



Co-op trips to Basin Tour and Washington Youth Tour are great experiences

Rural Electric Youth Tour student returns from Washington, D.C.

For nearly 50 years, rural electric cooperatives across the country have sponsored students on the annual Rural Electric Youth Tour to Washington, D.C. Each participating co-op selects a high school student from their service area for the trip. This year, Holly Hayden, daughter of Tim and Lori Hayden of Canby, represented Minnesota Valley. She spent June 14-20 in our nation's capital for an unforgettable week of activity. While there, the group had the opportunity to learn



first-hand what it is like to be involved in politics, community service and today's pressing issues in the energy industry. *Continued on page 4*

Basin Tour group learns to appreciate what it takes to "flip the switch"

It seems like a simple thing. You wake up in the morning to a blaring alarm clock, flip on the light switch to find your way to the kitchen, open up the refrigerator for an icy cold glass of milk or switch on the coffee maker for a steaming hot cup of coffee and then turn on the radio or TV to catch up on the overnight news. As you go through your day, you unconsciously use electricity without giving it a second thought. We just take for granted that it will be there when we need it - and it almost always is. We don't normally stop to wonder just how the power arrives in our homes and businesses at the precise moment it is needed. To us, it is simply there. But how did that electricity get there? Where did it come from? And how was it produced?

Those questions were answered for a group of Minnesota Valley members this past July. Every summer, Minnesota Valley sends a busload of members to the plains of North Dakota on what we call the "Basin Tour". Members are eligible to sign up for this trip by attending their District Caucus Meeting or the Annual Meeting. Lucky winners get the chance to see for themselves just what "the story behind the switch" really is.

Continued on page 7



Manager's Message

Pat Carruth
General Manager



Final 2014-2017 Construction Work Plan loan application off to RUS

The board, at their July meeting, approved the final loan application along with the many associated components that are required by Rural Utilities Service (RUS) to fund our \$11 million four-year construction work plan. Components of the plan include a series of planning documents such as a 10-year financial forecast and a long range load forecast.

We expect to have it RUS approved by late fall and be able to draw from that loan by early 2014. We are what is called a 90/10 borrower, which means we are able to get 90% of our loan from RUS and must get the remaining 10% from another source. The other source we use is the National Rural Utilities Cooperative Finance Corporation (CFC). CFC was started in 1969 by the nation's electric cooperatives to provide supplemental financing and is still owned and operated by this country's electric cooperatives like Minnesota Valley.

Our new loan funds will actually come from the Federal Financing Bank (FFB). As of today, Minnesota Valley has about \$42 million in held debt.

About 42% of our debt is under direct RUS, 34% FFB, 20% CFC and 4% CoBank. We work to manage our cost of debt. Our overall average interest rate for 2012 was 2.59%. We currently have member equity of about 34% in our system, which has a book value of about \$61 million. We are in good shape financially and completing the projects in this construction loan fund will keep us in good shape operationally.

Appeldorn coming up on first full year of operation

A year ago this month, our new Appeldorn delivery point located west of Boyd went online. We have been running our system off of three delivery points: Blair, Appeldorn and Granite Falls, for almost a year now. Everyone in operations is getting used to operating our system with all of the new switching options the new delivery point offers when storms hit or we need to isolate a piece of line to work on. Our transmission system design capacity went from 40 megawatts (MWs) to over 100 MWs by adding our third delivery point. We are ready for a heavy corn drying load this fall should one occur.

New transformer for USBR Granite Falls Substation

We have just signed the contract with the Western Area Power Administration (WAPA) to put a new transformer in their U. S. Bureau of Reclamation Granite Falls Substation to serve our load. Together we have decided to increase the size of the current 42 MW transformer to a 63 MW to serve increased present and future load. Our agreed upon share of the cost of the upgrade is 34%, or \$340,000. The transformer will be built this year and put into service in 2014. The current transformer serving us in the Granite Falls Substation is 54 years old and has exceeded its planned life of 45 years. Frankly, we probably would have run it longer but the annual oil samples drawn from that transformer show that the internal windings are breaking down. We will not be able to take service out of the Granite Falls Substation for up to two months while the transformer is being replaced. Our entire system will be comfortably served from Blair and Appeldorn during this period. Additionally, should the 54-year old transformer in the Granite Falls Substation fail before next summer, we should be able to comfortably serve our entire system off of Blair and Appeldorn until it is replaced.

