



## Minnkota, FPL Energy announce wind farm plans

Minnkota Power Cooperative, Inc. and Otter Tail Power Company recently announced a contractual agreement with FPL Energy to develop the Langdon Wind Project. The wind farm will be constructed south of Langdon, North Dakota, in Cavalier County.

This multipart wind project includes 25-year agreements with Minnkota to purchase 99 megawatts (MW) of wind-generated electricity and with Otter Tail Power Company to purchase 19.5 MW of wind-generated electricity. Otter Tail Power Company also will own an additional 40.5 MW at the project site, bringing its total to 60 MW.

"We're pleased to have this renewable energy purchase agreement in place," said David Loer, Minnkota President and CEO. "In response to customers' interest, Minnkota is seeking to add more economical renewable generation to our energy resources. We're proud to be part of this FPL Energy project, which will be the single largest wind farm in the state of North Dakota."

In 2006 Minnkota Power Cooperative and Otter Tail Power Company issued separate requests for proposals (RFPs) for long-term renewable energy supply contracts. Before any of the subsequent legislative renewable energy standards and objectives passed in Minnesota and North Dakota, the companies identified FPL Energy's proposals as most economical and feasible.

"We began our search for new wind projects early in 2006 based on the amount of wind energy our integrated resource plan identified that we economically could add to our generation mix," said Otter Tail Power Company President

*(Continued on page 5)*

### Member Appreciation Days

On Thursday, May 17, please join us at the Littlefork office from 11 a.m. until 5 p.m. and on Friday, May 18, 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 2007**

The Enlightener, Vol. 52, No. 4 is published monthly by North Star Electric Cooperative, Inc., 441 St. Hwy 172 N.W., Baudette, MN 56623-0719. Subscription 50¢/year for members \$1/year for non-members. Application to Mail at Periodicals Postage Rates is pending at Baudette, MN 56623. POSTMASTER: Send address changes to The Enlightener, North Star Electric Cooperative, Inc., P.O. Box 719, Baudette, MN 56623-0719.

#### OFFICERS AND DIRECTORS

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Directors ..... L.J. Anderson,  
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Monday through Friday

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#### Electrical after-hours emergencies

1-888-6OUTAGE (1-888-668-8243)  
or 634-2603

e-mail us at [nsec@wiktel.com](mailto:nsec@wiktel.com)

Visit our Web site at

[www.northstarelectric.coop](http://www.northstarelectric.coop)

North Star Electric Cooperative, Inc.

### Mission Statement

*To improve the lives of our member-owners and community by responsibly providing electric energy and other beneficial services while maintaining the very highest standards of performance.*

### Gopher State One Call



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## Highlights from the BOARDROOM

These are the highlights from the board of directors meeting held on March 7, 2007. All directors were present. They acted upon usual, routine business. In addition, they voted to express their intent to retain Attorney David Sogard as the Cooperative's attorney, to set the Strategic Planning dates in July, and to select President Arnesen and Director Bergan as North Star's representatives on the Minnkota Power Cooperative and Square Butte boards of directors. The board also discussed mail-in balloting.

Reports from staff included the 17 percent increase in wholesale kWhs purchased in February compared to budget, which is similar to the increase in degree days, and which is a preview to member bills that will be sent out in March. Also discussed was the loss of 10 seasonal accounts, the issues regarding accepting credit cards, the intent to market the ACH (auto-pay from the member's bank account) payment method, the collection of past-due electric bills, the load control hours, the using of the new AMR (automated meter reading) system to remotely test the off-peak equipment and identify 200 kW of electric heat that was not shedding during control times, the repairs to those off-peak systems, the research on infrared equipment to identify hot spots on the distribution system as well as surrounding members' homes to identify heat loss, the Power Plant Tour in June, the Student Power Plant Tour in April, the Cooperative Knowledge Scholarship Competition

for area high school seniors, the plans for a market research survey prior to this summer's strategic planning, the upcoming union negotiations, the legislative activity, the high impact that renewable energy mandates and new environmental regulations will have on wholesale power rates, new service requests, work plan projects, money saving initiatives, service quality improvements, the minimal outage hours, recognition for the Cooperative's safe-working effort, construction of a high-voltage demonstration trailer to help educate the public about the dangers of electricity, the AMR project, the donating of unclaimed capital credits to charitable organizations, the recommended review of the Bylaws by Attorney Sogard, member concerns, and the fact that the average residential bill has increased just 1.4 percent per year over the last seven years. The success of the Big Buck ATV raffle to help support efforts to electrify Third World countries was also reviewed.

