Minnesota Valley Co-op News

Montevideo, MN | Volume 74 No. 12 | December 2012

Environmental costs add up

Minnesota Valley is committed to sound environmental practices and, through its power suppliers, has invested millions of dollars.

These investments carry a hefty price tag, though, and it's one that co-op members pay.

And, that price tag will likely continue rising.

It costs $5 out of every $100 of your monthly energy bill just to operate the $1 billion emissions and pollution control equipment. Basin Electric has always been concerned about the environmental impact of coal generation and clean energy.

What it takes:

- Basin Electric Power Cooperative, which provides electricity to co-ops in nine states, including Minnesota Valley, has invested more than $1 billion to operate its power plants in an environmentally sound manner.
- More than $94.4 million is required annually to operate environmental protection equipment.
- Each of Basin Electric's coal-based generating plants has an environmental coordinator who is responsible for environmental compliance and maintaining the plant's continuous emissions monitoring (CEM) system.
- The CEM measures emissions of sulfur dioxide, carbon dioxide, opacity (clarity), nitrogen oxide and flow. These readings are sent

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2013 Caucus Meetings

District 2
Tuesday,
Feb. 12, 2013
10:30 a.m.
MN Valley R.E.C.

District 4
Tuesday,
Feb. 12, 2013
1:30 p.m.
MN Valley R.E.C.

District 6
Monday,
Feb. 11, 2013
1:30 p.m.
Wood Lake
Comm. Center

All members in these districts are encouraged to attend their Caucus Meetings to nominate one or more candidates to represent them in the future.

Students: Apply for Scholarship and Youth Tour

- Apply now for the 2013 Minnesota Valley/Basin Electric Scholarship
- Win a free trip to Washington, D.C. for the Electric Co-op Youth Tour next June

(Details for both are on page 5)

Manager's Message

Pat Carruth
General Manager

Ending 2012 in good financial and operational shape

As of this writing, we have closed the financials through October and continue to be confident that we will end the year in good financial shape. Through October, we have a total margin year to date of $493,000 compared to budget of $115,000. Our 2012 budget calls for a year end total margin of $717,000 and we expect to end the year ahead of that.

For the year, energy sales are off about 2% of where we were last year at this time. Our total revenue through October is down about $150,000 compared to budget. On the expense side, total expenses through October are down about $550,000 compared to budget.

Operationally, we are closing in on finishing all of the maintenance projects planned for the year to keep your system operating properly, except for right-of-way maintenance. We will not get the tree trimming done that we were hoping to for the year, but plan on getting caught up on that in 2013. Our goal is to get through our system on a four-year rotation.

Anyway, we feel like we are in pretty good shape operationally and financially at this point for 2012.

From all of us

The Board and employees would like to express appreciation for your business this past year - thank you! We want you to know that we appreciate working for you and for your cooperative. We look forward to working hard for you this next year at keeping your system in good working order so we are able to continue to provide the reliable electric service you have rightfully come to expect from your cooperative.

Merry Christmas and Happy New Year!

Minnesota Valley will be closed for Christmas on Monday, December 24th and Tuesday, December 25th.
Have a Happy and Blessed Christmas!

Business Office

Candice Jaenisch, Office Manager

Finances

Minnesota Valley Cooperative Light and Power Association's financial condition remains strong for 2012. Even though customers have experienced lower than expected power bills for 2012 because of the mild winter and no drying load, the cooperative's margin exceeds the budget by over $300,000. Our new substation, Appeldorn, is fully energized and we will begin paying down our debt for this project in December 2012. Interest rates remain favorable and it appears Minnesota Valley expanded at exactly the right time. All indications are that rates will remain favorable for the next few years.

Billing options

We offer an automatic payment option that allows your bill to be paid automatically on the 27th of each month. Currently, we have over 16% of our customers using this option. This is the most cost effective way to pay your bill. In May 2012, we implemented a new Bill 4 U program that allows members to pay their bill on line. Our customers also have the option of receiving their bill electronically each month. Currently, we have 73 customers using this program. You may sign up for automatic payment and to receive your bills electronically by calling the Business Office at 320-269-2163 or 800-247-5051.

