

# CIRCUITS

NEWS FOR DAKOTA ELECTRIC MEMBERS

## Dakota Electric launches grid-interactive water heater pilot project

Smart technology. Affordable energy storage.  
Renewable integration. Real-time grid optimization.

In last month's issue of *Circuits*, we published an article from Utility Dive magazine titled "Utilities in hot water: Realizing the benefits of grid-integrated water heaters." The article emphasized the advantages of grid-integrated water heating for utilities and consumers, and discussed a new wave of utility-led pilot projects across the country as industry experts predict this technology will be the future of electric water heating.

Dakota Electric is now conducting a pilot project of its own. Country Joe Homes of Lakeville agreed to partner with Dakota Electric Association and its wholesale power supplier, Great River Energy, to install grid-interactive electric thermal storage (GETS) water heaters in 81 homes in their Legacy 2 housing development located at Highview and 197th Street in Lakeville.

GETS water heating is the integration of intelligent and real-time control signals with enhanced electric thermal storage (ETS) water heaters. Basically, it is one big "thermal battery" that can store electricity as heated water. Water is heated during preferential times of the day or night or as dictated by the needs of the grid. Delivery of energy from the "smart" water heaters occurs as needed to maintain consumer comfort.

Each home in Dakota Electric's pilot project has an 80-gallon Steffes Hydro Plus™ water heater, manufactured by Steffes Corporation. The Hydro Plus represents an advancement over typical 80-gallon thermal storage water heaters, using built-in technology that allows rapid two-way communication between the water heater and the utility. This monitors the precise quantity of the heater's water levels at any given minute ensuring no one runs out of hot water.

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### Upcoming events

Labor Day - Office Closed . . . . .	Sept. 4
Annual Wind Farm Tours. . . . .	Sept. 7 & 8
Board Meeting . . . .	September 28, 8:30 a.m.

September 2017



## Another successful Member Appreciation Event at the

More than 6,700 people attended Dakota Electric's 20th annual Member Appreciation Event at the Minnesota Zoo on July 27. During the event, Dakota Electric members and their families received free admission to the zoo as a thank you for their patronage.

In addition to the traditional zoo exhibits, this year's featured attraction was Kangaroo Crossing presented by Think Mutual Bank, and included kangaroos, wallabies and emus. Members were also entertained by the Rosemount High School Marching Band and close-up magic by Bob Miller. LED Lucy, Dakota Electric's mascot, was on hand for added fun for the children and many people enjoyed discounted tickets to the IMAX Theatre.

As part of the event, Dakota Electric asked attendees to bring food donations for area food shelves. Visitors donated 2,523 pounds of food and \$1,037 in cash — the largest cash donation received since the cooperative started the event. In total over the years, members have donated nearly 17 tons of food and more than \$11,000 for area food shelves. Thank you, members!



## water heater project (cont.)

Country Joe Homes installed the first GETS water heater in its model home this spring. The remaining 81 homes will be built over a three-year period from 2017 to 2019 and will be the first community storage development of its kind in Minnesota.

Utilities have long been faced with the challenge of balancing electric generation with consumer demand. Electric water heaters account for up to 40 percent of the residential demand on the world's energy grids.

"Affordable and effective energy storage is very beneficial to us, our members and the grid for balancing supply and demand in 'real time' and to maintain power grid stability," said Dave Reinke, Dakota Electric's energy and member services manager. "We look forward to getting information on this project by the end of next year and using it to educate other electric cooperatives throughout the country on the challenges and success of GETS water heating."

For more information about the Steffes Hydro Plus water heater and other energy-efficient home solutions, check out Country Joe's model home in this fall's Parade of Homes (see sidebar).



### SEE SMARTER HOME SOLUTIONS IN ACTION

From LED lighting to programmable thermostats to off-peak water heaters and more, Energy Wise MN homes feature efficient home solutions that help maximize the value of electricity without sacrificing a single degree of comfort.

