

NEWS *Lines*

2017 ENERGY TRAIL TOURS: *A Powerful Tradition*



Tour 1: (L-R) Loren & Shellie Vander Schaaf, Bob Benson, Betty Lou Law, Glenna & Duane Fickbohm, Shirley Benson, Sue & Les Mulder and Renee Lundt.



Tour 2: (L-R) Keith & Lori Ewoldt, Bill & Phyllis Postma, Wendy & Tim Peelen, Shirley & Tony Schroeder and DeWayne & Denice Schultz; not pictured, Mike & Anita Radke.

For more than thirty years, North West REC's primary power supplier, Northwest Iowa Power Cooperative (NIPCO) has partnered with us to educate our member-owners on cooperative history and power. What originated as a day trip to the Oahe Powerhouse and Dam in Pierre, South Dakota, has evolved into a three-day excursion that continues on to Beulah, North Dakota, in the heart of North Dakota's Energy Trail. Basin Electric Power Cooperative, who provides 80 percent of NIPCO's power supply, owns many generation facilities and energy-related subsidiaries in this region.

This year's tours were July 12-14 and August 2-4. Member-owners met some of the people responsible for providing the power that is delivered to their homes, farms, and businesses. Tours help to demonstrate, first-hand, the value of an electric generation portfolio that includes coal as a part of America's energy mix. Three days of experiencing the passion, innovation, and dedication of North West REC's power providers helps to educate members about electric generation in a carbon-constrained world.

The 2017 tours showcased generation facilities that included hydropower at the Oahe Powerhouse, as well as coal-fired generation at Antelope Valley Station in Beulah, North Dakota. At Dakota Gasification Company, located adjacent to Antelope Valley Station, tour participants learned about coal gasification and the many products manufactured through this process.

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Member-owners Shellie and Loren Vander Schaaf capture their tour experience of the Antelope Valley Station model room in a "selfie".

A short trip just up the road to Coteau Properties' Freedom Mine allowed member-owners to see the mining process of the area's lignite coal. Mining has brought new prosperity to this region while preserving the environment through careful land reclamation efforts that return mined land to its original purpose. In many cases, reclaimed land is as productive or better than before it was mined.

Energy Trail Tour participants also learn about wind generation and the importance of renewable energy resources in America's overall energy mix.

Over the course of three days, members learned about rural electric cooperative history, gained a new understanding and pride in cooperative ownership, and engaged with other fellow member-owners.

Information on the 2018 Energy Trail Tours will be included in a spring edition of the cooperative newsletter.

REBATE *Changes* \$\$\$

The NIPCO Board of Directors approved rebate changes at their last board meeting in July. The following rebate changes went into effect August 1, 2017:

Clothes Dryers that are Energy Star Certified – rebate of \$25

Residential lighting (now same as C&I, Ag rebate)

- CFL, T-8 and/or T-5 Fluorescent Tubes = \$100/kW minimum 0.5 kW
- LED = \$300/kW minimum 0.5 kW up to a maximum rebate of 50% of the fixture/bulb cost submitted
- Reduced Wattage Metal Halide Low Ballast Lamps = \$25/kW minimum 0.5 kW up to a maximum rebate of 50% of the fixture/bulb cost submitted

C&I, Ag Ground Source Heat Pump & Air Source Heat Pump

- GSHP - \$1,000 /Ton
- AAHP - If no back up heat or if back up heat is propane or natural gas: \$400/Ton
If back up heat is electric: \$600/Ton

Please call our office at 800-766-2099 if you have any questions or if we can help in any way.

Know the Dangers

OF LARGE EQUIPMENT AS HARVEST BEGINS

As farmers begin this season's harvest, it's important to remember some important safety steps. The rush to harvest can reap grim results if steps to ensure safety are bypassed. Each year, across the U.S., hundreds of farm workers are injured and many are killed when their farming equipment makes contact with power lines. Power lines must be thoughtfully avoided – and taking that extra step – can ensure you continue to have a safe and productive harvest!

