

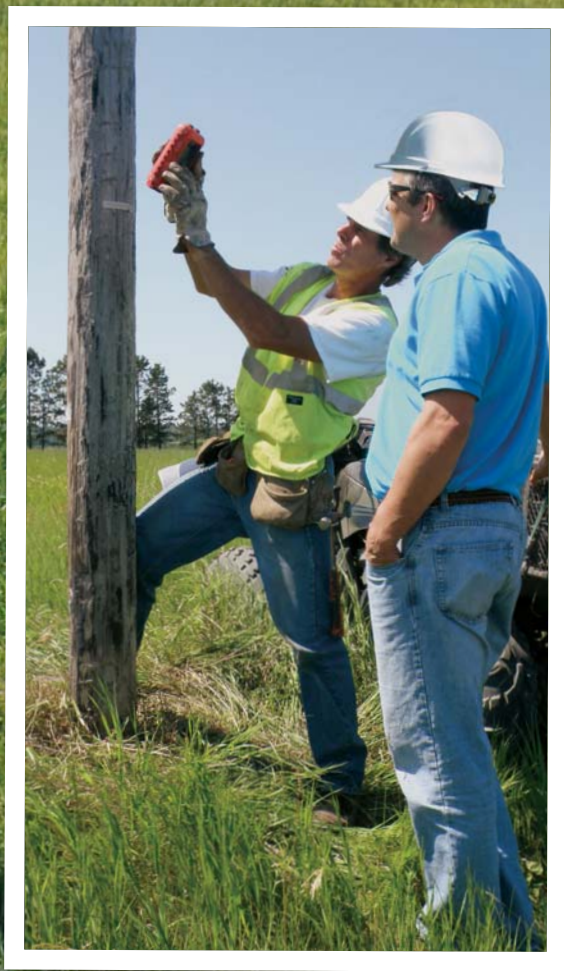
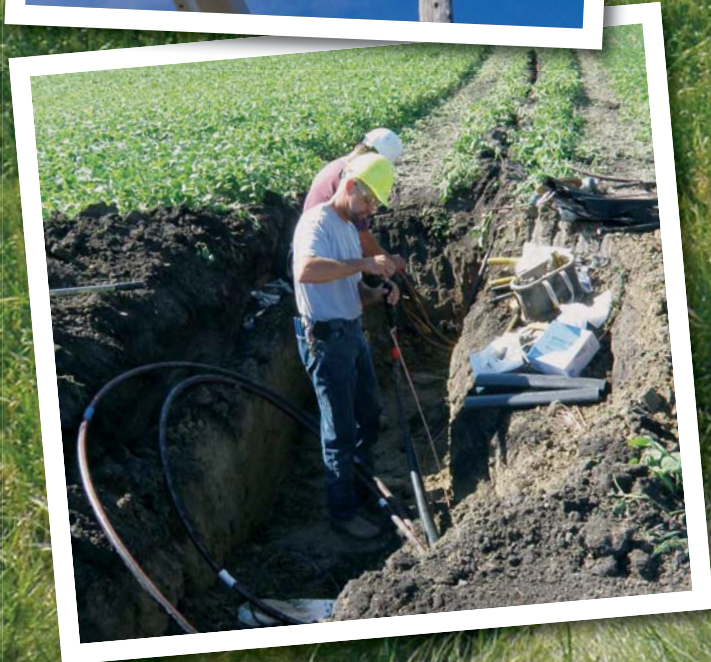
# The Nodak Neighbor

July-August 2010

Official Publication of Nodak Electric Cooperative

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

Your Touchstone Energy® Partner



Construction overview

*pages 4-5*

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Nodak Electric Cooperative, Inc.

746-4461 or 800-732-4373

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# Summer interns



**Matt Brosseau**



**Casey Hansen**

Each year Nodak brings in summer interns to help in the engineering and operations departments. This year's interns are Matt Brosseau and Casey Hansen. Both are UND students majoring in electrical engineering.

Matt is originally from Bottineau, N.D., and is a junior at UND. His duties at Nodak include utilizing the outage management software, maintaining One Call locate data and updating the ESRI GIS mapping system.

Casey is originally from McIntosh, Minn., and is a senior at UND. His duties at Nodak include updating the ESRI GIS mapping system, surveying and staking in the field.

