

NORTH PLAINS ELECTRIC COOPERATIVE

P.O. Box 1008 • Perryton, TX 79070 • Phone (806) 435-5482

From the General Manager Looking Ahead for North Plains Electric Cooperative

*Randy
Mahannah*



Now that we have settled into 2004, I want to give you some insight on some of the plans and projects at NPEC for this year. First, I would like to note that our service interruptions in 2003 dropped to 7.2 hours per member from 11.5 in 2002. I know this is still too high but it shows improvement.

The co-op is working on the last phase of completing Global Positioning System (GPS) mapping. All of the necessary points have been located on the GPS, and the engineering department is close to finalizing the system maps. Accuracy is much greater now, and there will be many uses for the information that was accumulated.

Our voltage drop studies will be more accurate, system data will be more accessible, maps will now be updated on a monthly basis, and the dispatcher will have the map on-screen at her workstation for reference. By having our maps formatted this way, the Outage Management System (which was written about recently) will give line crews the ability to drive straight to reclosers or fuses that are predicted open and, in some cases, shorten the time needed to restore power. We are looking forward to utilizing all of the benefits of this new mapping system.

The Outage Management System (OMS) that I mentioned should improve your ability to get information about the extent of an outage and time needed to restore power. We feel that member service representatives will be more informed and capable of furnishing accurate time estimates for restoration. Dispatching

will be more controlled and have better organization during an outage. At some time in the future, metering devices will be in place at residences and remote locations that will have the capability to report a change of status within minutes of an occurrence. This can be of value since the meter will report the change in status to the office without someone being at that physical location.

Due to the number of calls received during an outage, you may sometimes

*These efforts by
servicemen and line
crews continue to
improve reliability
and service.*

get a busy signal when the phone lines are occupied—we understand that can be annoying. Along with the OMS, an automatic voice messaging system will be in place to take overflow calls. The system will ask for your name and meter number, along with outage information that you can furnish. This is accomplished by voice so it should be easy to use. The information will automatically be forwarded to the dispatcher on duty for review and action. We do understand that members would rather speak to us personally, but getting a busy signal is not what you want. The overflow calls will be picked up by this method when power is off. We hope to have this system in place by mid-summer.

Transmission outages are still at the top of our list to control. If the co-op can improve transmission reliability, your outage time per member can be reduced further. We continue to perform maintenance on single-phase and some three-phase distribution lines that need attention. Member use of electric motors for irrigation seems to be an evolving trend, so we anticipate more activity in converting some wells this spring. Due to the sheer number of poles on the system, pole inspection is ongoing for a ten-year rotation, so we will be replacing poles rejected by Osmost. NPEC maintains approximately 50,000 distribution poles throughout the system and must inspect about 10 percent each year to stay on rotation. Again this year, trees that are in or near distribution lines will be trimmed back to a safe distance. These efforts by servicemen and line crews continue to improve reliability and service.

If you have a problem between the meter and your service entrance, or need a lift pole or service wires repaired or replaced, the cooperative has a per hour charge rate that is reasonable. You will only be charged for material and hours on location so travel time is excluded. The cooperative is also stocking 100- and 200-amp main breaker boxes for sale at 10 percent above cost to members.

Our staff is always available to answer questions or furnish advice and information about your energy needs, so let us know when we can offer assistance.

Look Up! Watch Out for Overhead Lines and Underground, Too

As you begin to spend more time outdoors during the warm weather, there's one thing you can't afford to overlook: the power lines that bring electricity to your home. Whether overhead or underground, these power lines present a danger to you and your family if not treated with respect. So remember:

- ☑ Don't trim or cut down trees that are growing near or underneath power lines. Have a qualified contractor take care of the job.
- ☑ When planting new trees, be careful about placing them beneath overhead lines. The tree might be small now, but in a few years it could grow into the line.
- ☑ Before you dig anywhere on your property, be sure you know where your underground utility services are—not only electric lines but also gas, water and cable television. Cutting into these service connections could cause serious injury as well as a lot of inconvenience.
- ☑ Be careful installing or removing television antennas or satellite dishes. Check your clearance overhead to the

power lines. If you aren't sure that you're well clear of those lines, don't take any chances. Have a professional relocate, install or remove the device.