Today's farming operations often involve large and complex machinery. Large combines, raised dump beds, oversized wagons, grain augers, planters, spraying equipment and metal irrigation pipes are all excellent conductors of electricity. Equipment contacting overhead power lines is the leading cause of farm electrocution accidents in the Midwest. Everyone working on a farm should be aware of power lines and keep farm equipment away from the lines. It's also important to thoroughly evaluate new or used equipment that is being used for the first time on your property. Take special note of larger, modern equipment such as tractors and combines with higher antennas that may create a clearance threat.

Moving portable grain augers continues to pose one of the greatest threats to workers. Those who are moving the equipment on the ground can provide a direct path for electricity if there is contact with overhead wires. Grain augers should always be lowered before moving them.

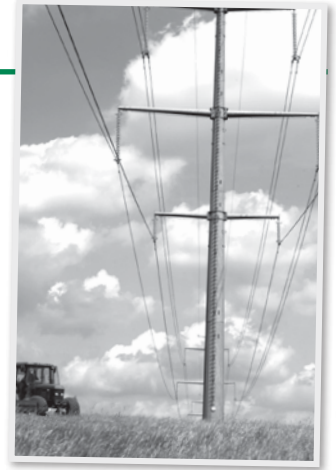
Areas near grain bins pose a dangerous threat if equipment is too large or used improperly. If you're installing new grain bins, contact North West REC to help place electrical lines.

If the equipment you are in comes into contact with power lines, make sure you:

- Stay in the cab and call for help
- If there is imminent risk of fire, jump clear of the vehicle and land with both feet on the ground at the same time – do not allow any part of your body to touch the equipment and ground at the same time.

If you question the height of power lines near your working areas, don't attempt to measure the line heights yourself. Contact North West REC to help determine line height in each area of your farm.

As we approach the fall harvest season, remember to LOOK UP LOOK DOWN LOOK OUT and LIVE! Respect electricity and avoid contact with overhead lines.



It pays to read the "Living with Energy in Iowa" magazine.

Just ask the Joel Johnson family of rural Le Mars. They won a 10-tray, large-capacity, deluxe food dehydrator!

For your chance at winning, go to www.livingwithenergyiniowa.com and complete the entry form each month.



MANAGER'S *Report*



Lyle D. Korver

“The continued improvement in battery technology, so that the solar generated power can be stored and then used during peak usage times, will be important to the further development of solar in the future.”

UPDATE ON THREE-YEAR ANNIVERSARY OF SOLAR DEMONSTRATION PROJECT

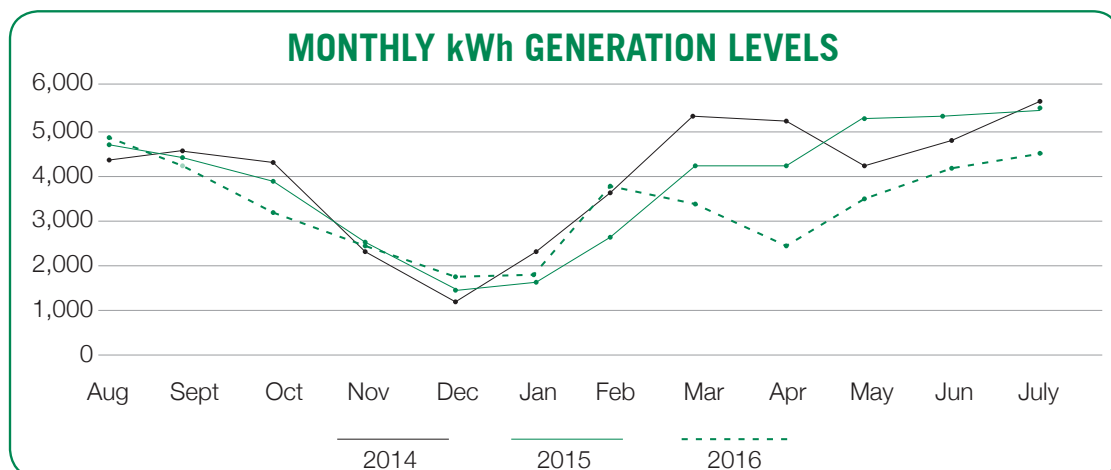


In July, we reached the three-year anniversary of the solar demonstration project. The solar array that was installed on the property of our headquarters facility in Orange City in July, 2014, is a 34 kW AC system. There are 96 panels and each is approximately 350 watts. It is interconnected to our headquarters electric system and provides a portion of the electric supply.