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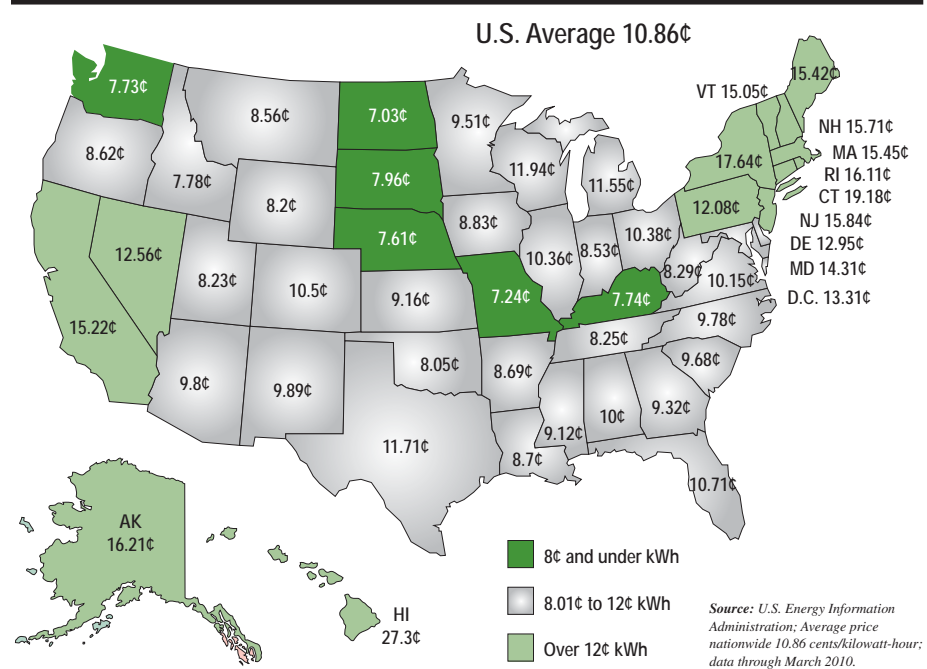
**On the cover:** (Background photo) North Plains Utility Contracting installs underground lines; (top left) lead line worker Mark Slominski installs a single-phase line; (bottom left) lead line worker Dale Reed and journeyman line worker Jeff Lieder prepare to splice underground cable; (right) line superintendent Dan Schaefer and pole inspector Joel Rovang discuss the quality of a utility pole. Read more about Nodak's summer construction and maintenance projects on pages 4-5.

**Nodak Electric  
Average Retail Rate**

7.4¢

2010 Average Residential Electric Rates

(Cents per kilowatt-hour)





George Berg  
President & CEO

# Escalating generation costs continue to drive up retail electric rates

**E**very penny we collect from you through your electric bill essentially is used to cover the cost to operate two separate, although related, utility businesses. In 2010, roughly 23 cents of each dollar collected will go toward the operation of Nodak Electric Cooperative, while 77 cents will be sent to Minnkota Power Cooperative to purchase the power we sell.

As you can see from the map on page 2, electric rates in North Dakota have been – and will continue to be – lower than most parts of the country. Unfortunately, they are on the rise.

Ten years ago, about 58 cents of each dollar collected went toward the wholesale purchase of electricity. Our total cost of wholesale power will be more than \$45 million in 2010 compared to \$18.5 million in 2000.

Granted, through growth our total kilowatt-hour sales have increased by roughly 40 percent during this period, but the average cost per kilowatt-hour from Minnkota has also increased by nearly 75 percent. Minnkota projects further wholesale power increases in 2011 and 2012.

The primary contributor to increasing costs of wholesale power has been expensive environmental upgrades to Minnkota's two generating stations near Center, N.D. These projects began about five years ago and will continue through 2012. When all of these projects are completed, Minnkota will have spent \$256 million on one generating station and \$166 million on the other. Also by the end of 2012, Minnkota plans to complete a 345-kV transmission line from Center, N.D.,

to Grand Forks at an estimated cost of \$312 million. All of these projects are financed with debt, which results in higher wholesale and retail electric rates.

In March 2010, Minnkota increased our wholesale rates by 5 percent and projects another 9 percent increase effective March 2011. Since we were anticipating large retail sales increases from Keystone Pipeline and other growth opportunities, we budgeted a lesser retail rate increase of between 7 percent and 9 percent to offset the two Minnkota wholesale rate increases.

