

July 2016

Newsline

IN THIS ISSUE

Member Appreciation Days
 School Safety Demonstrations
 Solar Performance Report
 Coal Creek Tour

Half-priced electric programs help

Thues enjoy retirement and their hobbies

Ed and Darlene Thue's retirement home sits on several acres of solitude and natural beauty with plenty of maple trees for tapping. This spring they tapped 700 trees and produced 150 gallons of homemade maple syrup for sale. They work side-by-side from their all-electric home north of Walker.

The home was built in 2005 and is equipped with an air source heat pump, Marathon® brand water heater, an electric plenum heater on their gas furnace and in-floor slab heat for the garage and basement. They enrolled in Lake Country Power's off-peak heating program, which saves them money with half-priced electric rates every month.

"After we had the air source heat pump installed, we noticed the electric use for our home's heating and cooling was reduced, considerably," said Ed Thue. That's because air source heat pumps are 300 percent

efficient. Air source heat pumps are a wise choice for summer cooling and spring/fall heating. "We also own a propane tank for backup heat, but haven't used it in three years."

The Thue's electric bill averages \$400 a month for their 1,500 square-foot home, however in May the bill was \$289. They keep the temperature in their house set at 70 – 72 degrees Fahrenheit year-round.

Ed and Darlene are also pleased with the in-floor slab pads used to heat the garage and basement. Two feet of sand and layers of concrete insulate the pads. Ed says it would take several thirty-below-zero days for the slab to need a backup heating source for their home. Slab heat on LCP's off-peak program is working well for them.

Another hobby Ed enjoys is volunteering for his electric cooperative, Lake Country



Ed and Darlene are pictured with the air source heat pump that keeps them comfortable, along with a jar of their homemade maple syrup.

Power. Once a year, he mows under the power lines from the county road stop sign into his long driveway. He does it to help manage vegetation growth for better power quality while also helping the crews have better access for outage restoration.

"I do it because power is essential," said Ed.

For more information about Lake Country Power's Energy Wise programs, contact the member service department at 800-421-9959, press #6, or visit lakecountrypower.coop.

BOARD MEETINGS

July 26—9:30 a.m. at Grand Rapids Service Center

August 30—9:30 a.m. at Kettle River Service Center

COAL CREEK TOUR

It's time to hop a ride! Register for the Coal Creek Tour no later than Sept. 2. Space is limited. Travel dates: Sept. 20 – 22.

PRIMARY NUMBER

Lake Country Power's phones are answered 24-hours a day.

Our primary phone number is 1-800-421-9959.

EDITOR'S NOTE

Co-op events, including board meeting schedules, are posted at lakecountrypower.coop. Go to "Community Service" and click "Meetings/Events."

IT'S PICNIC TIME!

Join LCP for Member Appreciation Days

PICNIC LUNCH • BUCKET RIDES • GIFTS & PRIZES

Member Appreciation Days is around the corner. It's an annual event when Lake Country Power celebrates its membership with a picnic lunch, bucket rides, attendance gifts and a chance for kids to win a new bicycle.

**The festivities are scheduled for
11:00 a.m. until 1:30 p.m.**

August 16: Mountain Iron Service Center

August 17: Kettle River Service Center

August 18: Grand Rapids Service Center

Come with any questions you may have about our heating and cooling programs as well. An informational table will be available at each event where you can speak with a member service technician about our Energy Wise programs, rebates or any other technical questions.

Kids will have fun pedaling the energy bike, going for a bucket ride and having a chance to win a grand prize. Three boys and three girls will win a new bicycle from LCP during the three-day event. So mark your calendar today and plan to come.



Zaps, sparks and sizzling hot dogs get students' attention at safety demos

More than 400 students sat up straight to pay attention after seeing the first electrical arc at this year's safety demonstrations.

Lake Country Power sponsored the electrical safety demonstrations at the schools in Hill City, Cromwell and Cook.