Reports from the G&T (generation and transmission) level included tube leaks at the generating plants, load control hours and wind energy.

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.

### 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.

#### • St. Louis and Koochiching counties:

##### **Bob Orgon**

10111 Roosevelt Rd. S.E.

Bemidji, MN 56601

Phone: (218) 556-3829

Fax: (218) 751-3535

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

#### • Roseau and Lake of the Woods counties:

##### **Scott Stenvik**

16409 State Hwy 1 N.W.

Thief River Falls, MN 56701

Phone: (218) 689-5406

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



*I am not going to get into whether it is a good thing or a bad thing because I believe that there is some good in everything.*

Dan Hoskins, General Manager

# Renewable energy costs

Ah, yes, the age of renewable energy is rapidly moving in on us, and with the passage of the 25 percent renewable mandate by our legislators, our portion of these United States, that we call Minnesota, is moving quite faster than others. Now, I am not going to get into whether it is a good thing or a bad thing because I believe that there is some good in everything.

But what I would like to quickly show you is some of the information that I picked up recently while I was in attendance at the NRECA annual meeting; I think you may even find it interesting. One of the forum sessions I attended was entitled "Renewable Energy: An Equation of Cost, Availability and Technology," and it was moderated by Ed Torrero, Executive Director of Cooperative Research Network, with a panel consisting of four other gentlemen of distinguished positions representing some of our nation's largest power suppliers.

Right now, there are approximately 770,000 megawatts (MW) of electricity generated in the U.S. and the DOE (Department of Energy) projects 40 percent growth in electricity use by the year 2030. By 2025, DOE projects 20 percent growth in renewable generation (approximately 18,000 MW new capacity) and roughly half of the U.S. has Renewable Portfolio Standards (RPS) seeking 15 percent to 25 percent of electricity from renewables by 2025.

So, let's look at the cost of some of these renewable energy types and the projected growth by the year 2025, and let's start with everyone's favorite, wind.

Wind costs on average of 2.7 to 5.4 cents/kWh (which does not include a 1.9 cent per kWh subsidy) with a capacity factor of 30 to 39 percent; some reach a little and say 40 percent. There is an additional 11,000 MW (megawatts) of power expected by 2025 which would be more than 50 percent of all new renewables.

Biomass is next on the list, and biomass generation costs are 4 to 8 cents/kWh with a capacity factor of 83 percent, and by the year 2025, there will be a potential generation of approximately 1,700 MW. Let's look at animal manure digesters; to generate energy from this form of fuel, costs range from 4.7 to 10 cents/kWh with a capacity factor of 86 percent and with a potential by 2025 of 500 MW or greater. Or how about landfill gas, which costs 3.1 to 5.5 cents/kWh with a capacity factor of 90 percent and a potential growth of generation to around 1,500 MW by 2025.

Let's keep moving and look at geothermal; the costs range from 3.2 to 4.5 cents/kWh with a capacity factor of 86 percent and the potential of generation at 4,000 MW by 2025. (675-24-001-04 Jeffery Asleson) Next is hydro, with new hydro projected to cost between 3.1 to 6.6 cents/kWh and a capacity factor of 85 percent. Since no renewable standard recognizes hydro as a renewable energy except for small units, the DOE only sees about 400 MW of potential growth.

If solar is what you are thinking, let's see what the experts had to say about this area of renewable energy. Photovoltaics would cost about 18 to 48 cents/kWh with a capacity factor of 24 percent, and

the DOE has a potential growth of generation at 400 MW, or how about Solar Thermal, (Concentrators) which costs about 17 to 25 cents/kWh to produce with a capacity factor of 15 percent and the potential growth of 190 MW by 2025.

Now that you have seen all of the options, you kind of figure out why Minnesota has signed a contract with Florida Power and Light to build a 99 MW wind farm in northeast North Dakota to help satisfy the 25 percent Minnesota mandate. So, since we cannot use hydro, and there are not too many animal waste facilities around our area, and the sun only shines 6 hours a day in the winter, (and that is figuring one day every two weeks), wind, right now, is the best answer for renewable energy. The studies show good wind sites in six percent of land area could produce 1.5 times U.S. consumption, but that is assuming the wind blows and this type of energy gets a whole lot more reliable.

