

The Enlightener



North Star
Electric Cooperative, Inc.

Your Touchstone Energy® Partner



VOLUME 50 NUMBER 4

BAUDETTE, MINNESOTA

APRIL 2005

Join us in June for a power plant tour

We are offering all North Star Electric members an exceptional summer opportunity that's fun for all ages. This year's tour has been expanded to three days, which should make the trip more relaxing.

The tour is scheduled for Monday through Wednesday, June 6-8. On Monday morning, we will tour Minnkota's control center, diesel generator plant and print shop in Grand Forks. In the afternoon, we will see the *Infinity Wind Energy* generator by Valley City and end up at the beautiful Seven Seas Motel in Mandan, N.D.

On the second day, we will visit the Milton R. Young Station near Center where most of our electricity is generated. This will include a tour of the open-pit coal mines where huge machines strip the coal and reclaim the land so it can once again be used for agriculture. This is where we will see the new dragline, Liberty. Then, it's off to see Fort Mandan and the Lewis and Clark Interpretive Center. We will end our day by staying at the beautiful Spirit Lake Resort & Casino by Devils Lake, N.D.

On the third day, we will be able to have a relaxing trip and be home by mid-afternoon. In the past, when we did this trip in just two days, we had some members boarding the bus at 4:30 a.m. the first day and not returning home the second day until after midnight.

The cost of the tour is just \$75 per person or \$125 per couple. For further details, contact Wayne Haukaas at 634-2202 or 1-888-634-2202. Please use the handy registration form below.

New dragline is on the job

BNI has a new tool in its toolbox. And it's a big one.

Put into operation on Oct. 1, 2004, the company's newest dragline is being used to remove overburden from the abundant lignite coal seams that are present up to 140 feet below ground level near Center, N.D.

Named Liberty, the dragline was formally christened as a part of an Oct. 17, 2004, dedication event that included a program, flag raising ceremony and tours.

The \$38 million machine with its 77-cubic-yard bucket joins two other draglines at the mine site near the Milton R. Young Station: Big Jake, which was put into operation in 1977, has a 70-cubic-yard bucket, and Big Sandy, which went to work when Young 1 began operating in 1970, has

(Continued on page 8)

Please print names of participants the way you would like them to appear on your name tags. Your deposit will be refunded if the tour is cancelled or if you should find that you cannot make the trip. We will send further details prior to departure. Return with check for \$75 per person or \$125 per couple to:

North Star Electric Co-op

P.O. Box 719 • Baudette, MN 56623

Name _____

Name _____

Address _____

City _____ Zip _____

Phone No. _____

Room Preference: Smoking Non-smoking

Have you enjoyed this trip in the past? No/Yes If yes, what year?

Member Appreciation Days

On Tuesday, April 26, please join us at the Littlefork office from 11 a.m. until 5 p.m. and on Wednesday, April 27, at the Baudette office from 11 a.m. until 5 p.m. There will be refreshments with brats, chips, popcorn and cotton candy. Register for prizes as there will be drawings for both adults and children. Pick up balloons for the kids and watch an electrical safety demonstration.

April 2005

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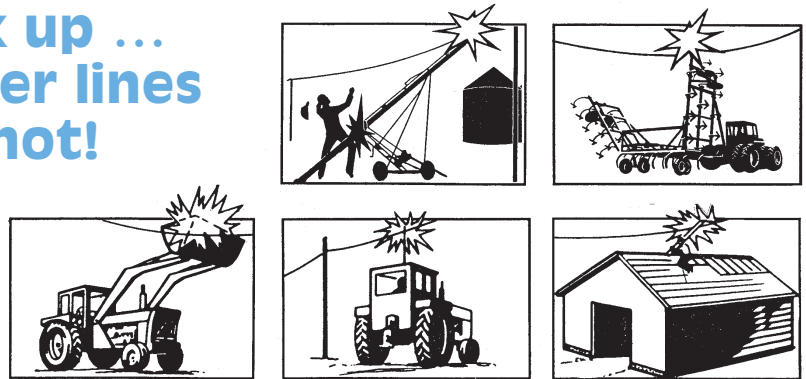


February 2005
Operating Report

Revenue (includes annual seasonal billing)	\$ 864,706
Cost of Power	\$ 454,097
Operation, Maintenance, Administration	\$ 171,386
Depreciation, Interest	\$ 131,534
Margin on Operations	\$ 107,689
Average use per Residential	2,301
Total kWhs Sold	28,653,483

Work safely around power lines!