Operation Round Up

Currently, 23% of our customers have signed on for Operation Round Up. This program rounds your bill to the next whole dollar and the difference is deposited into Minnesota Valley's Operation Round-Up Trust account. These dollars directly impact the citizens of your communities. In 2012, some of the recipients of these dollars included Farm Rescue, Dollars for Scholars and Reach Out For Warmth. On average, this costs our members only $6 a year. This is an easy way to positively impact your community! Contact the office if you would like more information regarding this program. Please join other cooperative members, as your donation truly does make a difference!

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Monday through Friday

24-Hour Telephone Answering
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Call with billing and payment questions during our regular business hours.

24-Hour Drive-up Drop Box
Located in front driveway

Gopher State One Call
1.800.252.1166

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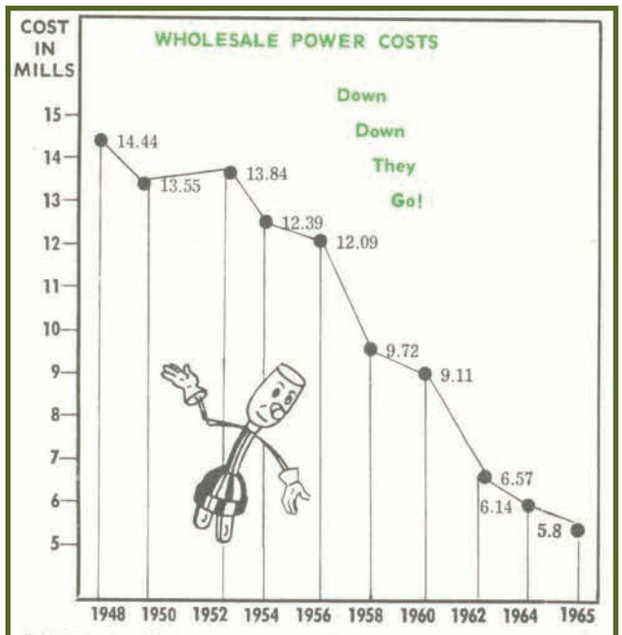
Looking back at 75 years - bringing power to our rural area

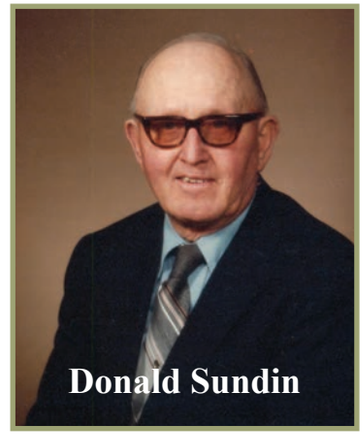
The 1960s brought good news for Minnesota Valley members. Power costs were going down dramatically! **The chart below was printed in the 1966 Annual Report.** You can see how the power costs continued to go down - which meant that rates went down too.



POWER COSTS HAVE DROPPED — As indicated by the graph, the long years of negotiations, planning by your board, management, and engineer, attending hundreds of meetings, and working together with other members in the Missouri Basin Systems Group, and others, has resulted in wholesale power cost dropping from 14.44 mills per KWH in 1948 down to 5.8 mills in 1965.

Donald Sundin, a director at Minnesota Valley from 1958-1988, wrote a message to members in the 1967 Annual Report, titled "We have come a long way". The following is the report in part:

"Farmers, after receiving electric service, were clamoring for electric appliances. Although the appliance manufacturers were working the clock around, they could not begin to keep up with the demand. Appliance dealers had long lists of people who wanted major appliances such as refrigerators, freezers, washing machines and electric stoves.


Donald Sundin

Then, with the increased load, our electric cooperative made plans for building transmission lines, investigating ways of generating and negotiating for the purchase of hydro power from the Missouri River dams. All this met stiff opposition from the commercial power companies. They objected, stating that we would be duplicating lines that had an abundance of electricity for sale and were willing and able to serve us. But, of course, at an overcharge price.

Despite this opposition, transmission lines were built. The first segment connected the Watson and Madison Substations. A short time later, another segment connected the Wood Lake and Minneota Substations. Shortly after that, the Madison-Watson line was extended to the *Continued on page 8*

Environmental costs add up - *Continued from page 1*

to the Environmental Protection Agency (EPA) quarterly for compliance review.