There you have some of the costs and projections of renewable energy, and although they may be approximated one way or the other, this is the way they were presented at the forum. I have to stick one more thing in here. I still believe that to satisfy the nation's need for energy, we are going to have to get a reliable energy-producing source that has the ability to provide our people with a dependable, firm, source of energy, and I think that source of fuel is coal.

God Bless You and our Troops,  
Dan



# New Nomination Process for Director Election

*As approved last fall, with a Bylaw amendment by the membership, this will be the first year that Nominating Committees will not be used to identify candidates for director elections. Anyone interested in running for the North Star Electric Cooperative Board of Directors should review the following information from the North Star Electric Cooperative By-Laws Article IV, Board of Directors, Section 3, Qualifications, as well as the new nomination procedure, Article IV, Section 5, Nominations.*

The North Star Electric Cooperative Annual Meeting of the Members is scheduled for Friday, October 12, at the Littlefork/Big Falls High School gymnasium. The Board of Director positions up for elections are:

**District 8 – 4 -year term**

**District 6 – complete final 2 years of a 4-year term**

Your district number is printed on your electric bill. If you are interested in a position on the Board of Directors, you may pick up a petition form at our North Star Electric Cooperative office in either Littlefork or Baudette.

Please be advised that each membership of the North Star Electric Cooperative is allowed one signature, and in the case of joint membership, only one signature is allowed. (A husband and wife are not joint members unless they have completed a joint membership application).

## **SECTION 3. QUALIFICATIONS.**

All persons eligible to become or remain a director of the Cooperative shall:

(a) be a member in good standing of the Cooperative receiving electric service at the member's primary residence in the district from which the director is to be elected prior to being nominated for director;

For purposes of these bylaws, "primary residence" shall mean the residence that is the chief or main residence of the person and where the person actually

lives for the most substantial portion of the year:

(b) have voting rights within the district from which the director is to be elected;

(c) not be employed by, materially affiliated with or have a material financial interest in any director, individual or entity which either is:

(1) directly or substantially competing with the Cooperative; or

(2) selling goods and services in substantial quantity to the Cooperative; or

(3) possessing a substantial conflict of interest with the Cooperative;

For purposes of this section, the terms "material" or "substantially" shall be interpreted as constituting a minimum of 5 percent of a member's total hours of employment sales or income on an annual basis:

(d) not be an employee or not have been an employee of the Cooperative within the last three (3) years;

(e) not be a close relative of an employee, where as found in these bylaws "close relative" means any individual who is, either by blood, law, or marriage, including step, half, foster and adoptive is either a spouse, child, grandchild, parent, grandparent, brother or sister.

(f) be only one, and not more than one, member of a joint membership; provided, however, that none shall be eligible to become or remain a director or to hold a position of trust in the Cooperative

unless all shall meet the qualifications hereinabove set forth;

(g) if a representative or agent of a member is not a natural person i.e. a corporation, partnership, limited liability company, or similar, then the representative or agent designated as a nominee for director shall be an individual residing within the external boundaries of the district from which (s)he is nominated; and

(h) agree to regularly attend all board, annual and special members' meetings, and in no case have more than four (4) unexcused absences within a twelve (12) month period of time.

Nothing contained in this section shall affect in any manner whatsoever the validity of any action taken at any meeting of the board of directors.

(i) Exceptions. In regard to the restrictive provisions of this section that are based upon close relative relationships, no incumbent director shall lose eligibility to remain a director or to be re-elected a director if, during a director's incumbency, a director becomes a first kindred relative of another incumbent director or of a Cooperative employee because of a marriage or an adoption to which the director was not a party.

(j) Disqualification. After the board of directors determines that a director or a nominee for director lacks eligibility under the provisions of this section or as may be provided elsewhere in these bylaws, it shall be the duty of the board to promptly make a disqualification. After the board of directors determines that any person being considered for or already holding a directorship lacks eligibility under this section it shall be the duty of the board of directors to withhold such position from such person or to cause a director to be removed therefrom, as the case may be.