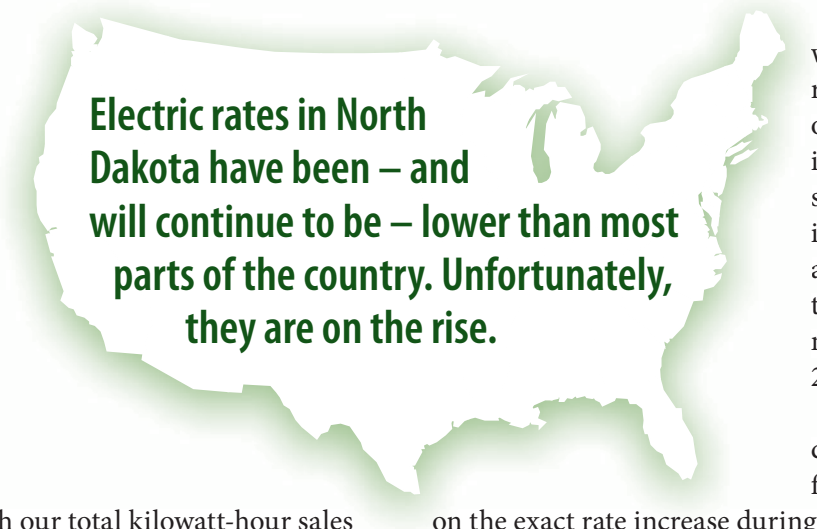
Our original plan was to place our retail rate increase into effect on Oct. 20, 2010. As it has turned out, our sales in 2010 have not increased as expected, and we now feel we need to start the increase one month earlier on Sept. 20.

Our board of directors will make a final determination

on the exact rate increase during its regular monthly meeting on Aug. 4. The details of the increase will be reported in the next issue of *The Nodak Neighbor*. You will see the effect of the revised rates on the power bill you receive in early November.

We wish we had better news for you this month than to announce another rate increase, but that has been and will continue to be the trend for at least the next few years. If Congress passes new carbon emission reduction legislation, the trend will be even greater and longer.

If there is any consolation, we in North Dakota can look at the cost of electricity in other parts of the country and be pleased that we are on the low end of the average cost of electricity nationally.



**Electric rates in North Dakota have been – and will continue to be – lower than most parts of the country. Unfortunately, they are on the rise.**



## 2010 Construction and Maintenance Overview

*John Rodgers, Engineering & Operations Manager*



*North Plains Utility Contracting installs underground lines.*

# A busy construction season



*Lead line worker Cory McKelvey prepares to remove a transformer in the Devils Lake area.*

**A**t Nodak there seems to be two seasons, winter and construction. The following is an overview of construction activities planned.

### **Construction**

During a typical year there are 600 to 700 work orders assigned for various projects. This year these projects seem to fall into the following categories: flooding, new services, underground cable replacement and replacing overhead lines with underground lines. The following is a more detailed description of these classifications:

**Flooding** – The record high water level in the Devils Lake basin is also impacting Nodak's distribution

system in Ramsey, Benson and Nelson counties. Many small sloughs have grown into big lakes resulting in Nodak's power line equipment becoming inaccessible and in some cases submerged. Sometimes we can reroute the line to dry ground and in many situations there is no dry solution.

**New services** – After a lull in new services last year, we are now seeing renewed activity in commercial, residential, crop handling and miscellaneous new service requests. A new growth area is three-phase requests for crop handling. The new larger crop storage installations are requiring larger three-phase motors that require three-phase service.

**Underground cable replacement**  
– Nodak has a total of 7,929 miles of line of which 3,625 miles (46 percent) are underground. There are 960 miles of older cable still in service that was installed 25 to 40 years ago. Last year there were 144 faults that occurred on the underground cable compared to a peak of 303 faults in 1988. This reduction in faults is great news as the remaining underground cable appears to still have significant life left in it. Nodak is continuing with its program to replace problem underground cable on a case-by-case basis as faults develop.

**Replace overhead lines with underground** – Numerous customers for varying reasons have requested that Nodak replace an existing overhead line with underground. This is done on a cost-share basis.

## Maintenance

During our construction season we also have numerous maintenance items that need to be addressed. The items that will be focused on this season are tree trimming, system protection, pole inspection and painting of underground transformers and cabinets. The following is more detail about each of these maintenance areas:

**Tree trimming** – Nodak historically has spent about \$300,000 per year on trimming trees adjacent to overhead lines. This year the budget was increased to \$400,000 due to the excessive growth from the wet cycle we are in.

**System protection** – A detailed study is nearing completion to make sure that the system protection equipment effectively coordinates with the current system design and electrical usage. Next the reclosers that are identified as needing to be changed will be removed and rebuilt reclosers will be installed.

**Pole inspection** – Nodak tests and inspects 10 percent of the system poles each year so that over a 10-year period all poles have been tested and inspected. Generally about 4-5 percent of the poles tested are rejected and need to be replaced.

