




Co-op News

from

Wyrulec Company

Your Touchstone Energy® Cooperatives 
The power of human connections

April 2010

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

Website: www.wyrulec.com

Office hours: 7:30 am–4:30pm

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Be careful when tackling home wiring projects

If spring sends you into remodeling mode, consider checking with professionals before you migrate to the nearest hardware store. While do-it-yourself (DIY) projects can be very satisfying to complete, they pose risks when it comes to electricity.

An ongoing study by the Fire Protection Research Foundation has given UL engineers a better understanding of typical DIY wiring mistakes. The most common:

1. Working with a live wire

Thousands of DIYers receive electric shock injuries each year. To avoid becoming a statistic, always turn off the circuit breaker (or remove the fuse) before working on or replacing electrical equipment. If you have a pre-1940s home, you probably have more than one breaker box, or panel board, as electricians call them.

2. Using the wrong lightbulb

Most lighting fixtures feature a sticker on the socket that tells you the proper type and maximum wattage of the lightbulb to use. Installing one with higher wattage will not only make the room brighter, but could also damage the lights and cause a fire.

3. Not being grounded

For optimal safety, receptacles should be wired with the proper grounding and polarity. Generally, three-pronged outlets signify an effective ground path in the circuit. Homes built before the mid-1960s probably don't have a grounding path, and simply replacing the existing outlet with a three-pronged outlet won't give you one.

If you are uncertain about whether your home's wiring is grounded, inexpensive UL-listed outlet circuit testers are available to check for proper grounding and polarity. If your outlet is improperly grounded, call an electrician.

4. Splicing, splicing, splicing

Always make sure your wiring size and type match. Splicing wires by simply twisting them together and covering them with electrical tape is rarely a good idea. Instead, use wiring suitable to your home's wiring and place wiring connections in metal or plastic boxes to decrease fire risk.

Also keep in mind that circuits protected by 15-amp fuses or breakers should be wired with No. 14 AWG copper wire minimum. For 20 amps, use No. 12 AWG minimum size copper wire. Other guidelines apply, so if you expect to do any splicing, seek professional help before you begin.

5. Hooking new lights to old wires

Most light fixtures are marked with instructions for supply connections, such as “Use wire rated for at least 90C,” which refers to the maximum temperature—90 degrees Celsius or about 200 degrees Fahrenheit—under which a wire's insulation can safely be used. Again, if you have an older home (pre-1984, in this case), wiring may have a lower temperature rating than a new luminaire.

This is something most DIYers don't even think to consider.

Article courtesy of Underwriters Laboratories, Inc.



Your cooperative is a proud member of

Nebraska Rural
Electric Association

Is it time to upgrade?

Learn to estimate how much

You've had your fridge forever. With the exception of some crumbling parts of the seal, it's in pretty good shape and keeps your food cool. Why worry about budgeting for an upgrade?

Inefficiency adds up

Some homeowners forget the impact inefficient appliances have on a home's monthly power bill. Replacing a refrigerator made before 1993 with a new, Energy Star-rated model could knock between \$65-\$100 off your electricity bill each year. To sweeten the deal, rebates funded by the federal stimulus bill provide further incentives for folks replacing old appliances with new, energy-efficient alternatives.

This leaves consumers with a question when evaluating older appliances: how much energy use is too much?

To estimate the energy use of an appliance, use this formula:

$$\text{Wattage} \times \text{Hours used per day} \times \text{Days used per year} \div 1,000 = \text{Kilowatt-hours (kWh) used annually}$$

For example:

Standard, large-screen television (214 Watts)
 $214 \text{ Watts} \times 4 \text{ hours per day} \times 365 \text{ days per year} \div 1000 = 312 \text{ kWh}$ *Vicki B Jones*

Then calculate the annual cost to use an appliance by multiplying the kWh per year by \$0.10, which is a rough average of Wyrulec's residential rate, but easy math. You could also use the national average, which is \$0.118 per kWh.

$$312 \text{ kWh} \times \$0.10 = \$31.20 \text{ per year}$$

$$312 \text{ kWh} \times \$0.118 = \$36.82 \text{ per year}$$

In contrast, an Energy Star-rated standard, large-screen TV (151.5 Watts) costs \$22 to power annually (\$25 if you use the national average).

Gather the data

You can usually find the wattage of most appliances stamped on the bottom or back of the appliance, or on its nameplate. The wattage listed is the maximum power drawn by the appliance. Since some appliances have a range of settings (i.e. hairdryers), the actual amount of power consumed depends on the setting used at any one time.