The demonstration is eye-opening and memorable with plenty of zaps, sparks, a few flames and some sizzling hot dogs. Students learn about a variety of electrical hazards that can happen in the home with low voltage appliances, while playing outdoors and even when jumping off the dock into a lake. The presentation also instructs kids what to do if a power line falls on the car, and the importance of staying inside the vehicle until line crews arrive to assist.

Six Lake Country Power linemen attended to answer questions about being a lineman and their limited visibility when inside the bucket truck. Special thanks to Joe Bibich, Paul Erpelding, Scott Larson, Tim Rasmusson, Brian Grondahl and Shane Johnson.

"I thought the guys from Connexus Energy doing the safety demonstrations did a really good job," said Paul Erpelding, a lineman for LCP. "The most important thing for everyone is knowing the importance to stay away from power lines." Paul added that kids also



need to be reminded to stay clear of the large bucket trucks when parked or moving.

Lake Country Power will offer more safety demonstrations for students in 2017. If your school is interested, contact Tami Zaun at tzaun@lakecountrypower.com.

Cooperatives measure Minnesota's solar potential

Southern solar installations outpace the north, while winter output stalls statewide

After almost two years of collecting solar data from 20 different systems, Great River Energy has a better idea of what the Land of 10,000 Lakes is capable of in terms of solar energy production.

GRE's 250-kilowatt (kW) array at its Maple Grove headquarters tests the performance of three types of panels. Nineteen other arrays across Minnesota have a generating capacity of 20 kW each and provide statewide distributed generation information. One of those arrays is located in front of Lake Country Power's Grand Rapids headquarters.

The projects are helping Great River Energy and its member co-ops evaluate the value of solar energy while providing up to 450,000 kilowatt-hours of renewable energy annually – equivalent to powering about 38 homes.

Performance measures

"The southern arrays perform slightly better than the northern arrays," said GRE Project Manager Andy Bergrud. "But the difference in annual capacity factor from the Maple Grove site has only been about half a percent."

The Maple Grove array's annual capacity factor average is 13.6 percent, which falls in between the installations at Cooperative Light and Power (13.2 percent) in Two Harbors, and Goodhue County Cooperative Electric Association (14.2 percent) in Zumbrota. These percentages indicate how much energy output the panels produced, on average, compared to its full nameplate capacity throughout the year.

Bergrud noted that the Maple Grove array saw slightly better summer performances in its second year of operation, which may have been caused by less cloud cover in the sunnier months. The array saw 17 percent "ideal" days in 2015 – those days with sunshine and clear skies – versus 10 percent in 2014. Also in 2015 were less recorded "erratic" days – when clouds either don't clear out or cover the sun on and off throughout the day. That percentage went down from 70 percent in the array's first year to 62 percent in year two.

"These figures still represent that our ideal days are a low minority of the time," Bergrud noted. "Knowing this information helps us from a grid management perspective in understanding how solar production tends to behave in our region."

Lake Country Power's capacity factor from its 20 kW solar array in Grand Rapids is 12 – 14 percent, which is much lower than expected.

To view the energy output from Lake Country Power's local solar array, visit www.lakecountrypower.coop.

Lessons we're learning

Overall, Bergrud said, the average annual output for each of the arrays is slightly lower than the 15 percent capacity factor expectation they had going into the projects, but it represents "one of the realities of solar in Minnesota." One of the project team's biggest takeaways going into the third year of solar generation on the Great River Energy system is how much of an effect frequent, rapid power swings have on the output – again, due to Minnesota's tendency to have more cloudy days over pure sunny days.

An understanding of the sudden shifts in power output caused by cloud

interference is an important lesson learned for utilities to find ways to properly manage the grid as more solar and other renewable energy resources are interconnected to the electric system.

"We still see the value of incorporating energy storage for these projects to see if that gives us the ability to minimize the impacts from these power swings or use the energy that is produced from the array at a time that better coincides with our members' peak load," Bergrud said. "We will complete a storage project this year at our headquarters array, and it will be interesting to see what we learn about battery storage as a resource paired with solar."