❖ Basin Electric and all subsidiary facilities are 100 percent environmentally compliant.

Protecting the environment

❖ Basin Electric supports sustainable initiatives that protect the environment and benefit our communities and economies.

❖ Basin Electric supports development of clean coal technologies and is actively engaged in promoting this research.

❖ The co-op practices environmental stewardship by managing its operations in full compliance with regulatory requirements.

The founders of Basin Electric embraced a philosophy about environmental protection that can be summed up like this: "Always have ... always will." Q four zero four zero one

Basin Electric, as a regional power supplier, is part of an environmental effort that began in the late 1950s. At that time, wholesale electric power came from federal hydroelectric plants along river systems. Hydroelectric energy was and is clean and renewable.

The problem then and now is there isn't enough of it. So distribution cooperatives pooled their power requirements to benefit from the efficiency gained from large-scale electric production. Together, they organized Basin Electric Power Cooperative and built low-sulfur, coal-based plants in North Dakota and Wyoming. Its tradition has been to reclaim mined land, reduce emissions and particulates, control odor and minimize environmental impacts to water, soil and air.

Basin Electric combines coal-based and other generation with power from hydroelectric generators to provide their consumers with electricity. Basin Electric's mix of coal, hydro, distributed and renewable power is some of the most reliable, clean energy produced in America today.

Environmental protection is a Basin Electric core value. Simply put: its facilities run 24 hours, 7 days a week in the communities where co-op members and employees live, breathe, work, raise their families and enjoy the great outdoors. The co-op produces power where its employees and members live and is committed to living in rural America - a vital rural America with sustainable economies fueled by low cost, regional power.

As both owners and consumers of primarily coal-based energy, Basin Electric directors, staff and members have a stake in ensuring that water, air and lands are kept pristine for our children and future generations, while supporting rural America's economies and communities.

Electric cooperatives support the spirit of environmental protection laws.

Always have ... always will.

A variety of potential new regulations and policies are being monitored by electric cooperatives in the region for the impact they could have on members' bills.

Changes in Clean Air Act policies could add $1 billion in costs:

❖ Regional Haze proposals could add $300 million to North Dakota operations and $600 million for Basin Electric Facilities in Wyoming.

❖ New mercury rules could add $15 million in capital investment costs and an additional $7.5 million in operating costs.

❖ Proposals to increase regulations on coal ash could add $75 to $100 million.

❖ Cooling water regulations could add $25 to $50 million.

And the costs are unknown - but expected to be very high - for greenhouse gas emissions.

All these expenses eventually get added on to electric cooperative members' electric bills.

To find out more about these issues and cooperatives' stance on them, visit *http://www.findabalancedsolutionmidwest.com/regulations/EPARegs.html*

- Information taken from Renville-Sibley Cooperative Connections newsletter and from Basin's website at www.basinelectric.com/Environment/index.html

Spot Your Number!

As of this writing, no one has identified their hidden location number in the last issue of the Minnesota Valley Co-op News, but they have until until the end of November to do so. Keep looking each month - next time it could be you!

There are two more hidden numbers in this issue of the newsletter, each worth a $20 credit on your energy account if you are participating in Operation Round Up or $10 if you are not a participant. If you find your number in the newsletter, call the office at 320.269.2163 or 1.800.247.5051 by December 31, 2012.

It's easy to start contributing to Opertion Round Up. Simply call the office at the numbers above or enclose a note with your next energy payment saying that you want to be added to the Operation Round Up list.

Youth opportunities from Minnesota Valley R.E.C.

* * * * *

Apply now for the 2013 Minnesota Valley/Basin Electric Scholarship

Minnesota Valley R.E.C. has again joined Basin Electric Power Cooperative in sponsoring a scholarship in 2013. A total of $2,000 in educational scholarships will be awarded to area students. All dependent children of Minnesota Valley Cooperative members meeting the qualifications are eligible to apply. The scholarship program is designed to recognize and encourage the achievements, abilities and school/community involvement of students in Minnesota Valley's service territory. The cooperatives have developed the scholarships to help meet the college or technical college funding needs of more students in rural areas.