**Visit these Energy Wise MN homes on the  
Fall Parade of Homes<sup>SM</sup> Sept. 9 - Oct. 1.**

#### **Country Joe Homes**

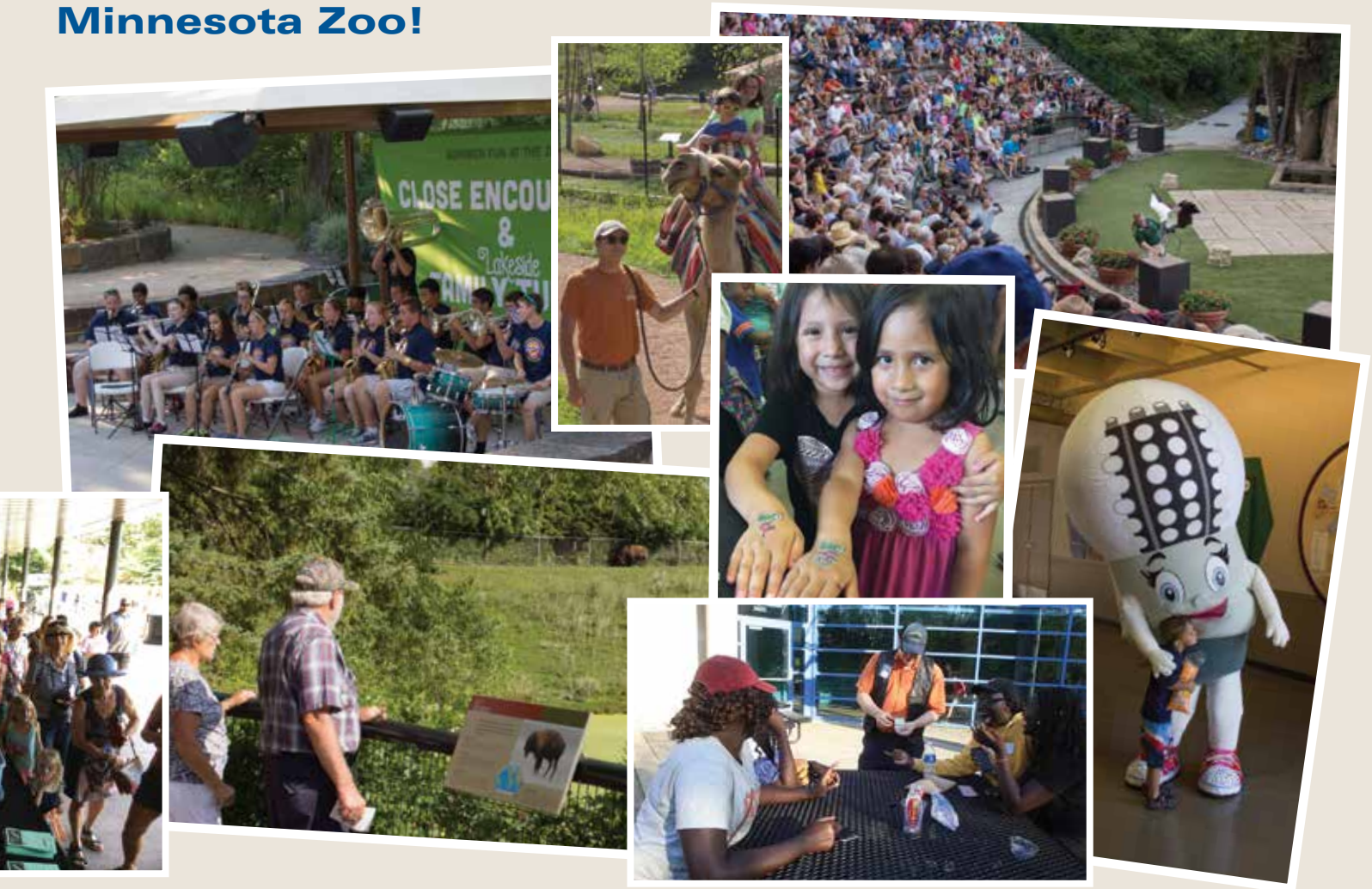
8427 197th St. W, Lakeville

#### **McWilliams & Associates**

18229 Justice Way, Lakeville



# Minnesota Zoo!



## SMARTER HOME SOLUTIONS

**You're looking to the future. So are we** – the future of the energy grid. We're building a smarter energy infrastructure and promoting efficient home technologies that help you maximize the value of electricity and reduce your carbon footprint, all without sacrificing a single degree of comfort. From an EV-ready garage to high-efficient heating and cooling options and renewable-energy solutions for your home, the future is looking brighter for all of us.