☑ Take the same caution when using tall ladders, pool skimmers or other long tools or equipment. A single, careless motion could cause contact with the overhead line. If you can, use wooden instead of aluminum ladders, and always carry ladders horizontally when moving them.

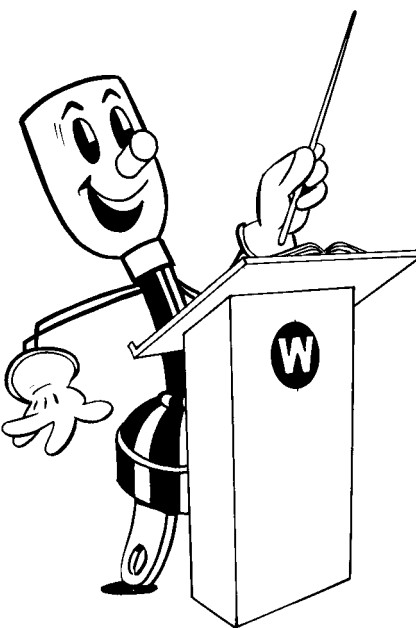
☑ Supervise your children when they're flying kites and make sure

they know to stay clear of power lines. Use only nonmetallic string on the kite, and if it should get entangled with a power line, drop the cord and call your cooperative for assistance.

☑ Never build a structure or pool beneath the lines that connect your home to power facilities.

☑ Keep yourself, your children and your pets away from substations and other utility equipment. If a toy rolls or bounces inside, call your cooperative. Don't try to retrieve it!



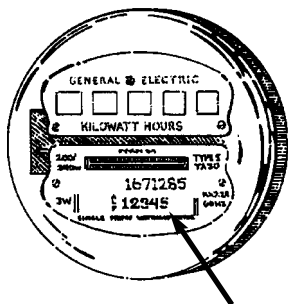


**Willie says participate
in the business of
your co-op!**

**North Plains EC's
annual meeting
will be held
April 19.
Mark your calendar!**

- Door prizes
- Entertainment
- Business reports from management and the board

When reporting an outage:



Giving us the meter number helps us locate you faster and better than directions.

**For service call:
(806) 435-5482 or
1-800-272-5482**

If you would like a refrigerator magnet to record your meter number to have it easily available in case of an outage, please call NPEC.

NPEC Strives To Meet Irrigators' Needs

Since 1999, volatile natural gas prices and, in some cases, gas availability have led many irrigators to evaluate changing fuel sources. In that same time frame, we have seen many producers consider switching from natural gas to electric irrigation—several have already made the switch. North Plains EC has put together this information to help you consider electricity as a fuel source option.

Many producers who now use electricity are pleased with the results of the change. Hansford County irrigator Carl Kunselman reports: "My cost to irrigate corn last year with electricity was \$4.87 per acre-inch. This compares with \$5.59 per acre-inch for natural gas and that does not include any labor or maintenance costs such as oil changes and the like." Pat Patterson, who also farms in Hansford County, said that one positive part of an electric well for him is the convenience. "It is much easier to start and shut down an electric well. I really like that convenience. The fuel is really lower than gas when you run a full month." But he warns that electricity can be expensive to start and run for only a short period of time. "One of the other hidden benefits of an electric motor is that it can be added to sprinkler insurance, while gas motors usually cannot be insured."

Ochiltree County irrigator Larry Don Smith echoes the improved convenience and the savings on maintenance and labor. "I like the fact that when I turn on the switch, I'm started and I don't have to spend so much time getting and keeping the motors running," he said. "I save a tremendous amount of time not having to check the wells to see if they are running as often as I did with gas."