## **SECTION 5. NOMINATIONS.**

The procedures and methods of nominating candidates for election as a director of the cooperative are hereby established:

Nominations by Petition. Any twenty (20) or more members of a district of the cooperative may make nominations in writing over their signatures not less than sixty (60) days prior to the annual meeting, and the Secretary of the board of directors shall post the petition at the principal office of the cooperative, Baudette, Minnesota; such listing of nominations by petition may be mailed to each member through the medium of the cooperative newsletter.



# Minnkota, FPL Energy announce wind farm plans

(Continued from page 1)

Chuck MacFarlane. "We're looking forward to getting this project underway and identifying future wind projects to reach the 160 MW of wind energy called for in our resource plan."

The Langdon Wind Project is sized for 159 MW at peak output. It will use 106 General Electric turbines, each having a nameplate capacity of 1.5 MW. The wind farm will provide more than 350 million kilowatt-hours annually to Minnkota and more than 215 million kilowatt-hours to Otter Tail Power Company. The project will result in up to 10 new jobs in the Langdon area for operations and maintenance. FPL Energy will build and operate the 159 MW project and own 118.5 MW.

The two utilities, under Minnkota's lead, will upgrade 35 miles of existing 41.6-kilovolt transmission line to 115 kilovolts between Langdon and Hensel to deliver the wind-generated electricity into the high-voltage transmission network. The participants anticipate completing the wind farm and the associated transmission line late in December of 2007 or early 2008.

FPL Energy operates four wind projects in North Dakota at sites near Center, Edgeley, Kulm, and Wilton, totaling more than 150 MW.

Minnkota owns and operates two 900-kilowatt commercial-scale wind turbines, the first two erected in North Dakota. The output of these turbines is sold under the cooperative's Infinity Wind Energy program to customers who voluntarily enroll by paying an additional fee per 100-kilowatt-hour block a month.

Minnkota is a generation and transmission cooperative that supplies wholesale electricity to 11 member-owner distribution cooperatives, three in eastern North Dakota and eight in northwestern Minnesota. Minnkota also is the operating agent for the Northern Municipal Power Agency (NMPA), which serves 12 municipal utilities in the same geographic region. Together the Minnkota/NMPA Joint System serves more than 280,000 people. To learn more about Minnkota visit

[www.minnkota.com](http://www.minnkota.com).

## Langdon Wind Energy Center Facts

<b>Location:</b>	6-12 miles south of Langdon, North Dakota	<b>Transmission:</b>	Langdon to Hensel 115-kilovolt (kV) line 35 miles in length
<b>Size:</b>	159 megawatts (MW) Minnkota Power Cooperative portion: 99 MW Otter Tail Power Company portion: 60 MW		Existing 41.6-kV line will be upgraded at a cost of \$10 million, including modifications to the Langdon and Hensel Substations
<b>Turbines:</b>	106 turbines, 1.5 MW each, manufactured by General Electric	<b>Terms:</b>	Minnkota portion – 25-year power purchase agreement Otter Tail Power Company portion – 25-year power purchase agreement for 19.5 MW; company will own 40.5 MW
<b>Towers:</b>	Approximately 250 feet to center of hub	<b>Suppliers:</b>	When economically competitive, local labor, materials, and suppliers will be used
<b>Blades:</b>	Variable pitch – 120 feet long	<b>Start-up date:</b>	FPL Energy anticipates the wind farm will be operational by late 2007 or early 2008
<b>Output:</b>	Cut-in wind speed: 8 mph		
<b>Maximum output:</b>	35-55 mph		
<b>Cut-out wind speed:</b>	56 mph		
<b>Delivery point:</b>	Langdon Substation		

# Safe Electricity plants seeds of caution around power lines

The risk of electrocution remains one of the greatest hazards on today's farms. Before heading back into the fields, Safe Electricity reminds farm workers to be particularly alert to the dangers of working near overhead power lines, and urges a review of farm activities and work practices that take place around all electric lines.

"Make sure everyone knows the location of overhead power lines and to keep farm equipment at least 10 feet away from them," says Molly Hall, Executive Director of Safe Electricity. "The minimum 10 foot distance is a 360-degree rule – below, to the side and above lines."

of planters, cultivators or truck beds near power lines.

"Never attempt to raise or move a power line to clear a path," warns Hall.


When performing other farm chores or any outdoor work, take care not to raise equipment such as ladders, poles or rods into power lines. Remember, non-metallic materials such as lumber, tree limbs, tires, ropes and hay will conduct electricity depending on dampness, dust and dirt contamination. Do not try to clear storm-damage debris and limbs near or touching power lines or near fallen lines.