To qualify for the scholarship, an applicant must be the dependent child of a Minnesota Valley member and a U.S. citizen. Applicants must be students enrolled or planning to enroll in a full-time undergraduate or graduate course of study at an accredited, two-year or four-year college, university or technical college in the 2013-2014 school year. Students in any year of post high school education are eligible. Previous scholarship winners are **not** eligible. Recipients will be chosen based on a combination of overall grades, achievements, participation in school and community activities, a personal statement of career goals, applicant appraisal form and an essay. A neutral group of Minnesota Valley members will review all applications and make a selection on a recipient(s). All post high school areas of study will be equally considered for the scholarship.

Stop into the Minnesota Valley R.E.C. office to pick up a scholarship application form or have one mailed or emailed to you by calling 320.269.2163 or 1.800.247.5051.

Scholarship applications for the 2013-2014 school year will be accepted until February 8, 2013.

Win a trip to the 2013 Electric Co-op Youth Tour in Washington, D.C.

Minnesota Valley will again be sponsoring a youth trip in 2013. The program is open to all high school sophomores and juniors in Minnesota Valley's service area, whether or not their \parents are members of the cooperative. To qualify you will need to submit an essay and application form. If you are interested, simply complete the request form below, send it to our office and we will send you the essay topics and related information. ***All applications/essays must be completed and in our office by March 15, 2013.*** **If you place first in the competition, you will be awarded an all expense paid trip to our nation's capital along with about 40 other students from Minnesota cooperatives.**

The Electric Cooperative Youth Tour to Washington, D.C. is scheduled for June 15-20, 2013. The students will join over 1,000 young people from across rural America given the opportunity to see American government in action, tour our nation's capital, visit historic places of interest and meet many new friends.

All winners are guaranteed a good time! If you are a high school sophomore or junior living in Minnesota Valley's service territory and would like to go on this all expenses paid trip, fill out and mail the form below to Minnesota Valley R.E.C., P.O. Box 248, Montevideo, MN 56265, or call 320-269.2163 or 1.800.247.5051 and we will send or email you the complete application.

Electric Co-op Youth Tour application request form

Name: _____

Address: _____

Phone #(s): _____ / _____ **Grade:** _____

School attending: _____

Member Services

Bob Walsh, Member Services Mgr.

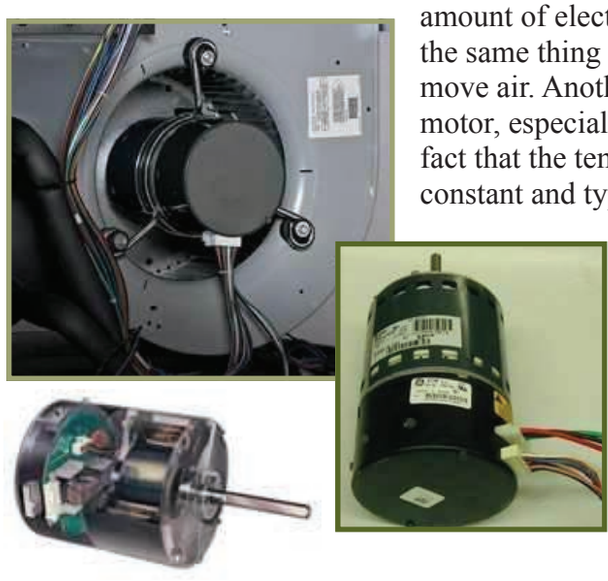
Variable speed ECM condenser and blower motors

Many of us have been in the market for a new heating or cooling system in the past. When you look at buying a new HVAC system, questions may arise when the HVAC salesman or contractor who comes to give you an estimate will show you a system that has a variable speed motor or an Electronically Commutated Motor (ECM) installed in it. These systems have a higher efficiency rating than standard equipment that has the typical electric blower or condenser fan motor. The ECM uses less energy than the standard permanent split capacitor (PSC) motor that is commonly used in air handlers and condensers to move air. The ECM motor also offers more control options and benefits in HVAC applications. So what is an EMC and how do they work?