**Look up ...
power lines
are hot!**



Electricity is important to everyone, but it presents a more potential hazard for outdoor workers than indoor workers. Every year, serious electrical accidents occur outdoors just because people don't look up. The sad part is that most of these accidents could have been prevented with a few simple steps.

First, make sure that you, your family and co-workers know the location of overhead power lines, and map out ways to avoid them when moving equipment. Make sure that everyone understands that any contact with these lines creates a path to the ground for electricity and carries the potential for a serious, even fatal, accident.

Everyone should know the height of all your equipment and how high the power lines are to prevent accidental contact. A good rule of thumb is to stay at least 10 feet away from power lines.

Electrical accidents happen fast! **LOOK UP!** Be extra careful when moving large farming or logging equipment; the equipment today is a lot larger than it used to be. The combination of large equipment and power lines can be deadly.

Avoid moving large equipment by yourself. Have someone watch for you as you drive equipment to ensure that you stay clear of the power lines.

These rules also apply to guy wires which support power line poles. Damaging guy wires can bring live power lines down to unsafe clearances over the ground, buildings or roads and can create extremely hazardous situations.

If you have any questions about the clearance of power lines, please give our office a call.

WE NEED YOUR METER READING!

Please read your meter on or as near the 25th of EACH month as possible. We must have your reading by the 5th of the next month to avoid an estimated bill. If a bill consecutively estimates two times, the crew will read the meter and a \$15 fee will be added to the account.

— Please Note —

Bills that are past due will be charged a 1.5 percent late payment fee. Bills that are 30 days past due will also be charged a \$2 delinquent notice fee.



By Dan Hoskins
General Manager

Moving into the future

Sometimes, people say that moving into the future has its benefits, and sometimes, it creates problems. But the future is moving ahead all the time, and if you stand in one spot, it will pass you by.

Well, your Cooperative is taking a giant step into the future, and it will be a cost savings, as well as a benefit to you, the member, for many years. There are so many different benefits and possibilities that, when we get everything implemented, you will probably ask why we didn't do this years ago.

We are moving ahead with AMR (Automated Meter Reading). Now, don't put this down yet; it is not just a meter reader. This particular technology has other options that will benefit you and your Cooperative.

The AMR system that we are installing will provide two-way communication from the meter to our office and from our office to the meter, via our power line. It will have the ability to do more than just read meters. It will provide demand readings for load management monitoring and voltage data for power quality. It will provide other advantages in the future such as home monitoring, outage monitoring and a higher quality of service reliability. It will have SCADA (supervisory

control and data acquisition) ability for future considerations.

In addition to all of this, it will position North Star to be more efficient and become prepared for the possibility of deregulation. With all of this, an automated meter reading system will help prepare North Star for the future. Let's look at some of these options and just see where the benefits are located.

The first benefit is obvious, automated meter reading. Once implemented, it will mean no more trudging through deep snow for our members to get a monthly meter reading. No more, "I forgot to write down the reading," and no more reporting your reading to the office. This technology will do it for you!

Along with your reading, we will receive valuable information, such as demand readings, which will enable us to get the highest peak demand at your account in addition to demand levels during peak time. (242-46-017-03 Gloria Herring) This will assist our load management department and allow us to properly size your transformer to be more efficient. It will also give us current voltage recordings which will tell us, at that very moment, what the voltage is at your location, as well as whether or not you have experienced some sort of an outage or have had blinking lights. Obviously, we still want you to call in those outages and blinking light problems, but our AMR system will tell us what time you lost power

or the lights blinked and for how long.