Annual capacity factor comparisons

Month	Northern MN	Southern MN	Maple Grove
January	3.8%	6.5%	5.7%
February	6.1%	11.2%	10.8%
March	17.1%	17.0%	16.2%
April	18.8%	18.6%	18.6%
May	16.9%	16.6%	16.2%
June	20.2%	19.9%	19.2%
July	20.8%	21.5%	20.6%
August	17.0%	18.0%	17.4%
September	16.2%	16.4%	16.3%
October	12.2%	13.3%	12.7%
November	6.8%	8.6%	8.2%
December	2.3%	3.1%	2.8%
Annual	13.2%	14.2%	13.6%

Notification of pole testing

Lake Country Power has hired Osmose Utilities Services, Inc., to test its poles in the western areas of the Grand Rapids service area, such as Bena, Onigum, Remer and other locations. The objective is to identify poles that may no longer be fit for service, which is in the best interest of safety and electric reliability. Osmose will mark the poles for LCP crews to replace. Osmose will drive pickups, four-wheelers or will be on foot. The testing will not require interruption of electrical service. The testing will go through October.

Hop a ride on the Coal Creek Tour

See and touch the natural resources that generate some of your power

Be part of co-op tradition when you take a bus tour September 20 – 22 with Lake Country Power on the Coal Creek Tour to North Dakota.

The Coal Creek Tour provides a unique opportunity to see and understand how electricity is made and delivered to your home, cabin or business.

On tour day you'll see:

Coal Creek Station—the largest power plant in North Dakota; learn why this power plant is vitally important to Great River Energy's generation mix.

Falkirk Mine— see the gigantic equipment that is used to help supply 8 million tons of lignite coal each year to Coal Creek Station.

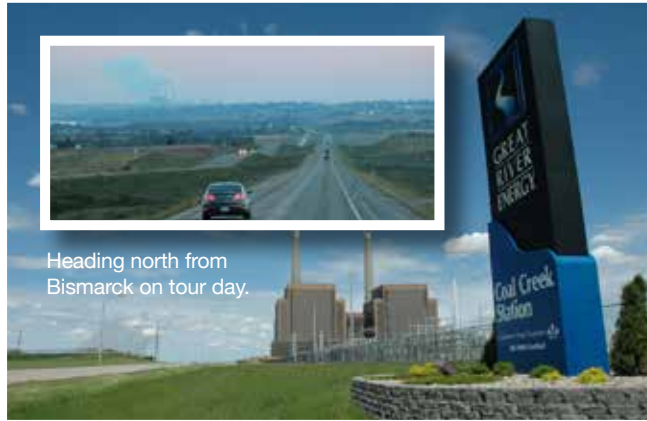
Blue Flint Ethanol—uses a mix of primary and waste steam to produce ethanol, making it one of the lowest-cost facilities in the nation.

Garrison Dam—drive to the fifth largest earthen dam in the world; the plant generates electricity that is marketed by the Western Area Power Administration.

Headwaters Fort Mandan Visitors Center—coal combustion products were used in construction of the visitor center; tour the fort and walk the trails along the Missouri River.

At \$170 per person, registration includes transportation, two nights lodging in Bismarck, a group evening dinner, snacks and beverages, and a full day energy tour with complimentary lunch.

Lake Country Power is taking reservations for the tour through September 2 on a first-come basis, or until the tour fills to capacity. To register, use the enclosed insert and mail with payment to Lake Country Power. Or call Tami Zaun for more information at 800-421-9959, ext. 7152.



Heading north from Bismarck on tour day.

Coal Creek Station is one of the tour highlights on the Coal Creek Tour. It is the largest power plant in North Dakota.



While on tour inside Coal Creek Station.



Falkirk Mine supplies eight million tons of lignite coal each year to Coal Creek Station. Falkirk reclaims the land to exactly how it was before mining.

Impressions of the tour

"I was amazed with how clean the Coal Creek Station and stacks were. It was fun to see the open pit where the coal was being mined. I was very impressed with the land reclamation process done by Falkirk Mine. It's fascinating how they use GPS to put the land back together exactly how it was before the mining. The side trips to Garrison Dam and the Lewis and Clark campgrounds were a lot of fun as well. It's eye-opening to learn about the process of making electricity. We need to look at all natural resources of energy and use common sense."