**Painting of underground transformers and cabinets** – Nodak began installing underground in earnest in the early 1970s. Some of the transformers and cabinets in these early installations are scheduled for painting.

Under current economic conditions, it has become more cost-effective to utilize contractors to assist with the completion of many



*Dakota Tree Service trims trees.*

of the maintenance and construction tasks. Contractor crews that are being used this summer include:

- Two underground cable installation plow crews – North Plains Utility Contracting;
- One underground directional boring crew – North Plains Utility Contracting;
- Four tree trimming crews – Dakota Tree Service;
- One pole testing crew – RAM Utilities;
- One painting crew – Metal Refinishing Services.

The use of contract labor provides us the most cost-effective opportunity to maximize on our labor resources when working conditions are most favorable.



*North Plains Utility Contracting works on installs underground lines near a farm south of Grand Forks.*

# Bin there, done that.

*Want to add a bin site  
or new load?*



It pays to plan ahead. Talk to the engineering department at Nodak before you buy any electrical equipment that could overload the current delivery system or requires a switch to three-phase service.

It is also important to contact Nodak before identifying a site for your new equipment. The location in respect to existing power lines and requirements for any additional service upgrades should be submitted to Nodak before your plans are finalized. Nodak will not connect service to new

equipment sites that do not meet all of our policy, safety and clearance requirements.

Nodak will provide assistance in planning for a safe environment for everyone working and living around grain bins. The state of North Dakota requires specific clearances for electric lines around grain bins, with different standards for those filled by portable and permanent augers, conveyors and elevators.

Nodak's engineering department can help identify the impacts of motors and equipment

you may want to install and suggest alternatives where voltage may be problematic.

Customers adding motor load to their electric service need to comply with Nodak's power quality requirements as outlined in policy bulletin #414. This policy identifies the allowable threshold of voltage flickers and sags for motor starting. It is the customer's responsibility to comply with this policy by taking corrective action as required.

**Nodak's guidelines for required power line clearances follow the guidelines established by the National Electrical Safety Code. As the below drawing indicates, the code requires allowance for the height of the bin or building PLUS the additional 18 feet minimum clearance as established by the American National Standards Institute.**

### **Example:**

**A bin 40 feet high would require a power line clearance of 58 feet.  
(40 feet bin height plus 18 feet of clearance = 58 feet)**

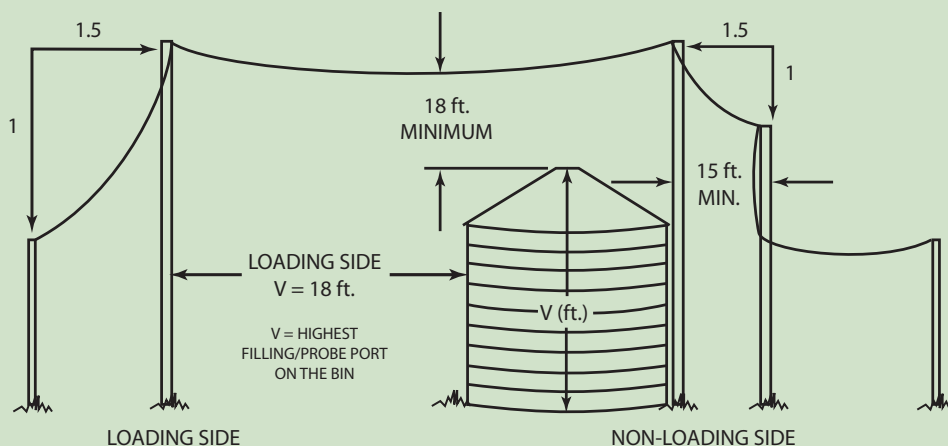


Figure 1 illustrates the specific clearances required when portable equipment is used. Grain bins filled by permanently installed augers, conveyors or elevators have specified clearances that require contacting Nodak for the correct information. Note: An electric utility company may refuse to provide electrical service to any grain bin built near an existing electric line which does not provide the clearance required by the American National Standards Institute (ANSI) and the National Electrical Safety Code.

**Figure 1. Electrical wire clearance for grain bins filled by portable augers.**

*Attention commercial and industrial  
summer load control customers*

# A late season



## Summer, winter load management to overlap in October

**S**izzling summer temperatures aren't likely to be the driving force behind summer load control hours this year. As was true last summer, Minnkota Power Cooperative anticipates the majority of load control to shift from the hottest days of the year toward the cooler fall months.