In making a comparison of electricity versus natural gas, the question of what the fuel (energy alternative) will cost is very important, but there are several other considerations. Although fuel use will comprise the largest share of the costs of operation, these other factors will also have a

large impact on the operation of the system over time and need to be carefully considered. They include:

1. Proximity to power lines.
2. Initial purchase price of power unit including pump.
3. Repair and maintenance costs.
4. Labor required to operate and maintain system.
5. Service and parts availability.
6. Future availability of energy source and price stability.
7. Convenience of operation and automation.

The first and most important factor to consider in a comparison is proximity to a three-phase electric line. At \$6 per foot to build overhead line, a

well located far from power lines is simply not a candidate for electricity. A well fairly close to power lines can be a candidate for conversion because of the NPEC line extension policy. Currently NPEC will provide \$3,300 towards construction of a new line to an irrigation well.

In comparing fuel use, it is better to look at one season or year of operation rather than just a monthly or hourly basis. The amount spent on electric irrigation can vary significantly from month to month, even with a constant rate. The reason for this variability is in the amount of time the well runs. The NPEC irrigation rate is composed of a demand

Table 1. Cost Comparison of 125 hp Natural Gas and Electric Motors

125 Horsepower		Gas		Energy \$	\$5.50/MCF	
	Hours of operation	MCF				
June	600	828		\$4,554.00		
July	720	994		\$5,464.80		
August	240	331		\$1,821.60		
Totals		1,560	2,153	\$11,840.40	Total Fuel Expenses	
				Motor will use	1.38 MCF/Hour @ \$5.50/MCF	
				\$11,840.40	Fuel	
				\$1,092.00	Maintenance & Labor ¹	
				\$12,932.40		
				8.29	\$/Hour Total	
125 Horsepower		Electric		Energy -Kwh	Energy \$	
	Demand-Kw	Demand \$				
June	101.36	\$375.03	60,816	\$2,810.13		
July	101.36	\$375.03	72,979	\$3,203.90		
August	101.36	\$375.03	24,326	\$1,424.47		
Totals		\$1,125.10		\$7,438.50		
				Total Fuel Expenses=Demand+Energy-PCRF(-0.008962/kwh)	\$8,563.59	Fuel
					\$432.90	Maintenance & Labor ²
				1.30/kVA per month customer charge X (150 kVA) X 12 months=	\$2,340.00	Annual Minimum
					\$11,336.49	
				7.27	\$/Hour Total	
				Potential Rebate from Interruptible Rebate Program (12.68/hp)	\$1,585.00	Interruptible Rebate
					\$9,751.49	Total Cost
				6.25	\$/Hour Total	

1. \$2.40/BHP and 40 hours labor/1000 hours—Nebraska Cooperative Extension Serv. EC 88-729, Norman Klocke and Richard Clark
 2. \$0.62/BHP and 20 hours labor/1000 hours—Nebraska Cooperative Extension Serv. EC 88-729, Norman Klocke and Richard Clark

charge and an energy charge. Any time a well is started, a demand charge (\$3.70 per kilowatt) is charged once a month. This is illustrated in Table 2. If a well only runs one hour this charge is very high on an hourly basis. However, if the well runs 720 hours (24 hours multiplied by 30 days), this cost on an hourly basis is very low. Table 1 shows what to expect for demand for a 125-horsepower (hp) electric motor.

The other portion of our rate is energy. Although this rate is also constant, it does drop with more use on a monthly basis. The only portion of the irrigation rate that is variable from month to month is the power cost recovery factor, or PCRf. This portion of the bill is calculated monthly and accounts for changes in fuel generation costs. The PCRf is generally negative and has averaged \$-0.011 per kWh over the last three years. Over spring and summer months the PCRf has averaged \$-0.0089. This is the amount used in calculations in Tables 1 and 2. Table 3 gives a complete breakdown of NPEC's irrigation rate.

