hand. In fact, for most households it's possible to cut the amount of energy used to heat water by 25 percent to 50 percent just by implementing a few water-saving steps and increasing the hot-water system's overall efficiency.

Bathroom

- Close the drain before you turn on the water to fill the bathtub.
- Don't let the water run down the drain until it gets hot. Instead, close the drain and adjust the water temperature as the water level in the tub rises. If you can hear water leaking past the drain, replace it.
- Fill the bathtub to the level you really need. Small children require considerably less water than an adult; bathe babies in the sink. Take a short shower, instead of a bath. A bath generally uses more hot water than a shower, taking about 15 to 25 gallons of hot water; a short shower takes 10 gallons.
- Install a water-saving, low-flow showerhead. Older showerheads use 4 to 5 gallons per minute (gpm), while a new one uses 2.2 gpm and a water-saving unit uses 1.5 (or less) gpm. Water-saving showerheads vary in feel from a solid blast to needlelike, and some offer a "massage" feature that varies from pulsating to vigorously pounding. Look for a quality showerhead that fits your personal preferences, rather than an inexpensive unit that just restricts water flow — or you may end up with a fine, misty shower, instead of a usable water flow.
- Add a shutoff button to the showerhead. Some showerheads include this feature, which lets you conveniently stop the water flow while washing your hair or soaping up. If the showerhead you choose doesn't have a shutoff button, you can buy a shutoff fitting that goes between the shower pipe coming out of the wall and the showerhead.
- Replace a leaking bathtub diverter spout. If water continues to run from the tub spout (and down the drain) when you're taking a shower, you need a new tub spout.
- Turn off the tap while brushing teeth or shaving. You can lose between 5 and 10 gallons of water down the

drain if you leave the water running. Instead, rinse your razor in a filled sink.

- Wash your hands with cool water. On average, about three-quarters of the water used in a home is hot water, so don't use heated water when you really don't need it!

Kitchen

- Use cold water for cooking. Heating the water on your stove or cooktop consumes less energy than using hot water from your water heater — especially if doing so causes your water heater to cycle.
- For cold water from a single-handle faucet, push the handle right before starting the water flow. Pushing the handle straight up (or to the middle position) can mix hot water in with the cold. In addition, the hot water supply pipe between the faucet and the water heater will fill with hot water, cycling your water heater and wasting energy before the water even gets to the faucet.
- Washing dishes by hand? Rinse them in the unused half of a divided sink. Rinsing dishes under running water — especially if it's warm or hot uses much more water and energy than just dipping the soapy dishes in a sink partially filled with clean, cold water.

Laundry

- Use the cold-water cycle on the clothes washer for most loads, and always use cold water for rinsing. About 90% of the energy used for washing clothes is for heating water, so use the warm- or hot-water cycles only when absolutely necessary. Most fabrics will get clean if you use the proper cold water laundry detergent in your washing machine.
- Adjust the water volume to fit the load size in your clothes washer. Run full loads or adjust the machine's water level control for smaller loads. Use less laundry detergent and fabric softener too.

Around the house

- For just a few dollars each, install aerators on all faucets in the bathrooms, the kitchen and the laundry. An older faucet can deliver 2 to 4 gpm — new ones are 2 gpm or less — but a faucet aerator can reduce that amount to 1 or 0.5 gpm.
- In the kitchen, you may want to

maintain a higher flow rate if you regularly fill large pots for cooking or use the sink for washing dishes.

- Some aerators include a shutoff valve that allows you to temporarily turn off the water without changing the hot/cold water mix.
- Get unusually high water pressure under control. If your home has unusually high water pressure, consider having a plumber install a pressure-reducing valve that can slow water flow by 20% to 50%. Reducing the pressure not only will save water, but also will help handle existing water hammer problems in your pipes.
- You may have hidden leaks in your

hot-water system. Find them by performing this test. Locate the two water pipes coming out of the top of your water heater. One supplies cold water to the tank; the other is the hot water outlet. When you haven't used any hot water for a few hours, feel both pipes; their temperatures should be about the same. If their temperatures are notably different, repeat the test in a few more hours — making sure not to use any hot water in the meantime. If both pipes remain equal in temperature, you do not have a hot water leak. However, if only the hot water pipe is still warm, you do have a leak. The pipe will be warm all the way from the tank to the location of the leak.

Rebate program for 2014

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

*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 hvaceducation.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 2014. The Cooperative encourages any member replacing their air conditioner to upgrade to an ENERGY STAR rated air source heat pump.