This system also has remote disconnect, which will allow the office staff to do delinquent disconnects, via a computer from the office, to the past-due accounts. Speaking of the office staff, there will be a lot of time saved when AMR posts readings automatically to the billing system. Line crews will no longer have to drive to meters to read them, plus the billing will be as current and up-to-date as we can possibly get.

This system also has SCADA capabilities, which could enable us to control our line breakers and regulators out on the line. This is a future benefit that the Cooperative will be looking at down the road.

No, I am not done yet! What do you say, we look at the future a little further. There could be more benefits such as home security monitoring. The AMR system is also compatible with Honeywell equipment, which includes thermostats, so this should be another advantage. Plus we could diversify in the future and read gas and water meters and so on. Also, the possibility of prepaid electricity is in the future.

So, you see, this is a big thing. Excitement and anticipation is running throughout the employees and directors, because we believe that this will take us further into the future and be a great benefit and a cost savings to you, our members, as well as a technology tool for our employees.

We have started the implementation process, and our goal is to have this project completed by the end of 2006. The first region to get this will be the Wheeler substation area; the line crews are changing out these meters. This area should be complete by the time you read this. But, for now, ***please continue to read your meter, as usual.*** We will send you notification when we are ready to automatically read your meter.

So, now you ask, what does a project like this cost? Well, the estimated cost per meter is approximately \$150. This cost includes all new electronic meters,

Continued on page 4

CURRENT ELECTRICAL INSPECTORS

State law requires that every new electrical installation in any construction, remodeling, replacement or repair shall file a certificate for inspection with the State Board of Electricity and be inspected by a Minnesota electrical inspector.

■ Koochiching and St. Louis counties:

Lee Herseth

10078 Gappa Road

Ray, MN 56669

Phone: (218) 875-3028

7:00 a.m. - 8:30 a.m. (Mon. thru Fri.)

■ Roseau and Lake of the Woods counties:

Laurence Otto

60426 County Road 12

Warroad, MN 56763

Phone: (218) 386-2299

7:00 a.m. - 8:30 a.m. (Mon. thru Fri.)



Office notes

From Ann Ellis, Manager of Finance and Administration

“It is the greatest of all mistakes to do nothing. If you can only do a little, do what you can.”

– Unknown

May is Safety Month

Keep your family safe by using this checklist to go through your home. Conduct a thorough inspection and make a list of the following:

1. Test your smoke alarm. If you do not have one, install one immediately.
2. Test your carbon monoxide detector. If you do not have one, install one immediately.
3. Make sure your emergency numbers are posted by the phones in your home and outbuildings.
4. Feel your switch plates to see if any of them are warm or hot.
5. Check your outlets to see if the electrical plug is loose or if there are sparks when you insert the plug.
6. Check all of your cords (lamps, extension, etc.) to make sure the cords are not cracked, frayed or covered by rugs or furniture.
7. Make sure the watts on your light bulbs do not exceed the watts listed on that socket (lamps, ceilings, etc.).
8. See if your electrical appliances are away from water, hot surfaces and have enough air circulation.
9. Note any areas of your home or outbuildings that have dimming or flickering of lights.
10. Note any arcs, sparks, sizzling or buzzing sounds from your electrical system.
11. Note any hot or burning smells, which seem to come from electrical sources.
12. Note repeated blowing of fuses or circuit breakers.

Power supply planning

In mid-April, about eight out of every 100 members will be receiving a survey in the mail. Answering it is important for proper planning for our future power supply. We thank you for your attention to this survey.

AMR

If you have a new electronic meter, please keep reading it. We will let you know when the project is ready to start reading your meter for you.

Open houses

Be sure to mark your calendar to join us at our Open Houses scheduled for April.