Find smart solutions for your home at **DakotaElectric.com**

ENERGY WISE  MN

# High electric bill? Find out why.

The dog days of summer might be over, but you may still be feeling the effects this month on your electric bill.

Although this summer was not the warmest on record, we did see high daytime and overnight temperatures and high humidity. According to Dave Reinke, energy services manager at Dakota Electric, residential members are billed for their electricity a few weeks after the month ends. That means members might not be billed for all of July’s electric use until August or September.

“Electric bills tend to be higher in the summer because cooling and ventilation can use 20 to 50 percent of the energy in homes and businesses,” said Reinke. “By the time you pay your bill, it can be hard to remember just how warm it was.”

According to Reinke, central air conditioners can add \$50 to \$150 to an electric bill during a hot month. Members who ran a standard dehumidifier can see an increase of \$30 to \$50 per month. Sump pumps also add to your bill.

Dakota Electric wants you to use electricity as efficiently as possible. “Members should contact us if they’re thinking about upgrading to more efficient heating and cooling equipment,” said Reinke. “We can help them determine the best system for their needs and make sure they get the right rebates.”

Contact the Energy Experts® at 651-463-6243.

## Energy efficiency tip

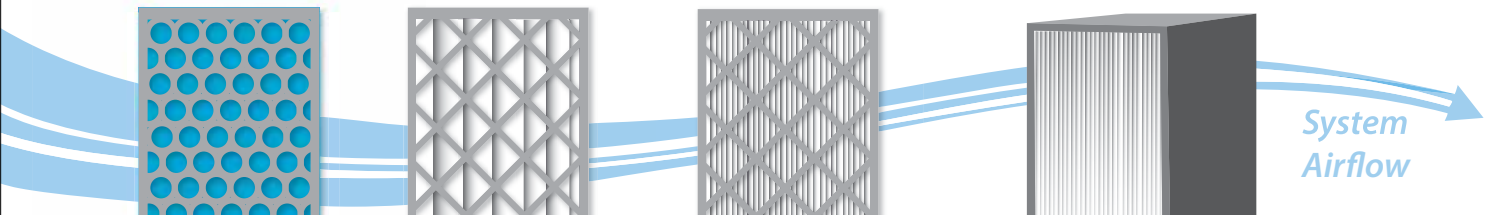




Cooler temps will be here soon! No matter what kind of heating system you have in your home, you can save money and increase your comfort by properly maintaining and upgrading your equipment.

Contact a licensed professional to inspect your system before the winter chill arrives.

Source: U.S. Department of Energy

## What Do Different Air Filters Block?

Air filters are rated by Minimum Efficiency Reporting Value (MERV). Filters with a higher MERV block more dirt, but also reduce airflow and system efficiency. Use this guide to find the right filter for your home or business.

							
	<b>1-4 MERV</b> \$2-\$10	<b>5-8 MERV</b> \$10-\$20	<b>9-12 MERV</b> \$18-\$25	<b>13-20 MERV</b> \$\$\$			
<b>Blocked Items</b>	Pollen, sanding dust, large insect bodies 	+	Pet dander, mold, spores, dust mites, hair spray 	+	Lead dust, milled flour, car emission particles 	+	Bacteria, virus, face powder, smoke, sneezes, paint pigments, oil, carbon dust 
<b>Filter Types</b>	Disposable, washable	Pleated, disposable, electrostatic	Pleated, disposable, electrostatic	High efficiency particulate arrestance (HEPA), box 6-12 inches thick, flexible 12-36 inches thick			
<b>Common Uses</b>	Homes, window air conditioning units	Homes, general office buildings	Homes, office buildings, businesses	Hospitals, drug and electronic labs			

Source: [epa.gov/iaq](http://epa.gov/iaq)

Source: epa.gov/iaq



## Dakota Electric members to host **Day on the Dairy**

Last December, Dakota Electric members and fifth generation dairy farmers, Blake and Chicky Otte and family of Randolph, were selected as "Producer of the Year" by the Minnesota Milk Producers Association. They were selected from among 3,300 dairy farms across the state.