Appliance rebates are now available through the economic stimulus package. The stimulus plan provides rebates for consumers who replace an old appliance with a new, energy-efficient model rated by Energy Star. Each state's plan is unique. Visit www.energysavers.gov/rebates to find out how rebates can help you keep your electric bills affordable!

Sharon M. Walson



energy appliances use

Here are examples of the range of wattages for common household appliances:

- ✘ Clothes washer: 350-500 Watts
 - ✘ Clothes dryer: 1800-5000 Watts
 - ✘ Dishwasher: 1200-2400 Watts (heat drying feature increases energy use)
 - ✘ Hair dryer: 1200-1875 Watts
 - ✘ Microwave oven: 750-1100 Watts
 - ✘ Refrigerator (frost-free, 16 cubic feet): 725 Watts
- *Dennis Mueller*

Window shop to check savings

Once you calculate how much money you spend to run aging home appliances, compare this to what it would cost to use more efficient models. With federal incentives bringing down the price of an Energy Star-rated refrigerator or clothes washer, the annual energy savings could be worth an up-front investment. There are other benefits too. For example, not only have clothes washers become 64 percent more energy efficient since 2000—the tub size increased by 9 percent. With a new model you can wash more clothes for less money every month!

No trouble at all

Don't want the hassle of adding up the potential savings? Touchstone Energy® Cooperatives' website, www.TogetherWeSave.com, demonstrates how small changes like replacing an appliance or unplugging electronics lead to big energy savings. *Gary L. Talkington* On the website under 'Add Up Your Savings,' you can walk through a typical home's kitchen, living room, and other common areas. Upgrade appliances and make other energy-smart choices in each room. Each time you make

See next page

The Value of Electricity A dollar's worth can get you:

36 
(intense) hours of gaming

48 
hours of watching TV

72 
freshly-ironed shirts

72 
hours of laptop Internet access

100 
hot pots of coffee

375 
pieces of toast (nicely browned)

Sources: U.S. Department of Energy;
National Rural Electric Cooperative Association



What can you do?	
Add insulation	\$0
Seal the cracks	\$0
Pull the plug	\$0
Adjust the thermostat	\$0
Upgrade your refrigerator	\$0
Upgrade your dishwasher	\$0
Turn off the lights	\$0
Install CFLs	\$0
Adjust the blinds	\$0
Upgrade washing machine	\$0
Upgrade your HVAC	\$0
Adjust your water heater	\$0
TOTAL SAVED:	\$0

Courtesy Touchstone Energy® Cooperatives

The website www.TogetherWeSave.com demonstrates how small changes—like replacing an appliance or unplugging electronics—lead to big energy savings.

Is it time to upgrade?

Continued from previous page
 a change, you're shown how much money you could save on your annual electric bill!

Now is a good time

Ready for an upgrade? Remember, incentives are available to help you make an energy-efficient switch. For Wyoming- or Nebraska-specific details on how you can take advantage of the federal 'Cash for Appliances' program, with rebates ranging from \$50 to

\$250, visit www.energysavers.gov/rebates. Details on other state and local utility rebates are available at www.dsireusa.org.

Sources:

- U.S. Department of Energy, Energy Efficiency and Renewable Energy
- U.S. Energy Information Administration *Byron R. Geissler*
- Association of Home Appliance Manufacturers
- Natural Resources Defense Council
- U.S. Energy Information Administration

\$500 for a local school!

Any rural K-12 classroom teacher whose school or community is served by a rural electric cooperative or whose students are so served is welcome to apply for a \$500 mini-grant for an energy or electricity learning project from the National Rural Electric Cooperative Association. (NRECA).

Applications are due May 15, 2010, and can be picked up at the Wyrulec Company office in Lingle.

Applications will be judged on how appropriate the project is for the specified age/grade level, demonstrated cooperation between students, coordination with the local electric co-op, and the focus of the project on student learning.

Projects should feature an investigation of the science of energy or electricity. A study of the local geology, the history of hydroelectric generation in the community, or efficiency gains over the years would work. The project is only limited by the imagination of the students and resources available.

Those who receive a mini-grant will be required to submit a final report by May 1, 2011.

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.



- 1 The average refrigerator sold today uses less energy than a 60-watt lightbulb left on for 24 hours a day.
- 2 Every year refrigerator efficiency improves. An average 2008 fridge consumes 3 percent less energy than one made in 2007.
- 3 44 percent of fridges that could be retired or recycled are used as second fridges, sold, or given away.
- 4 26 percent of all U.S. households maintain a second refrigerator.
- 5 Only three out of every 10 refrigerators sold are Energy Star-qualified.
- 6 27 million inefficient fridge models made before 1993 are still in American homes.

Source: Energy Star, Association of Home Appliance Manufacturers. Image: GE Consumer Products