We're going to miss Steve Anderson

Although Steve Anderson was moved from the Office Department to Operations a couple of years ago, I still want to acknowledge his contributions to North Star as his former supervisor. Talk about a lot going on in that guy's head behind that shy, gentle face. I remember worrying about Steve when he made the leap from drawing maps with a #2 pencil to using a digitizing pad to put them on the computer. He took to it like a duck to water, and we never looked back. His size 36 shoes (thirty-six years of experience) will be hard to fill, and we will miss him in many ways at the co-op. Best wishes, Steve!

At your service we remain. . .

from page 3

substation equipment, repeaters, the computer and software.

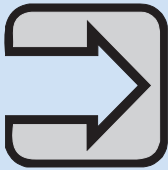
The meter we will be using is a new electronic meter manufactured by Cannon Technologies and is rated at 0.2 percent accuracy over the life of the meter. Compared to a typical electromechanical meter, this improvement can reasonably be expected to save our Cooperative the purchase price of the complete AMR meter over an eight to 10-year period. Unlike mechanical meters, the electronic meter does not need to be calibrated, thus saving periodic testing costs.

With the electronic meter, we will have a complete record of each member's demand, kWh usage and power quality indices, which will significantly improve our service and re-

duce our costs. We will also be able to receive this data in an average of three to six seconds, which is critical in our daily operations to help us improve power quality to you, the member...which is what we are all about...providing you with the best service possible.

Now, before I go, the events south of us at the Red Lake High School cannot go unnoticed. The families and friends of the Red Lake Reservation have suffered an awful tragedy, and I'm sure that they could use a blessing or a prayer, so if you wouldn't mind passing one along, I'm sure they need a lot of healing assistance.

God Bless You, the people of the Red Lake Community, and our Troops.



West End News

By Steve Ellis
Baudette District Operations Supervisor



We have been busy finalizing summer work plans. Some of the larger projects will be a job out of the Wheelers Point substation, which includes a transfer of load to the Wheelers Point substation from the Pitt substation, and the replacement of 2.2 miles of old 15-kV underground cable west of Pitt. This substation is also the first to be equipped with the new AMR metering equipment. The Wheelers Point substation was chosen because of its close proximity to the office. We hope to have this substation up and running very soon, with the Kabetogama substation to be next on the list. These two substations are the only ones slated for this year. The other seven substations are in the work plans for next year with total implementation slated to be the end of 2006.

PLEASE! Continue to read and send your meter readings in to us, as usual, until we have notified you to do otherwise.

The annual meter reading project has almost been completed; crews will be picking up missed readings and doing maintenance items located and

documented on the annual inspections.

Minnkota Power, our G&T, will be building a new substation south of Baudette this summer, which will have us doing some of our own line rebuilding. This substation will be transforming the 230-kV line down to their 69-kV voltage, which will help them deliver greater service and quality of power to our area.

New service plans, anyone? If you do plan on building, or just simply need to upgrade your existing service, please contact us well in advance, so that your project may be scheduled.

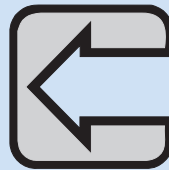
GSOC (Gopher State One Call): If you plan to do any digging, please remember that it is a law. You MUST contact GSOC before you do any digging. The ground is crawling with more than worms; it's full of wires and cables of all kinds! (362-21-001-51 Andrew Schatz) To save yourself and, most likely many others, the inconvenience and cost, do plan your project well in advance, and notify GSOC first! Call 1-800-252-1166.

Until next time, stay safe, and watch those grass fires around the power poles.



East End News

By Allan Baumgartner
Littlefork District Operations Supervisor



Our crews have been working on our annual line inspection/meter reading program this past month. This important part of our work enables our line workers to travel throughout our system and identify existing and potential problems usually resulting from winter ice storms or summer windstorms. It is still very important for you, our members, to be aware of existing power lines in your area, and call in any problems to us that you may see.

