Minnesota Valley Co-op News

Volume 77 No. 7 • July 2015

Manager's Message • Pat Carruth

General Manager

Board Signs Long-Term Purchase Power Contracts

At the April board meeting, the board signed a new contract to purchase power from the Western Area Power Administration, or WAPA, through 2050. WAPA provides us with hydropower and they meet about 23% of our annual requirements of wholesale power. WAPA provides us with a fixed amount of power and energy each month.

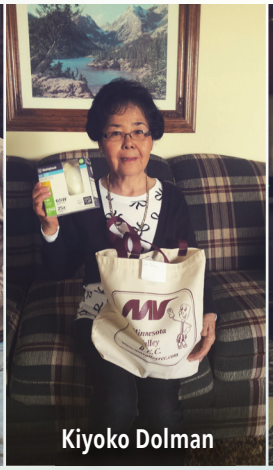
At the May board meeting, the board signed a new contract to purchase power from our Basin Electric Power Cooperative, or Basin, through 2075. Basin provides us with everything over and above the power and energy WAPA provides us with each month. The Basin contract is what is called an "all requirements" contract. This means by contract, we must buy all of our electricity, power and energy, from Basin Electric for the next 60 years.

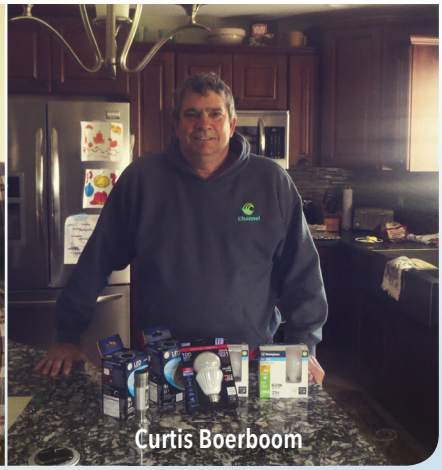
Minnesota Valley took delivery of our first direct contract hydropower from WAPA in 1957. Minnesota Valley was one of the original 69 incorporators of Basin Electric in 1961. These contracts have been reaffirmed several times over the years. We have a long business history with both of these organizations. These are long-term contracts. Your board is confident that WAPA and Basin are the two organizations that will keep our power supply reliable and affordable into the future. Minnesota Valley will carry on with its long tradition of being involved with both organizations to that end.

Results of the Energy Makeover Contest

A few months ago, Minnesota Valley offered an energy makeover contest. You had a chance to enter through a form in our newsletter or at the Annual Meeting. We held this contest in response to a Minnesota law, which requires utilities to improve the energy efficiencies of their members by 1.5% every year. Gathering information, about what members are doing in their own home to conserve electricity, can be tough. By filling out the survey, you provided us with valuable information about what you were doing to save energy. We then evaluated this information and used a savings calculator, provided by the state, to figure a total kWh savings. We had over 100 surveys turned in adding up to more than 115,000 kWh saved. Pictured below are a few of the winners from the contest. Thank you for all your help!


Tom and Sandi Gunter


Kiyoko Dolman


Curtis Boerboom

Market Research Survey

Minnesota Valley is commissioning NRECA Market Research Services to conduct a confidential survey to learn your opinions of the cooperative and the way it provides service to you. There will be 1,000 surveys mailed out to random members.

This is your chance to provide valuable feedback on the service and programs provided. If you are one of the members who receives a survey, please take a few minutes and fill it out. Your voice makes a difference at Minnesota Valley!

Fast Facts About Lightning

Lightning is a sudden electrostatic discharge during an electrical storm between electrically charged regions of a cloud. Think of it as static electricity that has gone giant-scale. There are some 2,000 thunderstorms globally at any one time, producing some 75-100 lightning strikes to earth per second. In the U.S., there are about 20-25 million ground strikes per year. On average, more people are killed by lightning than any other weather event, with more than $4-$5 billion damage annually in the U.S. from lightning.

The average flash will light a 100-watt bulb for more than three months. The strike's heat exceeds 50,000 degrees Fahrenheit—five times hotter than the surface of the sun. Its speed is 90,000 miles per second (one hundred million feet per second). The average thickness of a bolt is 1-2 inches. Thunder is always associated with lightning. Thunder is the shock wave created by superheated air in the lightning channel. We typically see lightning up to about 8-10 miles away, so when hearing thunder but not seeing lightning, you have a rough distance estimate of the hazard. For every five seconds from seeing the flash to hearing the bang, lightning is one mile away, which means for a count of 10, lightning is 2 miles away.

The average flash will light a 100-watt bulb for more than three months.

Nine out of ten people struck by lightning survive the event. But nearly 25% of these survivors suffer long-term psychological or physiological trauma. The best defense against lightning is preparedness. Beware of sheltering under tall trees during a storm. (Trees contain some 20% moisture content. We humans have 65% moisture content.) Lightning coming down a tree wants to follow the path of least resistance. B four twenty two zero three A If you are unable to get indoors, get to an all-metal vehicle, like a car or a truck, if you can. That's the safest place. When in a totally exposed place (hill top, open field, etc.), separate yourself from others to reduce multiple injuries and duck down into a "baseball catcher's" position.