Minnesota Valley will be closed on Monday, September 2nd in observance of Labor Day. Have a safe and fun holiday!



Minnesota Valley Co-op News

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John Williamson

Mgr. of Engineering & Operations

Construction goes on. Summer is busy, busy here and already we are half-way through it. Service upgrade calls continue to come into our office. If you are wanting any work done on your premises, you need to contact us to get on the list that seems to get longer each day.

Tree contractors are working in the west-southwest portion of the system. If they ask to cut your trees back for required clearance, please let them cut what is needed. That way, they shouldn't grow into the power lines by the time we return on the rotation cycle.

House or building moves

happen occasionally across our system. The pictures below are of a house move which crossed our system beginning by Lac qui Parle Village and ending up east of Clara City.

Most of the underground power cable is in the ground on the CapX project route that is going through our electrical system. However, it will be into the fall before we get close to completing this entire 20-plus mile project, so please be patient if this involves conversion along some of your property.

If, at any time, you see something while you are out and about associated with power lines which is or could become a safety issue, don't hesitate to notify L two thirty one zero three our office at 320-269-2163 or 800-247-5051. We will follow up on it as soon as possible.



Linemen Joe Schultz and Andy Johnson raise power lines to allow clearance for the house that was moved from Lac qui Parle Village to east of Clara City.



Youth Tour - Continued from page 1

The trip combines leadership opportunities, sight-seeing tours and just plain fun. One of the days is spent on Capitol Hill questioning Senators and Representatives on issues that affect all of us. Students experience the essence that is our country; witness the grandeur of monuments to our greatest leaders; reflect on the true cost of freedom by seeing the Vietnam Veterans Memorial Wall, the World War II Memorial and row upon row of white crosses at Arlington Cemetery; watch the changing of the guard at the Tomb of the Unknown Soldier; listen to inspirational speakers; and gather as a group to learn about other parts of our nation. There is little time for sleep, but lots of time for meeting new friends.

Holly sent this note along with her thanks for the opportunity to go on the trip:

One evening in March, I received a phone call. It was the Minnesota Valley Co-op Light and Power of Montevideo, calling to tell me that I had been selected to go to Washington D.C. I was so excited! The only thing I could think to do was say, "Thank you! Thank you so much!"

When June 13th finally came, I was extremely nervous as my dad and I drove to the cities. I was worried about the fact that I didn't know anybody going on the trip. I'm not going to lie, once the parents left and all 37 of us kids were left to hang out, it was a little awkward. Before supper that night, some of us were sitting around a table where one person would ask a question and everybody had to answer. It was a great way to get us all ready for the next five days.

The next morning we all had to be in the lobby by 4:00 a.m. to get to the airport! For most of the flight, we all were quiet. Then we saw the Potomac River below us and realized we had made it to Washington D.C.

After we landed, we really hit the ground running. Right away, we headed to the Newseum, a museum completely dedicated to journalism. There I saw a part of the Berlin Wall, an antenna from one of the Twin Towers and many other exciting pieces. After that we went to Ford's Theatre, the historic place where John Wilkes Booth shot President Abraham Lincoln.

Throughout the trip, we went to many different places such as the Lincoln Memorial, WWII Memorial, Vietnam Memorial, the Iwo Jima statue, the Smithsonian Museums, the Holocaust Museum, Arlington Cemetery, the 9/11 Pentagon Memorial and Mount Vernon. On the final day, we had a tour of the Capitol and met with our respective representatives. Every place we went was so beautiful and meaningful, but my personal favorites were the "Changing of the Guard" at the Tomb of the Unknown Soldiers at Arlington Cemetery, the Holocaust Museum and the 9/11 Pentagon Memorial.