The crews are working in the Rainy Lake and Littlefork areas now and will move to the Kabetogama area last. This spring we will be installing new AMR meters throughout our Kabetogama system. This will be the first substa-

tion on the east end of the system to have automated meter reading. Members must still continue to read their meters until notified by us.

We will be working on line maintenance work that has been identified during the line inspection. We'll also be doing some line re-routes and changing out air gap transformer arresters while the road restrictions are on.

We had seven individual and three main line outages in March. The main line outages were caused by a bad underground riser and a pole hit by a logger; the other was a scheduled outage by our crew to do some necessary construction work.

Problems paying your electric bill?

Energy assistance may be available!

If you are receiving a low income or suffering from a temporary financial shortfall, the following agencies may be able to assist you with your electric bill. We urge you to contact them immediately to avoid disconnection if you feel you are eligible for aid.

- **Lake of the Woods County Community Services**
P.O. Box G-0200
Baudette, MN 56623
Phone: 634-2642
- **Northwest Community Action Council**
312 N. Main St.
P.O. Box 67
Badger, MN 56714-0067
Phone: 218-528-3258
or 1-800-568-5329
- **Koochiching County Community Services**
1000 5th St.
International Falls, MN 56649
Phone: 283-7000
- **Kootasca Community Action, Inc.**
2232 2nd Ave. E.
P.O. Box 44
International Falls, MN 56649
Phone: 283-9491 or 1-800-559-9491
- **Kootasca Community Action, Inc.**
1213 SE 2nd Ave.
Grand Rapids, MN 55744-3984
Phone: 1-800-422-0312
- **Arrowhead Economic Opportunity Agency**
702 3rd Ave. S.
Virginia, MN 55792-2797
Phone: 1-800-662-5711
or 218-749-2912

Gopher State One Call



It's the LAW

CALL BEFORE YOU DIG

Minnesota Statewide One Call
Notification Center

1-800-252-1166

Exploring the great northwest

Lewis & Clark wintered in North Dakota 200 years ago

Traveling upstream on the Missouri River, the Corps of Discovery entered present-day North Dakota on Oct. 14, 1804.

Six days later, the expedition led by Captains Meriwether Lewis and William Clark camped inside today's Abraham Lincoln State Park near Mandan. Expedition members then built Fort Mandan at nearby Washburn and wintered there for the next five months.

While the majority of the group's time in North Dakota was spent in one place, some of the most important and dramatic events of their journey happened while in the state.

When the explorers ventured west from Fort Mandan in April 1805, they were stepping off the map of their known world. So their time at Fort Mandan was spent acquiring information, maps and interpreters for their journey into the unknown.

Captain Lewis and his men socialized with the Native Americans, embarked together on hunting adventures, traded goods and exchanged valuable knowledge about survival, distant tribes and the lands ahead.

The Native Americans also taught them how to gather food and cope with the frigid temperatures.

Sakakawea led the way

The most significant event during their stay in North Dakota was meeting a 17-year-old American Indian woman named Sakakawea. She lived in a settlement of about 4,500 people, now called the Knife River Indian Villages. The settlement was prominent as a trading center in the Native American world.

Sakakawea's native tongue was Shoshone, among the first of the tribes the expedition would meet as it headed west. Lewis and Clark knew they needed to purchase horses from the Shoshone to cross the Great Divide, so they realized she would be valuable as a translator, as would her husband, a French-Canadian fur trader named Toussaint Charbonneau.

But Sakakawea played a far more significant role than interpreter, negotiator and guide. Her mere presence – and that of her infant son Jean Baptiste, who was 2 months old when they headed west – made it clear in a universal language that theirs was a peaceful mission. Instead of raising fears among the natives that they were conquerors, the presence of mother and child opened doors that otherwise would have been closed to such a well-armed collection of men.

When the ice on the Missouri River broke up after the winter's stay, the expedition headed west on April 7, 1805, embarking on one of America's greatest adventure stories.