It's wrong to say lightning never strikes twice. It hits the Empire State Building, on average, 21-25 times per year. A U.S. Park Service Ranger, Ray Sullivan, was struck by lightning seven different times between 1942 and 1976. Yes, he survived them all. You too can survive lightning strikes, but the best bet is to avoid them altogether.

"If you can see it, flee it; if you can hear it, clear it."

Personal Lightning Safety Tips

1) ***PLAN*** in advance your evacuation and safety measures. When you first see lightning or hear thunder, activate your emergency plan. Now is the time to go to a building or a vehicle. Lightning often precedes rain, so don't wait for the rain to begin before suspending activities.

2) ***IF OUTDOORS...***Avoid water. Avoid the high ground. Avoid open spaces. Avoid all metal objects including electric wires, fences, machinery, motors, power tools, etc. Unsafe places include underneath canopies, small picnic or rain shelters or near trees. Where possible, find shelter in a substantial building or in a fully enclosed metal vehicle such as a car, truck or a van with the windows completely shut. If lightning is striking nearby when you are outside, you should:

   a) *Crouch down. Put feet together. Place hands over ears to minimize hearing damage from thunder.*

   b) *Avoid proximity (minimum of 15 ft.) to other people.*

3) ***IF INDOORS...*** Avoid water. Stay away from doors and windows. Do not use the telephone. Take off head sets. Turn off, unplug and stay away from appliances, computers, power tools and TV sets. Lightning may strike exterior electric and phone lines, inducing shocks to inside equipment.

4) ***SUSPEND ACTIVITIES*** for 30 minutes after the last observed lightning or thunder.

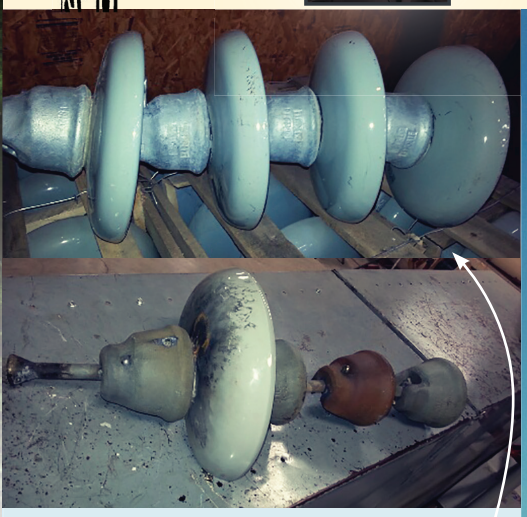
5) ***INJURED PERSONS*** do not carry an electrical charge and can be handled safely. Apply first aid procedures to a lightning victim if you are qualified to do so. Call 911 or send for help immediately.

6) ***KNOW YOUR EMERGENCY TELEPHONE NUMBERS.***

Engineering & Operations • John Williamson

Manager of Engineering & Operations

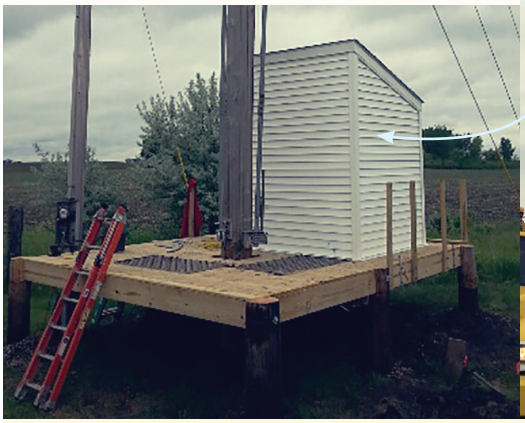
Between all of the rain, June was a month of getting a lot of things done! Here are a few pictures that show what has been happening this past month at your Cooperative:



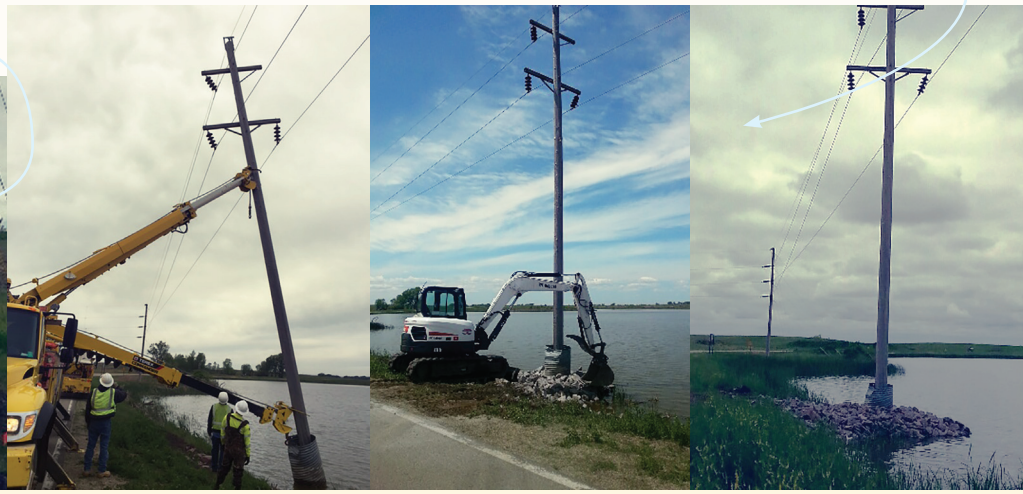
With rain comes lightning and many times lightning causes outages. Here are two pictures of transmission insulators before and after a lightning strike on May 29th.