— Nancy McReady, Ely

"We enjoyed the Coal Creek Tour so much that we decided to go again. There's so much information to take in the first time you're on tour. We remembered more of the information the second time we went, so it was a good reminder. We had a great time and it's a very nice tour."

— Dawn Lippo, Cromwell

"We thoroughly enjoyed the entire trip. It was very informative, and we didn't know until the tour that they restore the land to its normal state after excavating coal from the land. It was also interesting to learn how Blue Flint Ethanol uses steam from Coal Creek Station in its operations."

— Tarry and Polly Edington, Grand Rapids.

"LCP deserves a BIG THANK YOU for this opportunity. I only wish I could remember everything I learned about the power we assume to always be present when flicking a switch. I now have a much greater appreciation of coal generated power and am sharing my knowledge with others. We had a very enjoyable experience and are busy recommending the trip to our neighbors."

— Ron Geppert, Cass Lake

For safety's sake, stay clear of co-op equipment

*After a storm, be careful.
Dangerous electrical hazards can
hide behind debris.*



As you find yourself spending time outdoors this summer, remember to use caution near electrical equipment maintained by Lake Country Power—and other utilities, for that matter.

Substations and power lines carry extremely high voltages, and if contact is accidentally made, the results can be dangerous—or even deadly.

Never climb trees near power lines. If you make contact with a tree that is touching a power line, your body could become the path of electricity from the line to the ground. If you encounter an animal trapped in a tree near power lines or inside a substation, do not attempt to remove it—no matter how furry and cute! Call 911 for assistance.

These days, we are seeing more remote-controlled toys, like drones and airplanes, which can be a great way to have fun outdoors. But these gadgets also bring new safety concerns. Remote-controlled toys should never be flown near power lines, substations or other electrical equipment.

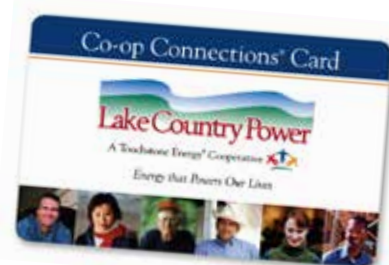
Remember these safety tips when flying a remote-controlled toy:

- Keep a safe distance from electrical equipment when you fly. If contact is accidentally made with a power line or a transformer inside a substation, many members of your community could be left without electricity.
- Keep the remote-controlled toy in sight at all times.
- Avoid flying if weather conditions are unfavorable. High winds could cause you to lose control of the remote-controlled toy.
- Your safety is important to every employee at Lake Country Power. Please share the message of electrical safety so that you and others can have a fun summer.

Visit safeelectricity.org for more tips.

It pays to use your Co-op Connections® Card

Hagens North Country Glass in McGregor is giving free windshield wipers installed with the purchase of a new windshield. Show your Co-op Connections Card to receive this special promotion. Located at 410 Kirsch Ave. NE in McGregor.



Visit lakecountrypower.coop (Community Service/Co-op Connections) for a full list of business participants offering discounts.

Recipe Corner

Farmer's Market Pasta Salad

Lisa Diehl Foreman
Side Lake, MN



Prepare 1 Package penne pasta
Ingredients:

- 2 Cups halved baby heirloom tomatoes
- 2 small zucchini, slice into thin strips
- 1 small red bell pepper (can use yellow/green)
- 1 Cup fresh corn kernels
- ½ Cup thinly sliced green onions
- ¼ Cup diced basil
- 2 Cups shredded chicken

Parmesan Vinaigrette:

- 1 clove garlic, 2 TBSP. balsamic vinegar, 1 tsp lemon juice, 3 TBSP. basil, ¼ Cup parmesan cheese grated, ½ Cup olive oil, salt/pepper to taste

Toss together the above ingredients. Add hot pasta to the ingredients. Mix in vinaigrette. Salt/pepper to taste. Transfer to a serving dish, and top with basil. Can be served cold as well. 8-10 servings. Note: works well with gluten free noodles and can add a number of other vegetables.