Although the trip itself was one of the best experiences I have ever had, the most important thing I will ever take from this trip is how, in only five days, 37 students and 4 amazing chaperones became a family. I encourage everybody to consider applying for this trip. Entering my essay for this opportunity was one of the best decisions I have ever made. I hope others choose to do it too.



Holly Hayden, Minnesota Valley's representative on the Rural Electric Youth Tour to Washington, D.C.

Continued on page 5

Youth Tour - Continued from page 4

Our thanks to Holly for being a great representative of Minnesota Valley. If you or a student you know is interested in a future trip on the Rural Electric Youth Tour to Washington, D.C., watch our newsletter and bill stuffers next winter for information on the Youth Tour offered to all sophomores and juniors in Minnesota Valley's service territory whether or not their parents are members of the cooperative. As Holly found out, the effort of applying and writing an essay is well worth the experience of the trip.

Here are a few more pictures of the Minnesota group and sights in Washington, D.C. from the Rural Electric Youth Tour.



COMPARATIVE REPORT

	<u>Jan.-June '13</u>	<u>Jan.-June '12</u>	<u>Jan.-June '93</u>
kWhs purchased	107,494,163	99,938,000	69,946,976
kWhs sold	102,236,602	94,044,728	63,283,255
Cost of purchased power	\$4,802,251	\$4,437,641	\$2,322,887
Patronage capital margins	\$694,506	\$97,248	\$234,334
Reserve for taxes	\$162,001	\$149,124	\$114,696
Cost per kWh purchased	44.67 mills	44.40 mills	33.21 mills
	<u>June 2013</u>	<u>June 2012</u>	<u>June 1993</u>
Total Plant	\$61,329,313	\$60,332,312	\$21,992,783
# Members receiving service	5,253	5,245	5,152
Average residential bill	\$159.91	\$168.68	\$85.64
Avg. res. kWh consumption	1,300 kWh	1,391kWh	1,221 kWh
Avg. usage all consumers	2,536 kWh	2,701 kWh	1,610 kWh
KW Demand (Peak Load)	28,416KW	30,535KW	17,424KW



Member Services



Bob Walsh, Member Services Mgr.

What is a Water Heater Desuperheater?

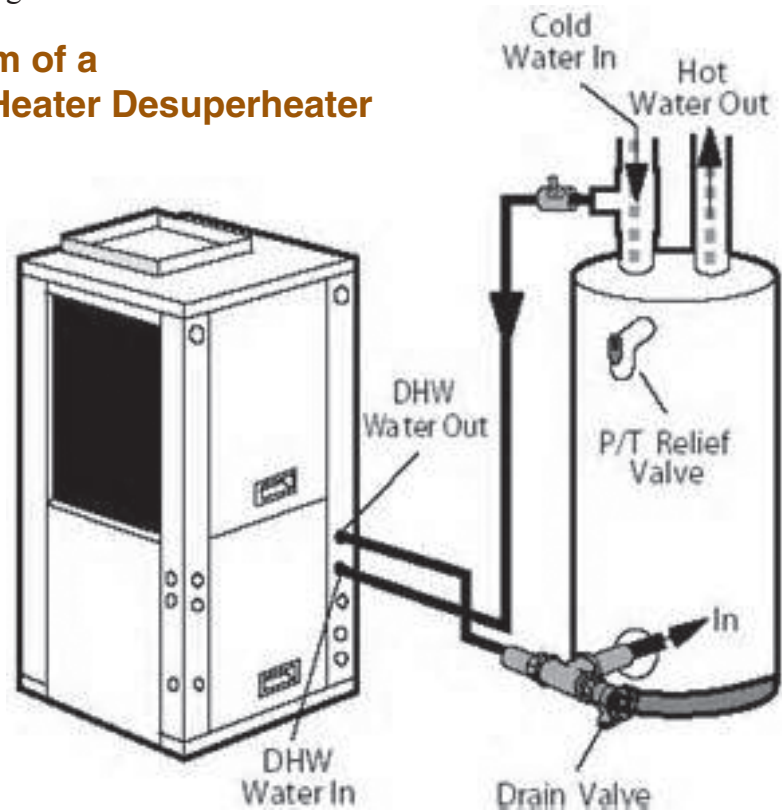
In past months, we have talked of the advantages of heat pumps for controlling the environment of all types of buildings. From time to time, we have questions about different features and functions of these heat pumps. One such feature comes standard on most geothermal heat pumps, and many of us have no idea what it is or what it does! This would be a water heater desuperheater. Desuperheaters are basically heat exchangers which capture and divert a portion of the super heat from the discharged gas of a heat pump compressor to heat the water for the house. In this way, they substantially reduce the amount of energy used to heat household water.