As we stated at the outset, our purpose for doing this demonstration project was to learn more about how solar generation performs in our area, how the solar generation peak times compare to the peak usage times of our members, what types of maintenance issues there are, etc.

- **How has it performed?** The graph below shows the monthly kWh generation levels. You will note that the highest generation months are typically from March through September. For example, during calendar year 2016, the monthly solar generation for the highest generation months of March through September averaged 3,506 kWh's. During the lower generation months of Jan., Feb., Oct. – Dec., it averaged 2,360 kWh's. This is a result of shorter daylight hours and more cloudy/snowy weather during the winter months.

When we were planning the system, the vendor indicated that the system should generate approximately 62,000 kWh's per year. The actual three-year average has been 44,500 kWh's, which is approximately 28% less than the original projection. One of the reasons that the actual generation has been lower is that we have had some down time due to inverters that have failed and some other maintenance issues.



- **How does the solar generation peak times compare to the peak usage times of our members?** We are a winter peaking system which is largely due to the amount of electric heat load that our residential and commercial and industrial customers have. The two highest usage months that we have in terms of kWh usage from our members and “peak demand” times are December and January, but these are the two lowest solar generation months.

The other important thing to look at is how does the peak demand usage during the day compare to the peak solar generation times. During the winter months, the peak demand usage from our members is in the morning hours of 6:30 a.m. to 8:30 a.m. In the summer months, it is from 4:30 p.m. until 6:30 p.m. The peak solar generation times are in the 11:30 a.m. to 2:00 p.m. time period. As you can see, these times don't coincide very well. The continued improvement in battery technology, so that the solar generated power can be stored and then used during peak usage times, will be important to the further development of solar in the future.

- **What types of maintenance issues are there?** Most of the maintenance issues with the solar array have been related to the inverters. The inverters convert the variable direct current (DC) output of solar panel into a frequency alternating current (AC), in order for the electricity to be put onto the grid. Some of the inverters may have been defective and were replaced under warranty, but we are still trying to determine why some of the other inverters have failed prematurely. We have also had a disconnect switch failure and a few panel failures. We weren't sure what to expect in terms of maintenance issues, and this has been a little bit of a challenge for us since the vendor we purchased the solar system from has gone out of business.

Overall, we are still pleased that we are doing the solar demonstration project and feel we have learned a lot. We have been able to share what we have learned with



members, legislators, school groups, and others and that is what we hoped to be able to do when we started making plans for the demonstration project.

Any members who are interested in learning more about solar generation are encouraged to contact us. We also have information on our web site about this project, including a short informational video.



Another resource that has been beneficial for us is our new partnership with eight other REC's in Iowa through Iowa Choice Renewables. We have been able to share what we have learned about renewable energy and to look at new opportunities that we can bring to our members.

One of our main objectives in joining Iowa Choice Renewables was to become an even better resource for our members as they evaluate energy issues and make decisions on what is best for them. Whether it's energy efficiency - including geo thermal and other systems; an automatic standby generator and our Switch Makes Cents program; solar or some other renewable – **we want to be our members' trusted energy partner.** We want to be the resource that our members go to first when they have energy questions.



ADD 'INSULATING ATTIC' TO

Autumn To-Do List



As long as you're blowing leaves and caulking around windows this fall, add one more chore to your to-do list: add some attic insulation.

The time to get your home in shape for heating season is early fall, long before you need to turn the heat on. If your attic doesn't have enough insulation – or if, over the years, it has come loose – it won't keep your home's comfy, heated air from pouring out of the roof.

Heat rises. So the warm air in your home wafts upward to your attic. Without proper insulation, it winds up outdoors. In fact, your home probably loses more heat through the attic than anywhere else. An added bonus is that a properly insulated attic will also stop cool, air-conditioned air from escaping through the roof during the summer.