To accommodate this shift, there will be an overlap of summer and winter control in October. The change is not expected to increase load control hours, but rather help the program adapt to irregular load conditions during the month.

"During October we experience both summer and winter loads; therefore we expect to be using both summer and winter load management," said Todd Sailer, Minnkota energy supply manager. "We have more resources during the summer season this year so we don't have as much exposure to the market. As a result, we don't expect to be purchasing from the market during the heart of the summer, but rather during our fall generator maintenance season."

For consumers, the change may not even be noticeable. Summer load management will continue to be the primary control used. Water heaters, storage heat and dual heat will be controlled when both high energy demands and high replacement costs are experienced.

### Outages on tap

September and October may not seem like traditional summer months, but the reason Minnkota/Northern Municipal Power Agency Joint System members can anticipate load control during this time frame is because of Minnkota's planned generator maintenance outages.

A major overhaul outage on Milton

R. Young 2 will begin Sept. 11 and continue through most of October. Coyote Station will also have a shorter cleaning outage this fall.

During maintenance outages Minnkota makes major purchases from the MISO (Midwest Independent System Operator) energy market. Ample power is available to purchase from the market, but it isn't always at an affordable cost. If Minnkota can reduce electric load during these expensive hours, it can reduce the total cost of delivering power to its member-owners.

"During the maintenance season our load requirements will at times be higher than our resources," Sailer said. "We'll have to purchase from the market and/or use load management. Thousands of dollars can be saved in power supply costs for each hour of load control that is exercised during those peak demand periods."

### More resources

Last summer's load control hours were minimal because of cooler-than-average temperatures, low wholesale market prices and few unplanned generator outages.

Minnkota has added additional resources over the past three years, including 357 megawatts (MW) of wind energy and 40 MW of additional baseload capacity from Young 2. With an adequate power supply to meet the demand of its member-owners, Minnkota will likely not have to make significant purchases from the market during the warmest summer days.

"Last year was a mild summer. June, July and August were

considerably cool," Sailer said. "We expect to see our loads higher than last year, but the offset is that we have more resources. With more resources, we're looking at about the same number of control hours."

### Successful program

Now in its 13<sup>th</sup> year, the summer load management program, like the winter program, continues to keep wholesale power costs for Minnkota's member-owners among the lowest in the nation. In the summer, nearly 75 MW of load can be interrupted by a signal initiated from the Minnkota energy control center in Grand Forks.

**About 90 percent of the summertime program's load control hours come as a result of large commercial customers agreeing to switch to standby generation systems.**

About 90 percent of the summertime program's load control hours come as a result of large commercial customers agreeing to switch to standby generation systems. The other 10 percent comes from residential members who voluntarily have certain appliances in their homes, such as water heaters and

air conditioners, turned off during load control events. Some farming systems also have irrigation systems interrupted.

By participating in the load management program, consumers receive a discounted rate from their local cooperative or municipal. Implementing load control when economically priced power is not available allows Joint System customers to continue to receive the best energy value in the region.



## ***Electrical safety hazards***

This is a good time to remind customers that taking steps to eliminate the top electrical safety threats around the home and workplace can prevent thousands of injuries and hundreds of deaths each year.

According to data, top electrical safety hazards include: electrical fires caused by aging wiring; misuse of surge suppressors and extension cords; and electrocutions from power lines, wiring systems and large appliances.

The following safety tips can help avoid tragic and costly injuries:

- Use appliances and equipment according to the manufacturer's instructions.
- Replace damaged electrical equipment or have it repaired at an authorized repair center.
- Make sure power strips, cords and surge suppressors are designed to handle the loads for their intended use. Avoid overloading circuits by plugging too many items into the same outlet.
- Use ground fault circuit interrupter (GFCI) protection when working where water is near electricity to protect against electric shock.
- Make certain that all products and equipment are approved by an independent testing laboratory such as Underwriters Laboratory (UL).
- Add protection by installing a new electrical safety device – an arc fault circuit interrupter (AFCI) – to detect and stop electrical arcs that can cause fires.
- Avoid contact with power lines by being aware of their location and keeping a distance of at least 10 feet between you and power lines.

# ***It pays to go green!***

*The N.D. Utility Rebate is now up and running!*

The North Dakota Association of Rural Electric Cooperatives has received nearly \$2.4 million in grants to provide rebates to co-op members who install energy-efficient heating and cooling systems and appliances. Both residential and commercial customers qualify. Contact Nodak Electric Cooperative or visit us online at [www.nodakelectric.com](http://www.nodakelectric.com) for more information.