Overhead electric wires aren't the only electrical contact that can result in

the result," Hall says. "Even if a line has landed on the ground, there is still potential for the area to be energized. Stay in the vehicle unless there's fire or imminent risk of fire."

In that case, the proper action is to jump – not step – with both feet hitting the ground at the same time. Do not allow any part of your body to touch the equipment and the ground at the same time. Hop or shuffle to safety, keeping both feet together as you leave the area.

Once you get away from the equipment, never attempt to get back on or even touch the equipment. Many electrocutions occur when the operator



*Be aware of potential hazards during planting season*

Simply coming too close to a power line while working is dangerous as electricity can arc or "jump" to conducting material or objects, such as a ladder, pole or truck.

"Many farm electrical accidents that involve power lines happen when loading or preparing to transport equipment to fields, or while working on farm machinery near power lines," notes Hall. "Sometimes a line is closer than it looks. When moving large equipment or high loads near a power line, always use a spotter to help ensure contact is not made with a line."

Be aware of increased height when loading and transporting tractors on trailer beds. Many tractors are now equipped with radios and communication systems that have very tall antennas extending from the cab that could make contact with power lines. Avoid raising the arms

a serious incident. Pole guy wires are grounded to the neutral; but, when one of the guy wires is broken, it can cause an electric current disruption. (111-12-003-04 Vernon/Valerie Landin) This can make those neutral wires anything but harmless. If you hit a guy wire and break it, call the utility to fix it. Don't do it yourself. When dealing with electrical poles and wires, call the electric utility.

"Operators of farm machinery or moving equipment also should know what to do if the vehicle comes in contact with a power line," Hall says. "It's almost always best to stay in the cab and call for help. Warn others who may be nearby to stay away and wait until the electric utility arrives to make sure power to the line is cut off."

"If the power line is energized and you step outside, your body becomes the path to the ground and electrocution is

dismounts and, realizing nothing has happened, tries to get back on the equipment.

Farmers may want to consider moving or burying power lines around buildings or busy pathways where many farm activities take place. If planning a new out building or farm structure, contact your power supplier for information on minimum safe clearances from overhead and underground power lines. And if you plan to dig beyond normal tilling, activities such as deep-ripping or sub-soiling, call the utility locator service to mark underground utilities first.

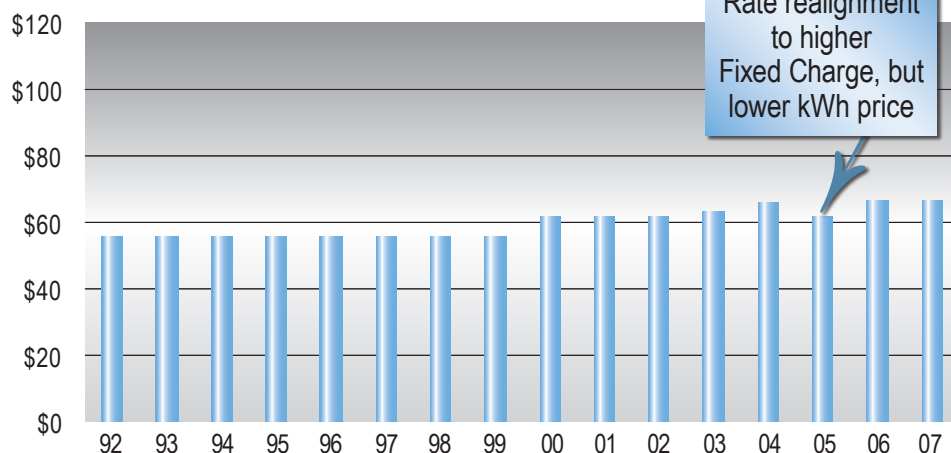
For more electrical safety information, visit [www.SafeElectricity.org](http://www.SafeElectricity.org). Safe Electricity is a safety public awareness program created and supported by a coalition of several dozen organizations, including electric cooperatives, educators and others committed to promoting electrical safety.