So check out your attic today. If you do need to add some insulation, remember your REC offers a rebate if meets the following qualifications:

- Building must have electric heat installed and be used as the primary heating source
- Must be professionally installed for blown-in, spray foam, insulating concrete forms, rigid styrofoam panels and/or structural insulated panels type insulation
- Rebate limited to 30% of installed insulation cost up to a maximum rebate of \$800 per building per calendar year
- Commercial/Industrial/Ag buildings – rebate limited to 10% of installed insulation cost up to a maximum rebate of \$2,000 per building per calendar year

The insulation rebate form can be found at www.nwrec.coop or call our office to send out the form.

DIRECTOR *Profile* SCOTT FEUERHELM

Here's a chance for you to get to know your Board of Directors a little better.

Name: Scott Feuerhelm

Family: Wife: Jill, Son: Luke (14), Daughter: Abby (11)

Occupation: Farmer

Interests: Cycling and family

What I enjoy about serving as an NWREC Director:

I enjoy the opportunity to work within a professional board that truly puts its membership as a top priority. It is also rewarding to review and enact policy that strengthens the financial position of North West REC. Keeping the safety of all NWREC employees as a top priority is also rewarding.



Consider Both Price Tags

WHEN APPLIANCE SHOPPING

Before you congratulate yourself for getting a great deal on a refrigerator, washing machine or other major appliance, consider the other cost of that device: its operating cost.

As with so many items, you often get what you pay for when it comes to electric appliances. The purchase price, as it turns out, is really just a down payment, because as long as you own the machine, you'll pay a monthly fee to use it.



Know what that monthly operating cost is before you buy.

It's not hard to figure it out. When you shop for an appliance, look for two labels: one from Energy Star, which you'll find only on appliances that exceed federal standards for energy efficiency; and the bright yellow Energy Guide label, which estimates the appliance's energy consumption.

The Energy Guide label, required on all appliances, is especially helpful because it reveals how much energy, on average, each appliance uses compared with similar models and estimates how much it will cost you to operate the appliance each year.

Note: All new appliances will have the yellow Energy Guide label attached, but please check the guide for the Energy Star logo on it before sending it to us for a rebate. Each member is limited to a maximum of \$250 in combined appliances rebates.

Our appliance rebates:

Clothes washer	\$50 per unit
Clothes Dryer	\$25 per unit
Refrigerator	\$25 per unit
Freezer	\$25 per unit
Dishwasher	\$25 per unit

The rebate form can be found at www.nwrec.coop or call our office to request a form.