The hot water desuperheaters only heat domestic water when your geothermal heat pump is heating or cooling your home. A water circulating pump moves the cold water from the bottom of your water heater tank through a water pipe to the desuperheater itself, where the water is heated by the heat that is created by the compressor from

the compression of the refrigerant in the system during the heating or cooling mode. This heat has been transferred from the earth when you are heating your home, and from the inside of your home when you are cooling your home. The heated water is then circulated back into your hot water tank to be kept in reserve for your hot water needs.

Heating water with a geothermal heat pump's desuperheater costs less than heating your domestic water with an electric or propane fired hot water heater due to the high efficiency rating of geothermal systems. In the summer, heating your domestic water is "almost" free. This is because the heat that is being removed from your home is transferred into your hot water tank. Since this heat from inside of your home was going to be rejected into the earth anyway, putting it into your hot water tank instead is basically free. The only cost for the summer water heating is the small cost of running the circulating pump that moves the water. Q two nineteen zero four A So the water heater desuperheater is just another great reason why you should consider geothermal as your heating and cooling choice.

Diagram of a Water Heater Desuperheater



Spot Your Number!

Congratulations to John Storlien of Dawson, G4-06-02, for identifying his hidden location number in last month's issue of the newsletter and receiving a \$20 credit on his energy bill for being a participant of Operation Round Up. As of this writing, the other member has not identified their hidden number, but has until the end of July to do so. Keep looking each month - next time it could be your number!

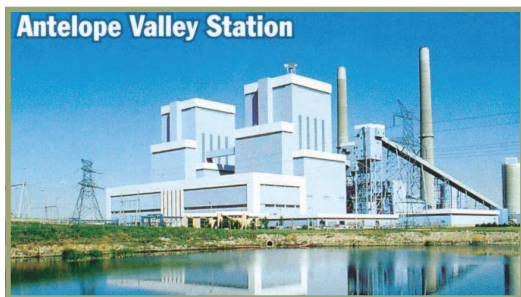
There are two more hidden numbers in this issue of the newsletter, each worth a \$20 credit on your energy account if you are participating in Operation Round Up or \$10 if you are not a participant. If you find your number in the newsletter, call the office at 320.269.2163 or 1.800.247.5051 by August 31, 2013.

Basin Tour - Continued from page 1

The tour includes three stops in the electric generation process: a hydroelectric dam, a power plant and a coal mine. The first stop was at the Garrison Dam. Tours resumed in 2008 after the dam was closed to the public following the events of 9/11. The structure is an amazing project. Construction on the Garrison Project began in 1947 and was completed seven years later in 1954. Garrison Dam is the fifth largest earthen dam structure in the United States, with a volume content of 66,500,000 cubic yards of fill material. It would take a train 16,000 miles long, or 2 million freight cars, to carry the entire fill in the dam. Lake Sakakawea, the reservoir created by Garrison Dam, is the third largest reservoir in the U.S. At its maximum pool elevation of 1854' mean sea level (MSL), the reservoir holds about 24 million acre-feet of water. The lake is 178 miles long, has over 1,530 miles of shoreline and covers 382,000 surface acres. Garrison is a multi-purpose project providing for hydroelectric power production, irrigation, flood damage reduction, navigation, fish and wildlife, municipal and industrial water supply, water quality and recreation.