There will be no rebates in 2014 for refrigerator or freezer units without documented proof of recycling.

Safety is for Everyone



MCPA line workers receive instruction in July on new bucket truck operation from DUECO employee before they start using the new vehicle. DUECO is the manufacturer of the truck.



Safety education is key to minimizing the risk involved when working on or near energized lines. That's why at McLeod Cooperative Power we offer employees continued education and training to help minimize those risks. Recently McLeod Cooperative Power purchased a new bucket truck that replaced one that was retired in October of last year. Before the crews used the truck for field work they were given instruction on the proper use of the truck and its attachments. Annually all trucks, tools and attachments are inspected to make sure they are in proper working condition. Another recent training included a trip to one of our substations and employees reviewed what to look for prior to entering and other procedures when working inside the substation.

Tip for our members who enjoy their time outside by the pool or on one of our many lakes during the summer — water and electricity don't mix. Use covers on outdoor power outlets, especially near swimming pools. Keep cords and electrical devices away from the water, and never handle electrical items before you've dried off. Use a ground fault circuit interrupter (GFCI) to help prevent electrocutions and electrical shock injuries. These devices interrupt the flow of power when they sense a surge. Portable GFCIs require no tools to install and are available at prices ranging from \$12 to \$30.

McLeod Cooperative Power is also available to provide important safety education to our members and the public. If you are interested, please contact our office to see what we can do to help educate you on staying safe around electricity.



Linemen receive safety training from Chippewa Valley Technical College power line instructor. They reviewed safety practices to use prior to entering a substation and other procedures when working within a substation.



Nina Grunzke attended Washington D.C. Youth Tour

In June, Nina Grunzke and 37 other Minnesota youth attended the 50th Washington D.C. Youth Tour, hosted by the National Rural Electric Cooperative Association. She spent a busy week touring, meeting with Congressional Senators and Representatives. Nina relayed to us that her favorite places were Mount Vernon and the National Air & Space Museum.

Youth Tour brings together some 1,600 teens from 43 states for a once-in-a-lifetime opportunity culminating in Washington, D.C. Students dance on a boat cruise down the Potomac and see the roots of American history. They learn about electric co-ops and grassroots political advocacy. They live in awfully close quarters for up to a week and are given a small taste of freedom and independence. They sleep a little and talk a lot.

Much has changed during the past 50 years since Youth Tour was born, but the one constant has been the students, who never fail to be amazed, inspired, humbled and grateful, according to the faithful electric co-op employees who bring new groups back to Washington every year.



Group of Minnesota students representing cooperatives from across our state toured Washington D.C. together for a week in June.

Nina Grunzke of Hutchinson was selected as MCPA's representative on this year's youth tour.



Who had the lowest electric bill for June? Family A vs Family B

For the month of June 2014, we took two identical families using 1,559 kilowatt-hours (kWh) in their average size home. Family A did not participate in any off-peak programs. Family B participated in the Storage Water Heating Program and the Cycled Cooling Program.

The result was that Family A paid \$51.77 more for electricity than Family B, even though they used exactly the same number of kWh. If you want to significantly lower your electricity bill each month, join the Hot Water Storage and Cycled Cooling Programs like Family B. They are paying much less to heat their water and cool their home.

Savings details below:

Family A — No Load Management Programs

Energy Charge	1,559 kWh @ \$0.1165.....	\$181.62
Power Cost Adjustment.....	1,559 kWh @ \$0.00329.....	\$ 5.13
Fixed Charge		\$27.50
Sales Tax		\$14.73
Total.....		\$228.98

Family B — Participates in Hot Water Storage and Cycled Cooling Programs

General Service Energy	846 kWh @ \$0.1165	\$ 98.56
Load Mgmt Energy Charge.....	713 kWh @ \$.05020	\$35.79
Power Cost Adjustment GS	846 kWh @ \$0.00329	\$2.78
Power Cost Adjustment LM.....	713 kWh @ \$0.00165	\$1.18
Fixed Charge		\$27.50
Sales Tax		\$11.40
Total.....		\$177.21

(Off-peak usage comprised of 500 kWh per month from water heater for family of four persons and 217 kWh for home cooling).

To find out how you can save money on off-peak rates, call the Cooperative at 1-800-494-6272. Rebates for joining the Water Storage Program and for installing a high-efficiency air source heat pump are currently available. See rebate list on Page 7.