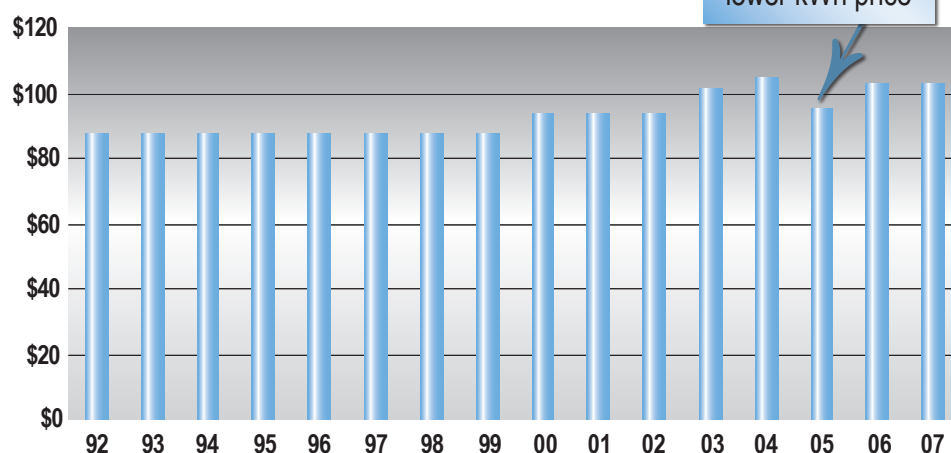
# How much has your electric bill changed?

The two graphs below show electric bills for either a 500 kWh per month (low) user or a 1000 kWh (average) user over the last 16 years. As you can see, on average, they have changed only about 1% per year. In fact, the average household is now paying 2.1 percent LESS than they were in 2004. How many other things that you buy have increased so little?

## Comparison of 500 kWh residential bill during the last 16 years



## Comparison of 1,000 kWh residential bill during the last 16 years



## 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  
634-2642

### Northwest Community Action Council

P.O. Box 67  
Badger, MN 56714-0067  
800-568-5329

### Koochiching County Community Services

1000 5th St.  
International Falls, MN 56649  
283-7000

### Kootasca Community Action, Inc.

2232 2nd Ave. E.  
P.O. Box 44  
International Falls, MN 56649  
283-9491 or 800-559-9491

### Kootasca Community Action, Inc.

1213 SE 2nd Ave.  
Grand Rapids, MN 55744-3984  
800-422-0312

### Arrowhead Economic Opportunity Agency

702 3rd Ave. S.  
Virginia, MN 55792-2797  
800-662-5711

## We need your meter reading

If the box where you have always written in your meter reading(s) is still open, you must continue to read your meter as near to the 25<sup>th</sup> as possible. We must receive it by the 5<sup>th</sup> to avoid an estimated bill.

For the meters that are communicating with the office through the AMR (automated meter reading) system, that box where you entered your meter reading before, is now filled in with the words, "Co-op Reads." In this instance, you do not have to read your meter.

## No snow makes easy access for crews

Our crews had a great winter for line maintenance. No snow and lots of frost were tough on waterlines and sewer systems, but excellent for mowing brush under the power lines. It was also good for getting off-road with our equipment to replace anchors, guy lines, insulators, poles, etc. The crews worked completely through our Big Falls substation area and are close to finishing up our Kabetogama power lines, which cover a larger area of our system. We will finish line inspection on our Littlefork and International Falls substations this spring, but will take time to fix potential problems and safety issues. The new AMR (automatic meter reading) system allowed our crews much more time to do maintenance work on our power lines this winter and spring.

## Work plan projects

Our work plan projects this summer involve replacing old underground cable in the Big Falls and Rainy Lake areas. (664-31-002-03 Jerome Karsnia) The new cables are built much heavier and will handle future electric loads. In both of these parts of our system, we have had trouble with old cables.

## New service construction has begun

The crews have started work on five new services for this summer. Setting the poles with frost in the ground is much easier than when everything thaws in the spring. Most new construction will have to wait until the road restrictions are lifted in our service areas. If you will need a new service or a service upgrade for this summer, April is a good time to notify us so that we can start to make plans.

## Outages

Outages for the year, so far, have been minimal compared to other years on both ends of our system. On March 20, Minnkota had approximately a three-hour outage on our International Falls and Kabetogama substations between 8:49 and 11:45 p.m. The cause of the problem was a raven nest built into the steel frame of the Rat Root switch station.



# East End News

**Allan Baumgartner**  
Littlefork District  
Operations Supervisor