A frequently asked question is "What will happen to the price of electricity as the price of natural gas changes?" The answer is that it will be affected somewhat, primarily due to the fact that in the summer 25 percent of the power purchased from Golden Spread Electric Cooperative (GSEC) is

generated with coal. In addition, GSEC does an excellent job of purchasing gas at our plant in Denver City, where we have access to three major transmission pipelines. (A complete chart of PCRf in relation to gas prices is available from NPEC by request.)

In Table 1, we compare theoretical gas and electric 125-horsepower motors and include projected labor and maintenance costs for one year. According to the University of Nebraska Cooperative Extension Service, the labor and maintenance costs for an irrigation motor powered by natural gas are almost four times higher than the costs for an electric irrigation motor. The conversion of electric fuel to million cubic feet (MCF) of gas was calculated using information supplied by Leon New, Texas A&M professor and agricultural engineer at the A&M Extension Service. The assumption is that the motor will run 600 hours in June (25 days), 720 hours in July (30 days) and 240 hours in August (10 days). We also assumed a gas price of \$5.50/MCF. Monthly minimums are also included in the calculation. At the bottom of the table, the potential rebate with the Interruptible Rebate Program is also included. (More information on this program is provided below.)

In Table 2, we summarize different horsepower wells with different usage patterns and show a natural gas equivalent price based on these two factors.

Table 2. Comparison of Electric Motor Costs with Natural Gas Equivalents

hp	Hours of Operation per Month	Vertical Hollow Shaft Electricity Cost ^{1,2}	Natural Gas Equivalent ² MCF	\$/MCF
100	720	\$3,009.36	797	\$3.78
100	360	\$2,023.46	398	\$5.08
100	240	\$1,391.24	266	\$5.24
125	720	\$3,773.89	996	\$3.79
125	360	\$2,541.51	498	\$5.10
125	240	\$1,751.23	332	\$5.28
150	720	\$4,489.66	1,195	\$3.76
150	360	\$3,010.81	598	\$5.04
150	240	\$2,062.48	398	\$5.18
200	720	\$6,018.72	1,593	\$3.78
200	360	\$4,046.92	797	\$5.08
200	240	\$2,782.47	531	\$5.24

1. Assumes Power Cost Recovery Factor of \$-.0089262 (3 yr. avg. April-Sept.)
 2. Maintenance, Repairs, Labor and Depreciation not included

Table 3. North Plains Electric Cooperative Irrigation Rate

Single and three-phase service used for water well pumping for irrigation purposes

Customer Charge	\$1.30/kVA
Demand Charge	\$3.70/kW
Energy	
First 200 kWh/kW	\$0.0702
Next 200 kWh/kW	\$0.0539
Over 400 kWh/kW	\$0.0413

Annual Minimum: \$15.60/kVA installed collected through Customer Charge of \$1.30/kVA above X 12 months

It is important to realize that this table does not include labor and maintenance costs. The PCRf used in these calculations was \$-0.0089262.

Another program that should be considered is the Interruptible Rebate Program. This program was initiated in 2000 to implement a load reduction program for members who are willing to participate in load control during the months of June, July and August. The maximum hours of interruption per well for each season is 120; any interruption could occur between the hours of 12 p.m. and 10 p.m., Monday through Friday. Wells were interrupted twice in 2002 and once in 2003; the time off each time was about two hours.

Customers with irrigation loads greater than 30 hp are eligible to participate in the next calendar year after signing an agreement. The Interruptible Rebate Program can be a cost-saving option for those who can alter their irrigation schedule using interruptible energy. Wells in the program are equipped with a radio device that interrupts service in the event that demand on North Plains (and the other cooperatives who are served by Golden Spread EC) gets to be excessive. The irrigator is in turn compensated financially for offering his well into the program. The load management agreement provides a rebate of up to \$12.68 per horsepower, paid on an annual basis.

If we can assist you, or if you have specific questions about irrigation, the Interruptible Rebate Program or anything else, please contact Bill Carson at 1-800-272-5482.