



# Co-op News

from

## Wyrulec Company

Your Touchstone Energy® Cooperatives   
The power of human connections

April 2009

### How to reach us

Wyrulec Company  
500 Main St. • PO Box 359  
Lingle, Wyoming 82223

307-837-2225

800-628-5266

Fax: 307-837-2115

E-mail: [wyrulec@wyrulec.com](mailto:wyrulec@wyrulec.com)

Website: [www.wyrulec.com](http://www.wyrulec.com)

Office hours: 7:30 am–4:30pm

### Board of Directors

Jack Preston  
*President*

Dewey Hageman  
*Vice President*

Julie Kilty  
*Secretary*

F.E. "Wally" Wolski  
*Treasurer*

Brent Mullock  
*Assistant Secretary*

### General Manager

Rollie Miller

### Senior Staff

Joe Costello  
*Engineering Manager*

Joe Kinnan  
*Operations Manager*

Cindy Potter  
*Office Manager*

## From your manager



Miller

I'm writing this before our annual meeting, but by the time you read it, the annual meeting will be over. We'll have a complete report in our May newsletter.

If you haven't already, be sure to log onto [www.ourenergy.coop](http://www.ourenergy.coop) and let our congressional delegation know that you're concerned about how electricity costs may be affected by proposed climate change legislation. We have very little time to voice our opinion on this important issue. Whether you favor climate change legislation or not, one of the results of a carbon tax or carbon cap-and-trade program could easily be dramatically higher electricity costs.

## Ready to get to work

There is a little snow on the ground but it's still pretty dry and many are anxious to have irrigation pumps operating so they can get started with fieldwork.

This means our crews are very busy reconnecting irrigation services and they're also installing repeaters for our automatic meter reading (AMR) system.

## AMR & billing system efficiencies

Overall, the AMR system is working very well, although there are some bumps. We're dealing with those as quickly as possible. We don't have signal strength as strong and as clear as we need in some areas, so we're installing signal boosters (repeaters) to get that taken care of.

As you know, we converted to a new billing system in January. This, too, is working well. \*Gwen Daugherty\* The office staff is working with our consultant to get some remaining kinks worked out but already we can see that the benefits we anticipated will make this conversion effort worthwhile.

We very much appreciate your patience during these changes. Your board and staff are committed to improving efficiency and taking the steps necessary to serve you better.

## Big plans for the spring

You'll see our crews in various places across the service territory this spring. We're installing a lot of new irrigation services and our crews have several single-phase residential upgrades to do as well as new residential service installations. \*Connie Howe\* By the time you read this, we also hope to have started on a line expansion project for the town of LaGrange.

Crews are getting materials together to rebuild a line in the Yoder area along State Highway 152. We hope to start on that project this month. We're also working on new services for Union Pacific between Hawk Springs and LaGrange.

We got a little taste of spring in March. Hopefully, April will bring some moisture, warm sunshine, and not a lot of wind.

If you have any questions or concerns, don't hesitate to call me at the office, 307-837-2225 or 800-628-5266. Wyrulec Company belongs to you. Your involvement is a measure of the strength of this organization.

## Keep electricity from going down the drain

Water use and electricity go hand in hand. Heating water can account for 14 to 25 percent of the total energy consumed in a typical home. What's more, systems used to clean public water supplies and deliver it to homes require large amounts of electricity. If your home receives water from a well or spring, the pump also draws power. So when we use water, hot or cold, we're also using energy.

### End the leaks

Techniques for trimming water use in your home are surprisingly simple. For one, you can significantly reduce hot water consumption by simply repairing leaks in fixtures—faucets and showerheads—or pipes. A leak of one drip per second can cost \$1 per month.

### Turn it down a titch

You can also reduce water heating costs in a matter of seconds



by lowering the thermostat setting on your water heater. For each 10°F reduction in temperature, you can save between 3 and 5 percent in energy costs. Reducing the setting also slows mineral buildup and corrosion in your water heater and pipes.