Square Deal Dairy, owned and operated by the Otte family, produces milk for Kemps yogurt and cottage cheese. The family, with the help of 12 employees, milk 450 cows three times a day and farm 1,500 acres.

The Otte family is committed to the dairy industry and will be hosting Day on the Dairy on Sun., Oct. 1. The event is free and open to the public and will include farm tours, dairy treats, kids activities, Princess Kay meet and greet, and more!

"We look forward to this event highlighting our family farm and the quality products we produce," said Chicky. "It is our mission to enhance the public's understanding of the dairy industry through education and promotion."

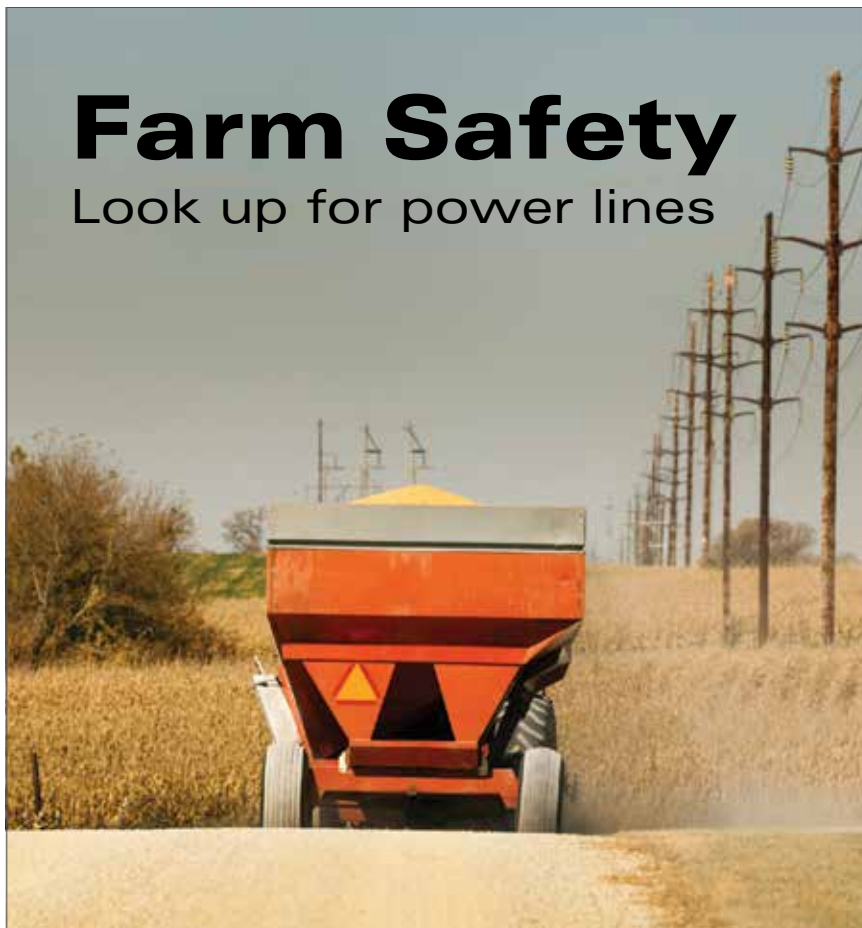
For more information about the event, check out Square Deal Dairy's facebook page at [facebook.com/squaredealdairy](https://facebook.com/squaredealdairy). Watch an informational video about Square Deal Dairy and the Otte family at [youtube.com/watch?v=12tvDvJErVg](https://youtube.com/watch?v=12tvDvJErVg).



**Day on the Dairy | Sun., Oct. 1 | 1-5 p.m.**  
Square Deal Dairy, 27729 Emery Ave., Randolph, MN 55065

## Farm Safety

### Look up for power lines



**KNOW WHAT TO DO** if you come in contact with a power line while operating farm machinery. It could save your life.

**CALL FOR HELP** — Call 911 as soon as possible and keep the area clear until help arrives.

**DRIVE TO SAFETY** — If you can do so without risking your machinery or damaging utility infrastructure, drive at least 40 feet away.