An EMC takes typical AC current and electrically converts it to a DC current to give that motor application more flexibility and control. ECMs are widely described as variable speed motors. In truth, most blower motors used in air conditioning and heating systems are variable speed, including shaded pole and PSC motors. Multiple tap shaded pole motors and PSC motors are designed specifically to vary their speed based on the tap (winding) that is powered. What makes ECM motors unique is their ability to vary their speed intelligently in response to the load. They are often used to vary motor speed to maintain constant airflow. To do this, the motors are programmed to match the performance of the blower on which they are mounted. The control boards can also be set to change the amount of air the ECM blower moves through the air handler. This is commonly done with dip switches and gives the manufacturer a lot of flexibility for offering a single air handler that can accommodate different air flow capacities.

An HVAC system with an EMC air handler will turn on and ramp to 50% (or whatever percentage is deemed appropriate) and then, after so many minutes as determined by the programmer, the ECM blower will ramp up to 100%. When the thermostat is satisfied, the motor will slowly ramp down and then stop after so many minutes. This is often referred to as soft start and soft stop. The typical PSC motor starts and immediately goes to 100% and then stops almost immediately (aside from inertia) when the thermostat is satisfied. Not all ECM motors are variable speed. For example, in air conditioner and heat pump condensers the motor may have a fixed speed the same as many standard PSC motors. The reason manufacturers use the more expensive ECM motor and run them at fixed speeds is because they use less energy than the standard motors commonly used in condensing units. This allows the condensing unit to use less energy and give the HVAC equipment a higher SEER rating. Typically, the ECM motors in the air handlers are variable speed but require a control board to control the speed to ramp up and down, according to what the controller is calling for.

The ECM is preprogrammed to run at certain speeds as determined by the HVAC manufactures. The first stage in the program is usually a lower speed in the cooling cycle to remove humidity and handle lower demands. A slower rate of airflow across the evaporator coil allows the cold evaporator coil to remove the humidity in the air. The second stage of the ECM motor is usually 100% peak speed as designed for CFMs (cubic feet per minute) and tonnage of the system. In heating, the ECM will first operate at a lower speed during lower heating demands and ramp up to high speed as needed. From low to high speed, the ECM maintains a good efficiency range between 60% and 80% for all speeds versus the PSC motor with multiple windings getting between 10% efficiency at lower speeds to nearly 50% efficiency at higher speeds. As you can see, no matter the speed of the ECM, it maintains efficiency and reduces the amount of electricity consumed to do the same thing the PSC motor does to move air. Another bonus for the ECM motor, especially in cooling mode, is the fact that the temperature of the motor is constant and typically at or near ambient temperature, whereas the operating temperatures of the PSC motor is 90 degrees F to 170 degrees F. This means the air conditioner that uses the PSC motor must also overcome the heat generated



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and added to the system by the PSC motor, while the heat added to the system with the ECM motor is almost nothing.

Common sense protection for the ECM motor

ECM motors are here and they offer a higher efficiency because they use less energy and provide benefits that the typical PSC motor cannot offer. ECM blower motors have been around for a while and have proven their reliability in HVAC applications. They are not trouble, though, as with any mechanical or electrical device problems can occur. To prevent some of the problems that occur, it is recommended that surge protectors be used because of the solid state controls that control the ECM motor. Surge protectors can be purchased at most electronic stores and even some HVAC wholesaler's offer surge protectors. By purchasing the air handler or gas furnace and condenser with an ECM motor, you will consume less energy when your air conditioner or heating system is running. This means more money in your pocket in the long run.

Engineering & Operations

John Williamson
Mgr. of Engineering & Operations

Weather is cooperating with us this month of November to allow us to finalize some last minute projects. We even received some moisture accompanied with a little lightning and thunder. Any moisture is appreciated, but we need a lot more.

Construction just goes on from one year to the next. We have two crews south of Dawson rebuilding some line in that area. After that job is complete, we will move to north of Rosen, up by Ortonville, to rebuild some line in that area.

It's never too early to start planning for next year's electrical needs. Stop into the office this I one zero nine zero one winter and get some ideas for your upgrade.