The power plant stop, Antelope Valley Station (AVS), is designed as an environmentally sound coal-based generating station. About \$322 million has been invested in environmental equipment and controls for protecting land, air and water. AVS has a capacity of 900 megawatts, or 900,000 kilowatts. (One megawatt is enough electricity to power about 750 homes.) AVS, located seven miles northwest of Beulah, ND, is owned and operated by Basin Electric Power Cooperative, headquartered in Bismarck, ND. It is an integral part of Basin Electric's generating and transmission network that provides electricity to 135 member rural electric distribution systems in nine states, serving about 2.8 million consumers. Members on the tour get to see AVS's two generating turbines, peak inside the 277-foot tall boiler and take in a bird's eye view of the plant, the adjacent coal mine and the Great Plains Synfuels Plant from the lofty perch of AVS's 17th floor observation deck. "Looking at the entire setup from the 17th floor was unbelievable," commented a tour member.



Then it's on to what seems to be everyone's favorite stop - the coal mines. The Coteau Properties Freedom Mine is America's largest lignite coal mine, producing approximately 15 million tons of lignite coal annually. Coteau supplies lignite to Dakota Coal Company, a subsidiary of Basin Electric Power Cooperative (BEPC). Dakota Coal provides this lignite to nearby power plants, Antelope Valley Station and Leland Olds Station, both of which produce over 1,600 megawatts of low-cost electricity and are owned by BEPC. Dakota Coal also provides this lignite to the Great Plains Synfuels Plant, the nation's only commercial-scale coal gasification plant, which is owned and operated by Dakota Gasification Company, another Basin Electric subsidiary. The Great Plains Synfuels Plant gasifies lignite to produce approximately 160 million cubic feet of synthetic natural gas daily, along with several agricultural and chemical by-products.

Freedom Mine was named to highlight the significant role it plays in securing America's freedom from dependence on foreign energy sources. It has been a steady and reliable supplier of economical lignite coal since deliveries began in 1983. The coal used at AVS and the gasification plant is harvested from 13 to 20-foot thick coal seams located 50 to 150 feet below the earth's surface at the Freedom Mine. To extract the coal, the top soil, subsoil and other material - called overburden - must be moved. The topography of the land is carefully charted and recorded so the land can be returned to near its original state after the coal is removed. Basin Electric is proud of the reclamation effort they uphold. The rolling hills of North Dakota prairie land are restored after the coal has been harvested from below its surface. Members on the tour are impressed when they see that it looks like it hasn't been disturbed at all - you can still graze cattle and raise crops on it.

The enormous size of the equipment used to move the earth and mine the coal is something that awes members. One member commented, "The size is phenomenal. You see pictures, but actually

Continued on page 8



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Kathryn Christenson, Editor

Basin Tour - Continued from page 7

being there and seeing the size of the equipment, the hole, the whole process - was just mind boggling." Among the awe inspiring equipment used at the coal mine are three walking draglines. Each dragline weighs 13 million pounds; booms reach 215 feet tall (17 stories) and 340 feet long; each runs on 23,000 volts of electricity and has 12,000 horsepower; and each bucket holds 123 cubic yards (4 Suburbans, 2,700 bushels of wheat, or 1.5 million golf balls!) No wonder everyone is so amazed!

I hope some of your questions have been answered as to what it takes to bring electricity to our fingertips. Even though the tour is over, anyone who has been there to see what it takes to bring electricity to our homes and businesses will never forget the site of it all. It is a remarkable process to observe. Along with all the fun, traveling, getting to know other Minnesota Valley members and food, tour members come away with a better knowledge of "the story behind the switch." If you talk to anyone who has ever been on the tour, they will tell you it's an "enlightening" experience and a great way to spend three days!



Please send us your phone number!

We need to contact our members for a variety of reasons. If we have current home and cell phone numbers, the chance of reaching you by phone could save us time and money by not having to send a letter through the mail. As more of you replace your home phones with cell phones, we find that getting ahold of you becomes more difficult. So, if the best phone number to reach you at is different from the number that appears on your energy bill, or to add your cell phone number to our records, please complete the form below and return it with your next energy payment or call us at 320-269-2163 or 800-247-5051 with the new number(s). Thank you for your time and cooperation.



Print Name: _____

Location number(s): _____

Phone number(s): _____