Although some manufacturers set water heater thermostats at 140°F, most households usually only require them set at 120°F. However, if you have a dishwasher without a booster heater, you may require water temperature within a range of 130°F to 140°F for optimum cleaning.

### Perhaps insulation

Adding insulation to your water heater can save 4 to 9 percent in costs. To determine if you need

to insulate your water heater, touch it. A tank that's warm to the touch needs additional insulation.

Insulating your water heater tank is fairly simple and inexpensive, and will pay for itself in about a year. You can find pre-cut jackets or blankets available from \$10 to \$20. Choose one with an insulating value of at least R-8. In addition, don't set the thermostat above 130°F on an electric water heater with an insulating jacket or blanket as the wiring may overheat.

Installing insulation on gas- and oil-fired water heaters is more difficult. \*Marion Fuller\* For these appliances, it's best to have a qualified plumbing and heating contractor perform the work.

For more tips on trimming water use in your home, including pipe and water heater insulation techniques, visit [www.energysavers.gov](http://www.energysavers.gov).

—Sources: U.S. Department of Energy, [H2OConserve.org](http://H2OConserve.org)

## Growing gas by the tankful

A tiny organism might soon play a large role in filling the world's fuel supply. With concerns in some corners about biofuels made from food crops, the idea of algae as a fuel source has blossomed. The algae that produce fuel are not the same that you'd find floating in a pond, but rather they are genetically modified versions that have proved capable of producing high-octane gasoline and airplane fuel.

Fuel algae, which can be grown with wastewater in locations inhospitable to food crops or near coal-fired electricity plants, which could supply carbon dioxide as plant food, could one day supplant

petroleum as a fuel source, boosters hope.

The industry is still young, although investment is growing. Researchers at the University of Texas have the largest collection of algae specimens in the world and are competing for a piece of a U.S. Defense Department research grant. One company, Russell Industries, has proposed building an algae biodiesel plant near the Houston Ship Channel.

—Source: *Texas Co-op Power*



# Stay safe when operating farm equipment

The modern farmer, more than ever, relies on heavy equipment. This year, before heading out to the fields, farmers should make sure they know the locations of power lines and take into account



their equipment sizes, especially if they are using something new. Also be aware that even if a clearance was safe last year, something as simple as soil buildup could make it hazardous this year.

According to the Bureau of Labor

Statistics, contact with overhead power lines has accounted for more than 450 on-the-job deaths in the United States from 2003-2006, the latest statistics available. Of those, 35 occurred on farms.

Keep in mind these safety tips:

- ✿ Equipment should come no closer than 10 feet from overhead lines. Even if a line is not directly contacted, electricity can arc.
- ✿ When moving equipment from field to field, always lower any attachments—even if you're only moving it a few yards.
- ✿ Use a spotter when moving big equipment or big loads. And never attempt to move a power line—always contact your co-op for help.

—Source: Texas Co-op Power

## Making power with light

BY SCOTT GATES, NRECA

In most cases, generating electricity boils down to some very simple mechanics: spin a turbine attached to a generator and an electric current results. Coal-fired and nuclear power plants use steam to turn the turbine. Hydroelectric plants channel water to do the same thing, while wind turbines use breezes.

But one renewable source of generation stands as an exception to this rule: solar photovoltaics (PV). PV converts light directly into electrical energy, without a need for turbines, generators, or any other moving parts. By placing a flat, often black panel of PV material in sunlight, an electric current is produced.

### The mechanics of sunlight

How does this seemingly magical technology work? In short, when the atoms of a PV material absorb sunlight, energy from that light gets passed on to electrons. The energized electrons break free and, under the right conditions, join an electric current, as explained by the National Renewable Energy Laboratory (NREL), home to the nation's premier solar research program.

Photovoltaic literally means light-electricity, and materials with such properties have been improved upon since their discovery in the mid-1800s. The oldest

known and most commonly used semiconducting PV material is crystalline silicon, which can be grown like rock candy.