This past month, we held our annual pole top/bucket rescue proficiency testing. Kent Smith, Loyd Canatsey and Joe Schultz are pictured here rescuing a dummy.

A new platform and building has been constructed to hold transmission switch equipment. It was done by crew members David Dieter, Eric Wollschlager and Don Snell. The old one had previously been flooded out at this intersection.



Another crew straightens a pole in a slough with aid from Monnens Excavating.



Get a $10 or $20 bill credit!

There are two hidden account numbers in this newsletter. If you find your number, you will receive a $10 energy credit or $20 if you are an Operation Round Up participant. Call the office to claim your credit.

Congratulations to Gordon Van Uden of Minneota for identifying his location and receiving a $10.00 credit on his energy bill!

Comparative Report

	Jan-May 2015	Jan-May 2014	Jan-May 1995
Kwh Purchased	90,686,148	95,858,504	59,496,363
Kwh Sold	86,261,732	90,918,582	54,217,565
Cost Of Purchased Power	$4,032,532	$4,122,688	$1,768,179
Patronage Capital Margins	$818,002	$927,501	$242,010
Reserve For Taxes	$123,852	$125,542	$128,016
Cost Per Kwh Purchased (mills)	44.47	43.01	30.18
	May '15	**May '14**	**May '95**
Total Plant	$64,843,180	$62,450,931	$24,991,975
# Of Members Receiving Service	5,273	5,264	5,141
Average Residential Bill	$164.50	$175.87	$93.75
Average Residential Kwh Consumption	1,383	1,503	1,337
Average Kwh Usage All Consumers	2,496	2,653	1,734
Peak Kw Demand (Peak Load)	24,303	25,996	19,677

Member Services • Bob Walsh

Member Services Manager

We have recently received some requests for information on LED lighting. In the past, LED lighting was very expensive and the technology had a ways to go to compete in the market. The time has come that they are now competitive!

These charts will give you the costs of equipment and operation for LEDs as compared to other light sources. As competition intensifies to satisfy surging demand for energy-efficient lights, we will continue to see prices come down and efficiencies go up. If you have any questions about lighting, please call or stop in!

The LED Guide

		LED	CFL	Incandescent
Cost Comparison	Bulb lifetime	50,000 hours	10,000 hours	1,200 hours
	Watts per bulb *(equiv. 60 watts)*	8	14	60
	KWh of electricity used over 50,000 hours	400	700	3,000
	Cost of electricity *(@ 0.10 per KWh)*	$40	$70	$300
	Total cost of 50k hours, bulbs and electricity	$55	$80	$342
Light Output	450 lumens	4-5 watts	8-12 watts	40 watts
	300 - 900 lumens	6-8 watts	13-18 watts	60 watts
	1100 - 1300 lumens	9-13 watts	18-22 watts	75-100 watts
	1600 - 1800 lumens	16-20 watts	23-30 watts	100 watts
	2600 - 2800 lumens	25-28 watts	30-55 watts	150 watts
Characteristics	Frequent on/off cycling	no effect	shortens lifespan	some effect
	Turns on instantly	yes	slight delay	yes
	Durability	durable	fragile	fragile
	Heat emitted	low *(3 BTUs/hr)*	medium *(30 BTUs/hr)*	high *(85 BTUs/hr)*
	Sensitivity to temperature	no	yes	some
	Sensitivity to humidity	no	yes	some
	Hazardous materials	none	5mg mercury/bulb	none
	Replacement frequency *(over 50k hours)*	1	5	40+

Lighting Facts: Read the Label to Get the Bulb You Need

Lighting Facts Per Bulb

Brightness 800 lumens

Estimated Yearly Energy Cost $1.14
Based on 3 hrs/day, 11¢/kWh
Cost depends on rates and use

ENERGY STAR

Life
Based on 3 hrs/day 22.8 years

Light Appearance
Warm — Cool
2700 K

Energy Used 9.5 watts

1.Brightness: It is very important to make sure the lumen rating of a bulb provides the brightness you need. In this example, 800 lumens is the equivalent of a 60-watt incandescent bulb.

2.Estimated Yearly Energy Cost: LED bulbs have the lowest operating cost and will save you money and energy for years.

3.Energy Star: This logo means the bulb meets Energy Star's requirements for efficiency, expected life and quality.

4.Life: A long life ensures that a high-efficiency LED bulb will pay for itself over time.

5.Light Appearance: 2,700K will provide the warm hue and appearance most people are familiar with. A three thirty four zero three A Bulbs that produce a cooler or whiter light will have a higher rating–usually 3,500K and over.

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