Looking for a shortcut

President Thomas Jefferson won approval from Congress in early 1803 to spend \$2,500 on a small expeditionary group he called Corps of Discovery, with the mission of exploring the uncharted Northwest.

He had many motivations for this expedition – including his innate curiosity as a scholar for information on the region's geography, wildlife and people. But, most of all, he wanted to discover the so-called "Northwest Passage." Such a passage – a series of connected rivers that would cross the western mountains and reach the Pacific Ocean – would have allowed more direct commerce with the Orient. Jefferson believed the discovery of the Northwest Passage would break wide open the potential wealth of North America.

Although the Northwest Passage proved to be a myth, the explorers' accomplishments were immeasurable. (556-10-037-01 Richard Merkle)

The expedition traveled thousands of miles, experiencing lands, rivers and peoples that no American had seen before.

In exploring this wild, unknown interior, Lewis and Clark gave the fledgling country a vivid portrayal of land ripe for settlements, accounts of the ability of plants to cure ailments, sketches of animals never seen by white men, maps of vast uncharted territory and an epic of drama and courage.

The Corps reached the Pacific Ocean at Fort Clatsop, Ore., and then set

foot back in North Dakota on Aug. 11, 1806.

Visitor Services Center open

Through the generosity of Minnkota Power Cooperative and other electric utilities and lignite producers in the region, the Fort Mandan Visitor Services Center was built to help celebrate the Corps of Discovery's bicentennial.

The \$1 million center, located adjacent to the Fort Mandan replica near Washburn, N.D., is a public-private partnership between the North Dakota Lewis & Clark Bicentennial Foundation and the coal and energy industry.

Donations were received from Minnkota, along with Basin Electric Power Cooperative, BNI Coal, Great River Energy, MDU Resources Group, Minnesota Power, Otter Tail Power Co. and Westmoreland Coal Co.

The center informs visitors about the history of Lewis & Clark and about the state's energy industry.

Fort Mandan is significant in the history of Lewis and Clark because the expedition spent the longest leg of its journey there in the winter of 1804-05, gearing up for their journey into the unknown.



Authentically reconstructed from original drawings, Fort Mandan near Washburn, N.D., is a must see stop on the Lewis and Clark trail.

Highlights of the board of directors meeting

March 9, 2005

These are the highlights from the board of directors meeting held on March 9, 2005. Detailed minutes are available at the Cooperative for member review. Regular board meetings are generally held the first Wednesday of every month. If you wish to speak with the board or have an item that you would like to have placed on the agenda, please contact Manager Dan Hoskins at least one week in advance to be included on the agenda.

All directors were present. They acted upon usual, routine business. In addition, they voted to set October 14, 2005, at the Littlefork School for the annual meeting, to move the April board meeting to April 18, 2005, to approve conducting the May board meeting on May 11, 2005, in conjunction with an educational bus tour to Center, North Dakota, where the power plants that generate North Star's electricity are located, to transfer the Operating and Non-Operating Margins from 2004 to Patrons' Capital Credits, to no longer pursue participation in WildBlue high-speed Internet service via satellite and to request a refund of the participation fee, to select Director Randy Bergan as North Star's director on the Square Butte board of directors, to select President Arnesen as North Star's director on the Minnkota board of directors, and to raise director per diem to \$250.

Management and operations report

Manager Hoskins reported favorably on the MREA annual meeting and meeting with local legislators, that the AMR (automated meter reading) meters are being installed on accounts being fed from the Wheelers Point substation with hopes of receiving the first AMR signals in April, researching the cooperative's existing radio system to see if it could be used to communicate AMR data from the substations to the master computer in the office, which could offer considerable savings in the AMR project, on the status of the cold storage building, and the ERP (Emergency Response Plan).