Small PV systems are fairly common and power items like pocket calculators, highway warning signs, or remote machines (such as pumps). \*Rick Larson\* Large arrays can spread across rooftops or over acres of land to power buildings and contribute to the power grid.

### Construction materials not perfected

On the surface, solar power would seem to be the end-all, be-all of renewable generation. But two problems exist with PV technology: cost and efficiency.

Photovoltaic materials currently used in solar panels are expensive. With all associated costs accounted for, 1 kilowatt-hour of electricity produced from a rooftop solar panel on a home costs roughly 25 cents. By comparison, 1 kilowatt-hour of electricity from a coal-fired plant costs 5.4 cents, according to the U.S. Energy Information Administration. A kilowatt-hour from renewable hydropower rings up at 6.5 cents.

Efficiency creates another stumbling block for PV, meaning solar panels don't take full advantage of the energy potential in sunlight. According to NREL, a 100 percent efficient solar cell would pump out 1,000 watts

*Continued on page 4*

## Making power with light

Continued from page 3

per square meter in bright sunlight. But the first panels, created in the 1950s, operated at less than 4 percent efficiency. Even today, most solar panels operate at just 15 percent efficiency. NREL researchers are working to develop panels that are 20 percent efficient.

### Focused heat builds significantly

Other methods of harnessing the sun's energy do exist, and involve the more time-tested method of using focused sunlight to directly heat water, oil, or other liquids. \*Earl Cross\* Mirrors used in this concentrating technique can be laid out in troughs, with liquid-filled pipes suspended above. Mirrors can also circle around and focus on a central tower, the top of which contains liquid that quickly absorbs heat. In both of these cases, the heated liquid is used to generate steam and turn a turbine. A third technique uses small mirrors fashioned into what resembles a satellite dish. The dish focuses light on an engine where the

collected heat builds pressure and drives pistons, which then turn a generator to produce electricity.

For more information on solar photovoltaic technology and other methods of using the sun's energy to generate electricity, visit the National Renewable Energy Laboratory's Web site at [www.nrel.gov](http://www.nrel.gov).

—Source: National Renewable Energy Laboratory



Photo courtesy Sandia National Laboratory

In a dish-engine system, several small mirrors are fashioned into a large dish to focus sunlight on a central arm and engine. The collected heat builds pressure and drives pistons, which then turn a generator to produce electricity.

## Employee Spotlight ❖❖❖ Ben Hager

- Q: How long have you lived in Wyoming?
- A: I've lived in Wyoming 26 years, my whole life.
- Q: What did you do before you came to work for Wyrulec?
- A: I worked for the City of Torrington Electric Department.
- Q: What is your job title at Wyrulec?
- A: Apprentice Lineman.
- Q: What brought you to Wyrulec?
- A: I came to Wyrulec because I wanted a hard working job that I'm passionate about that gives me a sense of accomplishment.
- Q: Describe your family.
- A: My wife and best friend is Lara, and we have a

two-year-old daughter, Hope, and a five-month-old daughter Aftyn.

- Q: Do you have any hobbies?
- A: Hunting, fishing, and training my dogs.
- Q: Words of advice you would share?
- A: Accomplish your dreams.
- Q: Why do you enjoy working for Wyrulec?
- A: I like being outside and like the people I work with. I like to learn new things every day and I love a challenge.



**Don't miss a word**  
 Each month, we will be hiding the names of five members, one from each district, in this newsletter. If you see your name this month, please call and we'll give you a \$25 bill credit.

**❖ No need to stand around in the dark ❖**  
 We have CFLs in stock that are 100-watt replacements. They will fit into any light fixture rated over 23 watts (anywhere a 60- to 100-watt incandescent bulb is now). They operate at 23 watts but provide light equal to a 100-watt incandescent. They are \$1.60 each. We have plenty.