

Watts Up?

www.ravallielectric.com
service@ravallielectric.com

Volume 23, No. 12

Ravalli Electric Co-op

Corvallis, Montana



Why Does the Power Blink?

By Scott Turner, P.E.

At one time or another, we've all returned home or woken up late for work to see a blinking "12:00" on our digital alarm clock. You then have to reset every digital clock in your household that doesn't have a battery backup, from the microwave oven to the answering machine. Usually, this state of "eternal midnight" was caused by a "blink" in the electrical system.



While blinks can be annoying, they show that an electrical system is working exactly as designed. And while Ravalli Electric Co-op has taken steps to reduce the number of blinks across its power system, there are measures you can take as well.

Let's look at blinks. These momentary power interruptions can occur anywhere along a power system—from the time electrons are generated at a power plant to being shipped across transmission line to substations, or during distribution from a substation to your home.

Continued on page 2

159480

A Touchstone Energy® Cooperative



Ravalli Electric Co-op

Why blinks?

Blinks are created when a breaker, or switch, opens along any portion of the power system. The breaker usually opens because of a large, quick rise of electrical current. This large rise, called a fault condition, can occur when a tree branch touches a line, lightning strikes, or a wire breaks.

When this happens, a relay senses the fault and tells the breaker to open, preventing the flow of power to the problem site. After opening, the breaker quickly closes. The brief delay, which allows the fault to clear, usually lasts less than two seconds.

If the fault clears, every home or business that receives electricity off that power line has just experienced a blink. This could include thousands of accounts if the breaker protects a transmission line or a substation.

Reducing the blink's effects

Your co-op employs methods to reduce blink frequency. Tree trimming is probably the easiest and most common way, and one area where you can help. Make sure your co-op knows of any trees or limbs located close to a power line. [Call 961-3001 to tell REC about potential problems.]

Meanwhile, you can reduce the frustration of blinks by purchasing an alarm clock equipped with a battery backup. This type of digital clock offers "ride through" ability for momentary outages. It will also keep the correct time and sound an alarm in case of a long-duration outage, provided a charged battery is in place. As an added benefit, these devices only use the battery in the event of a power interruption.

Blinks affect all electrical equipment, not just digital clocks. If there is a blink while you are operating a computer, your computer may crash and you will have to reboot, hoping all the while that there will be few corrupted files.

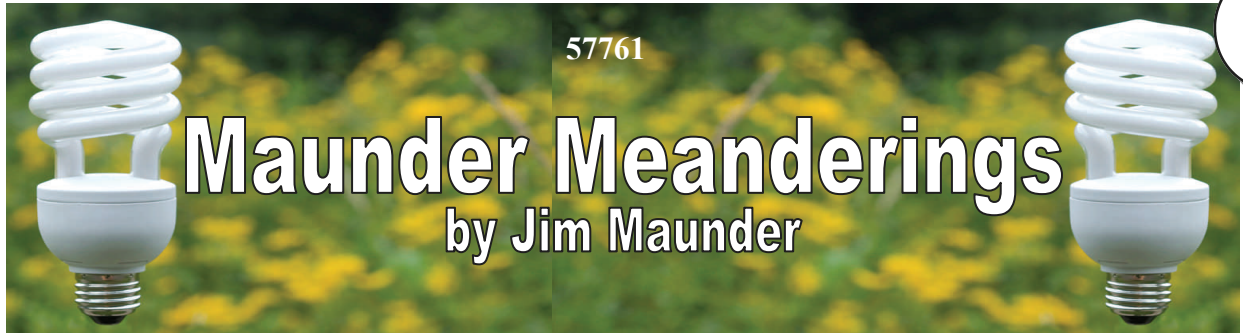
An uninterruptible power supply (UPS) on your computer can help prevent information loss. The UPS incorporates surge suppression technology with a battery backup and provides you some time to save whatever you were working on and exit your computer properly.

The future of blinks

Ravalli Electric Co-op operates an active system maintenance program and works hard to identify and fix sources of service interruptions. Even though blinks will never disappear from our electrical energy delivery system, by working together we can minimize effects of the interruptions and the frequency with which they occur.

This article was written by Scott Turner, P.E., a former electric co-op employee (right here at Ravalli Electric Co-op), who is an electrical engineering consultant at his firm JD Engineering, PC, in Hamilton, Montana (www.jdeng.org).

**The Co-op will be closed Friday,
December 24 for the
Christmas Holiday.
For the New Year's Holiday, the
Co-op will be closed on Monday,
January 3.
Happy Holidays!**



Maunder Meanderings by Jim Maunder

Cool Off Your Winter Energy Bill

You've budgeted for holiday gifts, meals, maybe a vacation—and with money tight, that doesn't leave much room for home energy efficiency upgrades. Does that mean you're powerless to lower your electric bill? Not at all. Keep your energy bill cool this winter with these tips and tricks:

Drape Delivery: Are you using your curtains to capture heat? Make sure drapes and shades are open to catch free solar heat during the day. Close them at night to keep the heat inside.