Submit your favorite recipe to Lake Country Power, Attn. Editor, 2810 Eida Drive, Grand Rapids, MN 55744, or e-mail tzaun@lakecountrypower.com. If your entry is drawn and printed in Newsline, you'll receive a \$5 credit on your electric bill. Entries must include name, address and phone number on account. Recipes will be published as space allows.



ENERGY EFFICIENCY Tip of the Month

Avoid setting your thermostat at a colder setting than normal when you turn on your air conditioner. It will not cool your home any faster and could result in excessive cooling and unnecessary expense.
Source: energy.gov

April 26, 2016 • Regular Monthly Meeting

The following reports were given:

President Long reported about several telephone calls he received from members during the past month. He worked on information for two special board meetings that were held in April.

General Manager Randa provided a written report. He also reported on Northland Connect, arbitration, stray voltage, a USDA loan for an assisted living facility in Remer, Grand Rapids service center discussions, Ely outpost, LCP's energy tour for members to North Dakota in September, scholarship presentation schedule and GreenTouch.

LCP Director of Finance and Administration Bakk reviewed the February financials. Bakk noted that LCP has more load management sales than any other cooperative of GRE's 27 other members.

Corporate Attorney Carlisle reported about matters his firm assisted LCP with during the past month including Magnetation, fact finding hearing regarding the election campaign contest

in District 8, labor arbitration, personnel matters, review of meeting minutes, annual meeting issues, preparation of board reorganization meeting materials, ballot issues and working with staff on potential questions at the annual meeting.

The following actions were taken:

Approved the 2015 capital credit allocation, which is more than \$2.1 million.

Approved the 2017 right-of-way contractor bidders list.

Approved rate schedule 61EV and rate schedule 62EV, both of which are related to electric vehicle charging programs.

Editor's Note: These board minutes have been condensed. A full copy of the board minutes can be read at www.lakecountrypower.coop in the "Member's Area." You'll need to sign up for access if you haven't already. Or call 800-421-9959 for a printed copy.



This picture earned a spot in the co-op calendar for July 2016. Bonnie Eiden of Jordan, MN photographed her first Barred Owl in July 2015. She took this photo in the Chippewa National Forest.

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Directors are members of the cooperative and are elected to act in the best interests of the co-op with the same care than an ordinarily prudent person in a like position would exercise under similar circumstances.

Directors set policy, approve strategy and are charged with fiduciary responsibility of the cooperative. Directors do not oversee day-to-day LCP operations. Administration of maintenance, electric service and operations are the responsibility of employees and staff.

Members with questions or concerns about service, billing, outages or other service-related matters should call 1-800-421-9959.

Newsline

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Lake Country Power Service Centers:
Grand Rapids • Kettle River • Mountain Iron
800-421-9959 • www.lakecountrypower.coop
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Comparative Operating Statement

Year-To-Date — April 2016

	2016	2015
Electric Operating Revenue	\$30,699,252	\$31,377,809
Cost of Purchased Power	16,539,494	17,212,325
Distribution Expense - Operations and Maintenance	3,240,731	2,739,231
Consumer Accounts Expense & Informational	1,314,160	1,275,547
Administrative and General Expense	2,144,536	2,098,350
Depreciation, Interest Expense and Other Deductions	4,807,934	4,880,789
TOTAL ELECTRIC OPERATING EXPENSES	28,046,857	28,206,242
Net Electric Operating Margins	2,652,395	3,171,567
Non-Operating Margins	1,007,403	483,379
TOTAL MARGINS BEFORE SUBSIDIARIES	3,659,798	3,654,945
Net Income (Loss) from Subsidiaries	(246,534)	(420,730)
TOTAL MARGINS	\$3,413,264	\$3,234,215
TOTAL kWh SOLD (YEAR-TO-DATE)	241,780,184	258,317,590

Editor's Note: These financials are condensed. A complete set of financials can be viewed at www.lakecountrypower.coop in the "Member's Area." You'll need to sign up for access if you haven't already. Or call 800-421-9959 for a copy.