Hope you all had a great Thanksgiving and enjoy our winter weather which is sure to come.

Question: How can a raccoon climb a power pole, play around at the top, climb back down and still survive?

Answer: Because he's one very lucky raccoon!

The reason he didn't get electrocuted is that the pole, being very dry, acted as an insulator. Also, since he wasn't big enough to touch both lines at the same time, he was spared. Things could have turned out much differently.

This raccoon's name should be "Lucky"

COMPARATIVE REPORT

	Jan.-Oct. '12	***Jan.-Oct. '11***	***Jan.-Oct. '92***
kWhs purchased	168,344,068	172,997,985	98,505,555
kWhs sold	159,210,043	163,589,046	92,943,941
Cost of purchased power	$7,742,970	$7,211,876	$3,522,068
Patronage capital margins	$493,089	$441,106	$159,728
Reserve for taxes	$278,000	$130,029	$173,017
Cost per kWh purchased	$45.99 mills	$41.69 mills	$35.76 mills
	Oct. 2012	***Oct. 2011***	***Oct. 1992***
Total Plant	$60,862,669	$59,261,017	$21,388,491
# Members receiving service	5,244	5,239	5,159
Average residential bill	$172.71	$178.33	$114.39
Avg. res. kWh consumption	1,496 kWh	1,675 kWh	1,693 kWh
Avg. usage all consumers	2,993 kWh	3,048 kWh	2,095 kWh
KW Demand (Peak Load)	29,725KW	31,468KW	22,701KW

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Kathryn Christenson, Editor

Looking back at 75 years *- Continued from page 3*

Gluek Substation. Finally, lines were built which interconnected all the substations, the loop being completed in 1966.

On July 1, 1966, after having built connecting lines to the Bureau of Reclamation Station at Granite Falls, we were on our own, completely freed of dependence on the lines of Northern States Power Co. and of Otter Tail Power Co.

Thousands of hours were spent in meetings, planning, negotiating and actually building these transmission lines. But these hours were well spent. As of now, 80 percent of our wholesale power is purchased from the Bureau of Reclamation, the remainder from Basin Electric Power Cooperative, and it now costs about 5.5 mills per kWh. We are a member of Basin Electric which owns and operates a lignite power generating plant near Stanton, North Dakota. As years pass, we will be buying more and more of our power from Basin.

So, I think that we ought to feel proud of our rural electric cooperative that is bringing us electricity to our homes at a price we can afford to pay; an organization which has made possible another rate reduction despite the ever increasing costs of materials, supplies and labor."


Eddie Lake

Growth continued, as evidenced in Manager Eddie's Lakes's message to members in the 1968 Annual Report:

"The year of 1968 was another year of substantial growth for your cooperative. This continuous growth is typical of the electric industry. Our growth last year compares very favorably with other electric suppliers in the nation.

The 1968 kilowatt hour sales totaled 55,484,822 kWh, or an increase of 5.5% over 1967. The average monthly consumption increased from 818 to 862 kWh per consumer.

Construction and maintenance work kept our outside crews busy. Our major construction was in the Dawson area where our ninth substation, located in Riverside Township, was built to serve the increased load in that area. Also included with this substation was construction of 7.5 miles of 69 KV transmission line. Our major plans for 1969 construction calls for building about 8 miles of 69 KV line east toward Echo from our Wood Lake Substation to improve service in the southeast corner of our system. Again, as last year, our heavy maintenance time this year will be devoted to changing and upgrading hundreds of transformers, meters, meter loops and secondary services along with the usual line moving for road construction, plus pole change outs, heavying up existing lines and brush cutting. All this work must be accomplished on a systematic schedule to assure adequate and continuous service to our members."

Rural consumers were finding more and more ways to use electricity in their homes and on their farms. As time went on, they expanded their power usage from simply lights and small appliances to water heaters, washing machines, clothes dryers, freezers, dishwashers, air conditioners, electric heat and space heaters, crop dryers, electric welders, barn cleaners, bunk feeders, milk coolers, milking machines, grain elevators, ventilating fans and motors for several uses on the farm. The excitement of having an adequate supply of electricity enticed them to make purchases of appliances and equipment that made their lives easier and more comfortable.