He also reported on Operations Department activities including the recent work order inspection done by a local electrical engineer at a cost less than the cooperative's consulting engineer, line maintenance activity, reduced outages,

line loss, a dog bite to a lineman, consideration of the RESAP safety accreditation program, the changeout of meters to the AMR meters being done during the annual meter reading project, and that interviews will be scheduled for mid-March for the vacancy that will be created when 36-year employee Steve Anderson retires.

Review of the WildBlue business plan was paramount on the board agenda. Since the initial survey of members testing interest in WildBlue, many factors have changed. Foremost, there are more competitors, in addition to services, that have been made available in areas that previously did not have service, alternatives that are less costly than WildBlue, and the cooperative's exit from the DBS business. Even with a door-to-door survey of area businesses and a mail-in survey for all members, the number of potential subscribers has become so low that it doesn't appear to be able to be a self-supporting venture not requiring subsidization by the electric rates. WildBlue has no territorial lines, so residents of our area that would benefit from WildBlue will still have access to dealers and service.

Manager Hoskins and Attorney Anderson also reported that they had been working on possible Bylaw changes that would improve the election process, state board member qualifications, add another method to remove a board member, and update the process that would have to be followed to liquidate the cooperative.

Office report

Finance Manager Ellis provided the financial report and concern with the below-budget sales. She also reported that the new AMR meters come with an electronic file of meter data which can be uploaded into the cooperative's computer system. With this large system-wide project, including off-peak meters, this will save much time and cost. She also reported on accounts receivable, past-due amounts, health insurance options and creating the patronage file on which to allocate DBS capital credits for 2004.

Compliance and member services report

Manager of Compliance and Member Services Haukaas reported on load manage-

ment activity, IPP reporting to Minnkota, the upcoming planned outage at Young 2 for maintenance and how that may impact load control, movement of six accounts from long-term off-peak control to short-term, plans to get to all of the local schools regarding North Star's annual scholarship competition, appreciation by local builders and electricians who participated in the annual contractor training provided by Minnkota Power for which North Star provides a partial tuition payment, and that the Marketing Program will be changing for 2005. He and Manager Hoskins also reported on the CIP (Conservation Improvement Plan) mandated by the State requiring the cooperative to spend at least 1.5% of revenue on conservation programs, equal to about \$135,000 annually, or send a check to the State. North Star has been giving away compact fluorescent light bulbs and, in turn, asking members to make a donation to the local food shelves. Also qualifying for the CIP program are ENERGY STAR rebates and a portion of the tours to the power plants at Center.

Board reports

President Arnesen reported unfavorably on the Touchstone Energy meeting that he and Director Trueman attended and questioned the value of membership. Minnkota Delegate Arnesen reported on their monthly board meeting. MREA Delegate Brzoznowski reported on the MREA annual meeting and the importance of the Legislative Day that is held in conjunction with it. Director Nygaard reported on the NRECA annual meeting including speaker Senator Dolle, ACRE/REPAC participation, and director compensation. Director Trueman reported on the NRECA annual meeting, emphasizing director credentialing and a speaker who painted a distressing picture of the future economy of the U.S.

(Continued From page 1)

a 21-cubic-yard bucket.

The project to put the new, larger dragline into operation was part of a long-range plan.

“We purposely sized Big Jake to carry us halfway through the life of the contract,” said BNI president Mike Hummel. “We knew that at about mid-life we would have to replace the smaller machine – Big Sandy – primarily because of age but also because it would likely have become inadequate size wise due to the additional overburden in the areas of future mining.”

Order placed in 2002

Discussions about a new dragline began in 1998. At first, the market was scoured for a used machine. An exercise conducted in 1999 by the BNI board of directors, which included Minnkota president & CEO David Loer and senior executives of Minnesota Power, determined that replacement of Big Sandy with a new machine made the most economic sense. The purchase order for a new dragline was issued in August 2002 with on-site construction beginning in 2003.

Besides providing greater degrees of efficiency and reliability in the removal of the overburden, Liberty’s implementation will soon allow BNI to idle Big Jake long enough for it to undergo a major overhaul. BNI crews will do that work.