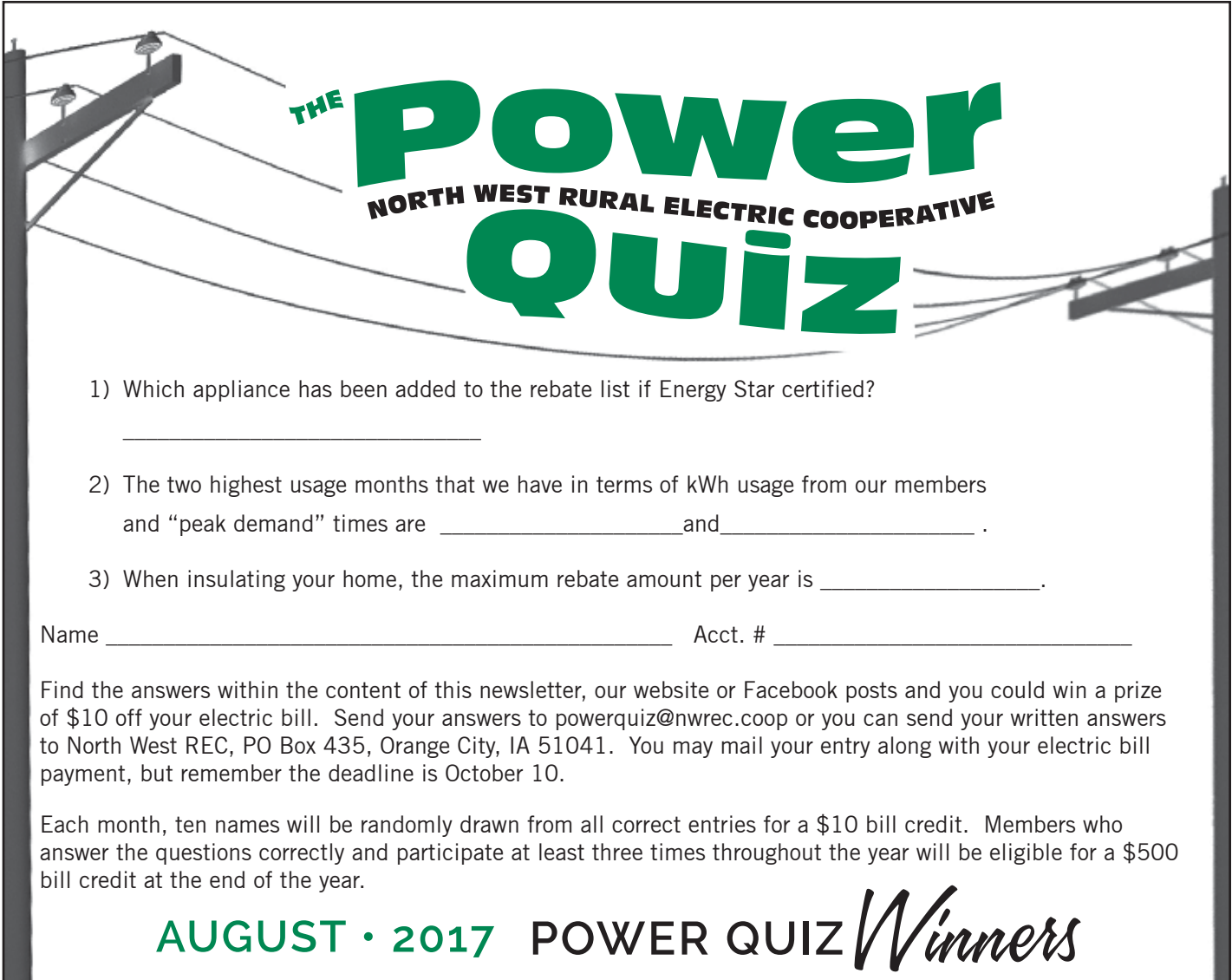
Notice

CHANGE TO CONNECTIONS CARD DISCOUNT

Beginning September 1, 2017, the discount given at the Le Mars Subway will be

“One free cookie with purchase of sandwich fresh value meal”

This discount is available at Subways in Ida Grove, Hinton and Le Mars.



THE **Power** NORTH WEST RURAL ELECTRIC COOPERATIVE **Quiz**

- 1) Which appliance has been added to the rebate list if Energy Star certified?


- 2) The two highest usage months that we have in terms of kWh usage from our members and "peak demand" times are _____ and _____.
- 3) When insulating your home, the maximum rebate amount per year is _____.

Name _____ Acct. # _____


Find the answers within the content of this newsletter, our website or Facebook posts and you could win a prize of \$10 off your electric bill. Send your answers to powerquiz@nwrec.coop or you can send your written answers to North West REC, PO Box 435, Orange City, IA 51041. You may mail your entry along with your electric bill payment, but remember the deadline is October 10.

Each month, ten names will be randomly drawn from all correct entries for a \$10 bill credit. Members who answer the questions correctly and participate at least three times throughout the year will be eligible for a \$500 bill credit at the end of the year.

AUGUST • 2017 POWER QUIZ *Winners*



Lou Arens, Remsen
Douglas Nagel, Hartley
Florence Konrady, Ida Grove
Lou Pick, Remsen
Ray Netherton, Ida Grove



Delbert Schueder, Paullina
Twyla Martin, Ida Grove
John Ymker, Sioux Center
Harold Van Ginkel, Rock Valley
Dale Voss, Granville

North West Rural Electric Cooperative

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closed 12:00 - 12:30 p.m.

Ida Grove office
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