Thermostat: Set your thermostat to 68°F (or lower if comfortable).

Got Tape? Though not as durable as foam, rubber, or vinyl, you can use non-porous tape (first aid cloth tape, for example) to keep cold air from squeezing into your home. Tape is good for blocking corners and irregular cracks, and can be used at the top and bottom of a window sash; door frames; attic hatches; and inoperable windows. Reinforce with staples if needed.



Fan It Up: Run ceiling paddle fans on low and reverse the rotation to blow air up in winter. This keeps warm air circulating without cooling you.

Free Vents: Your HVAC system will have to work twice as hard if your air registers and vents are blocked by rugs, furniture, or drapes. Keep them clear to allow air to flow freely.

Garage Drain: Leave your garage door down. A warmer garage in winter will save energy.

Rug Relief: Have a spare rug? Use it to cover bare floors for added insulation.

Cool Food: Don't make your fridge work too hard. Clean coils every year, and set the temperature between 34° - 37° F; leave the freezer between 0°-5° F. Keep the freezer full—frozen food helps your freezer stay cool. When cooking, keep lids on pots and let hot food cool off before placing it in the refrigerator.

Hot Savings: Heating water accounts for 12 percent of your home's energy use. Set your water heater temperature no higher than 120°F. For households with only one or two members, 115°F works.

There are other ways to conserve energy, too. Remember, you don't pay for what you don't use. When you're not watching TV or using lights, computers, and other electronics, turn them off. Lower your room temperatures a bit and wear a sweater to stay warm, or place an extra blanket on the bed at night. Find more ways to save at: www.TogetherWeSave.com or contact our Member Services Department.

Electricity Theft: Not Worth the Risk

By Christine Smith

Every year, electric cooperatives across the country cope with thieves—folks who deliberately tamper with their electric meter to steal power. Not only is this practice extremely dangerous, it's a serious crime that includes hefty fines and jail time.

People do some dangerous things—using knives, forks, magnets, jumper cables, and any number of other objects to get around paying for the power they use. However, not only are these persons stealing from their fellow co-op members, they're also risking their lives and those of co-op workers.

According to the Cooperative Research Network, a division of the National Rural Electric Cooperative Association, power surging through a compromised meter can cause an electrical catastrophe. A short circuit could produce an arc flash bright enough to cause blindness and powerful enough to launch fragments of shrapnel-like, red-hot debris. Serious injury or death from electrocution, explosion, or fire often results from meter tampering. Only trained co-op personnel wearing protective clothing should work on meters.

Anytime you get into a meter base, you run the risk of an arc flash, and anyone could get killed or seriously maimed.

Electricity theft is not a victimless crime. Your not-for-profit co-op loses revenue and expends resources to investigate tampering. These costs are then passed on to the entire membership. National estimates vary, but *The Washington Post* cited revenue protection officials who claim between \$1 billion and \$10 billion worth of electricity is stolen from utilities annually.

Since everyone pays for lost power, please let us know if you suspect meter tampering. Call Ravalli Electric Co-op at 961-3001 to report possible theft of service. All information can be given anonymously.

Source: *The Washington Post*, Cooperative Research Network

Christine Smith writes on safety issues for the National Rural Electric Cooperative Association, the Arlington, Va.-based service arm of the nation's 900-plus consumer-owned, not-for-profit electric cooperatives.

Holiday Safety Facts & Statistics

- * 76 percent of U.S. homeowners decorate their homes during the winter holiday season.
- * 70 percent of Americans plan to use electrical lighting and decorations indoors.
- * Holiday decorations and Christmas trees account for almost 2000 fires and more than \$41 million in property damage each year.
- * Nearly one-quarter (24%) of Americans have not replaced their smoke detector batteries within the last two years.
- * Candles are the source of ignition in 56 percent of home decoration fires.
- * More than 20 percent of Americans do not turn off holiday electrical lighting and decorations before going to sleep or leaving the house.
- * On December 31 and January 1 alone, there are more than 200 fatalities and injuries caused by home fires.
- * 25 percent of all home decoration fires occur in December.

Source: Electrical Safety Foundation International (ESFI), 1300 North 17th St. Suite 1752, Rosslyn, VA 22209

Find the Hidden Number



We will hide three account numbers this month in our "Watts Up?" pages. If you find your account number, call the office at 961-3001 by the 20th of the magazine month and you get a **\$30 credit** on your electric bill. Good luck!

Ravalli County Electric Cooperative, Inc.

P.O. Box 190
Corvallis, MT 59828
Phone (406) 961-3001
Fax (406) 961-3230

Richard J. Brown
General Manager

Board of Directors

Stacy Bartlett, President
Wayne Olson, Vice Pres.
Larry Trexler, Sec./Treas.
Robert Bailey, Trustee
Charles Swanson, Trustee
Kevin Frost, Trustee
Rex Griffin, Trustee