**EMERGENCY EXIT** — If the vehicle is on fire or you must exit for other safety reasons, jump clear so that no part of your body touches the equipment and ground at the same time, and land with feet together. Hop to safety in small steps to avoid electric shock by breaking the current's path.

# 40<sup>TH</sup> ANNIVERSARY Savings

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\*In-Home Estimate Needed, Offer Expires September 30, 2017

## Download Dakota Electric's FREE Outage App!

**Quick. Easy. Informed.**

Once you have installed the app, you must request a code by visiting [dakotaelectric.com](http://dakotaelectric.com) > Power Outages > Outage App. The code is specific to your account and is required to personalize the app to your residence.










# Circuits Quick Clips

## Energy and safety education for kids

It's back-to-school time, and if you're a teacher looking to bring energy education into the classroom, check out the resources Dakota Electric has available!

### Safety Programs

To help keep children safe around electricity, Dakota Electric offers two safety programs. Play It Safe Around Electricity is designed for children in preschool to third grade. Dakota Electric's power line safety demonstration programs are available for children ages 10 and older and presented by a former power line specialist. Call Ann at 651-463-6192 for more information.

### Speakers Bureau

Dakota Electric has a speakers bureau that presents to schools, Rotary clubs, chambers of commerce and other community organizations on a variety of energy-related issues, including power line safety, renewable energy and energy efficiency. LED Lucy is also available for community events. Call Brenda at 651-463-6234 for more information.



## Assistance for military service personnel

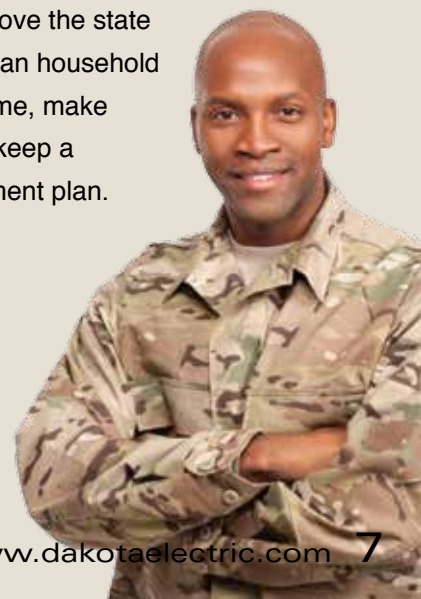
If a member is ordered into active duty, for deployment or for a change of duty station, Minnesota law may protect these military personnel and their families from shutoff if they cannot pay their utility bills in full.

### How to apply

Call 651-463-6212 to get an application and set up a payment plan. You must keep your payment plan to qualify for protection.

### Payment plans

- If your household income is below the state median household income, pay 10 percent of your household's gross monthly income toward your gas/electric bill; or
- If you receive energy assistance, pay 10 percent of your household's gross monthly income toward your gas/electric bill; or
- If your household income is above the state median household income, make and keep a payment plan.



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## Members who qualify for **Cold Weather Rule** protection can **sign up beginning Oct. 15**

Are you struggling to pay your utility bills? Members can avoid disconnection or be eligible for reconnection between Oct. 15 and April 15 by following steps outlined by Minnesota's Cold Weather Rule.

Watch for your September bill statement mailed between Sept. 13 and Oct. 5. The bill will include a Cold Weather Rule brochure with more information on program details and contact information for agencies that provide utility payment assistance. You can also visit our website for more information at [www.dakotaelectric.com](http://www.dakotaelectric.com) and click on Billing & Payment > Electric Rates & Consumer Rights.

The Minnesota Public Utilities  
Commission also has details available  
at [www.puc.state.mn.us](http://www.puc.state.mn.us).

## Contact Us

Member service & drive-up window  
7 a.m. – 7 p.m. Monday - Friday  
651-463-6212 or 1-800-874-3409  
Minnesota Relay Service 711

Lobby 7 a.m. – 4:30 p.m., Monday - Friday  
4300 220th Street West, Farmington, MN 55024

24-hour outage & emergency service  
651-463-6201 or 1-800-430-9722

Underground cable locations  
Gopher State One Call 811 or 651-454-0002 or  
1-800-252-1166

Tree trimming & street lights 651-463-6287

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