The overhaul, which will begin this spring when Big Jake has accumulated some 180,000 hours of operation, is expected to take from six to 12 months, according to Mark Moberg, BNI’s manager of maintenance and purchasing. The work is to begin after Big Jake works its way to the south end of the mine.

“At that point,” Moberg said, “we’ll put Big Jake into a maintenance mode; we’ll lower the boom and begin scheduling the repair work.”

Big Sandy will be kept in service while Big Jake undergoes the overhaul. Once the overhaul is completed, Big Jake will resume operations and Big Sandy will be retired.

On the reserve list

It is unlikely, however, that Big Sandy will be dismantled.

“We have reserves that are not committed to the existing plants, so if there were to be an agreement to serve another plant at the Young Station or to supply another customer, there could be situations where Big Sandy would be operated

again,” Hummel said.

In that event, the machine could be taken out of mothballs and put back into use with little effort.

“The environment right now,” according to Moberg, “gives us some optimism about maybe being able to use that machine again for a short-term start-up on another project.”

The ability to expand Liberty’s capacity by up to 25 percent – from a 77-cubic-yard bucket to one of 90 cubic yards – will also be an option should new de-



The new Liberty dragline has been in service since October of 2004. Liberty uses 14 direct current motors to perform all of its functions.

mands for coal develop.

The current contract to provide coal to both Young 1 and Young 2 expires in 2027. Minnkota has an option to extend the Young 1 contract to 2042.

Lots of assembly required

Manufactured in Milwaukee, Wis., by Bucyrus International, Liberty has a 355-foot boom. Central Queensland Mining Supplies in Mackay, Australia, manufactured the bucket and shipped the components to the United States for assembly. The dragline’s mainframe and boom were shipped in pieces to the mine site, where up to 63 people worked several months putting everything together.

“Some of the pieces were very large and required special handling,” Hummel said. “Most of them came by truck, but the two motor-generator sets had to come by rail.”

Minserco, Inc. of Gillette, Wyo., a wholly owned subsidiary of Bucyrus International, assembled Liberty on site.

Instead of moving on tracks like smaller and more traditional draglines do, Liberty has two 13 by 65-foot shoes, one on each side that allow it to walk. The house of the machine, which is 91 by 92.5 feet and 24 feet tall, sits on a 50-foot diameter circle, or bearing, that allows it to swivel.

Ballast to offset the weight of the 355-foot boom and the load of the bucket is provided by 1.6 million pounds of steel punchings. The punchings are the byproduct of a manufacturing process that reduces steel to the consistency of sand.

Liberty is all-electric. The two motor-generator sets on the machine convert 7,200 volts of alternating current generated at the Young Station to direct current (DC) that is used to perform all functions of the dragline. There are 14 direct current motors on the machine, each providing 1,045 horsepower.

“Those motors are what enables the machine to swing, hoist, drag and walk,” Hummel said.

Two crew members

Operated by two crew members, the machine has an operator and an oiler. The operator does just what the work implies. The oiler is basically an operator in training and has a variety of responsibilities to help operate the machine.

Liberty features a closed-circuit television system with seven different cameras – four in the house and three on its perimeter. The cameras

record what is going on in and around the machine, allowing the operator to watch for problems, both electrical and mechanical is being used.

With few exceptions, the machine is being used around the clock to help produce the 4.5 million tons of lignite coal that are needed at the Young Station each year.

While Big Jake and Big Sandy got their names from two longtime BNI operating superintendents, Center Elementary School third grader Alexa Erhardt named the new machine through a contest conducted in coal country schools earlier this year.

“We liked the name Liberty; it struck a chord with a lot of us,” Hummel said. “The name resonates a patriotic theme very appropriate today, and describes how this new dragline will liberate us from the constraints we’ve had in the past. Liberty gives us much more flexibility in the future.”

