

Balancing smart grid buzz with common sense



Steve Epperson
President/CEO

Get Smart About the Smart Grid

Here are a few helpful smart grid terms:

Advanced Metering Infrastructure (AMI): Includes technologies and software applications that combine two-way communications with smart meters to provide electric utilities—using frequent meter reads—with near real-time oversight of system operations.

Automated Meter Reading (AMR): A component of AMI, AMR allows meters to report electric use back to a utility's office.

Real-Time Pricing: A method of setting rates where the retail rate for electricity varies on an hourly or more frequent basis as the price of wholesale power changes. Smart grid applications would allow consumers to adjust their power use according to the fluctuating retail rates.

Demand Response: Programs or mechanisms that reduce electricity consumption in response to market signals or other incentives. Demand response includes direct load control, time-of-use rates, interruptible contracts, utility dispatch of consumer-owned (distributed) generation, personal energy management, and other initiatives.



Source: National Rural Electric Cooperative Association
Graphics by Funnelinc.com

My kids always get excited about the latest gadget to hit the market. It might cost a bit extra, but they simply have to have it. I never quite understood the excitement — until now.

At McDonough Power we've read about and begun implementing aspects of, the so-called "smart grid." As with any cutting-edge concept, it seems new smart grid bells and whistles are touted daily. While we've been careful not to get caught up in the hype, I often have members ask me, "What's all the buzz about?"

The North American electric grid — the largest interconnected machine on earth — operates as a humming highway moving electricity from power plants to your home. About 3,000 utilities operate 10,000 power plants nationally. All of this power — more than 1 million megawatts — flows across 300,000 miles of high-voltage transmission lines. And while the way we use electricity has changed drastically over the decades, most of the highway that delivers power to our homes was built 50 years ago. **6220A3-704B**

As we talk about upgrading the nation's grid from a hands-on, mechanical system to a digital network, there's plenty of room for improvement — and potential miscalculations. While a smart grid can help utilities control costs, it can also be abused by big power companies and others to shift market risks onto consumers — something McDonough Power doesn't want to see happen.

That's why, with some help from Uncle Sam, not-for-profit, member-owned electric utilities are testing some of these technologies to see what makes sense. Thanks to partnerships between electric cooperatives, public power districts, and NRECA's Cooperative Research Network with the federal government, more than \$600 million will be invested to deploy and study how digital smart grid technologies improve service for co-op members in 25 states including Illinois.

On top of this, many other co-ops are implementing smart grid upgrades consistent with long-range business plans to boost service reliability and operating efficiency. Through all of these efforts we will identify which technologies work and weed out those that may not deliver promised benefits.

Any smart grid needs to be flexible — some components don't make sense everywhere. Automated meters and self-healing feeders may help reduce the number and duration of outages; in-home displays could increase member awareness of how much electricity they use; there are lots of possibilities. Rest assured that your management team at McDonough Power will employ some hometown smarts of our own in how we approach the smart grid.

Our bottom line? We want to learn how to help you make wiser energy choices to keep your electric bill affordable.

**Our office will be closed
November 25 and 26 for Thanksgiving.**



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2011 Thomas H. Moore IEC Memorial Scholarship Program

The AIEC Board of Directors in 1994 voted to establish an Illinois Electric Cooperatives (IEC) Memorial Scholarship Fund. The Fund is designed to financially assist deserving students in the “electric cooperative family,” while also providing a means for co-ops and individuals to honor deceased members of the co-op family through memorial gifts. The “driving force” behind the Fund’s creation was Thomas H. Moore, Executive Vice President and General Manager of the AIEC from 1961 to 1994. The AIEC Board voted to rename the scholarship program to honor Mr. Moore following his passing in 2008.

The scholarship program prospered under the leadership of Earl W. Struck, who succeeded Mr. Moore and served as President/CEO of the AIEC from 1994 to 2006. Mr. Struck passed away in August 2007. The AIEC Board of Directors that month voted to honor Mr. Struck’s memory by naming the annual scholarship awarded to the son or daughter of an electric cooperative employee or director the “Earl W. Struck Memorial Scholarship.”

The Illinois Community College System Foundation (ICCSF) administers the Thomas H. Moore IEC Memorial Scholarship Fund. Eight scholarships a year are awarded.

Four scholarships a year are awarded to students who are the sons or daughters of an Illinois electric cooperative member. An additional scholarship (the Earl W. Struck Memorial Scholarship) is awarded to a student who is the son or daughter of an Illinois electric cooperative employee or director. These five scholarships can be used at any two-year or four-year accredited college or university in the United States, including vocational/technical schools. The sixth and seventh scholarships are awarded for use at an Illinois community college, and sons and daughters of Illinois elec-

tric cooperative members, employees and directors are all eligible.

All of the above seven scholarships are for \$1,250 each and are not renewable. Applicants must be high school seniors and apply through their local electric cooperative.

The deadline for submitting completed applications to the local electric cooperative is January 1 of each year. **VI56-81SHH5Z5**

A new eighth, annual scholarship, the “LaVern and Nola McEntire Lineworker’s Scholarship,” will be awarded for the first time in 2011. This \$1,250 scholarship will help pay for costs to attend the lineworker’s school conducted by the AIEC in conjunction with Lincoln Land Community College, Springfield, IL. LaVern McEntire served as a lineman for McDonough Power Electric Cooperative from 1949 until 1991. He and his wife, Nola, helped to endow and establish the new scholarship to financially assist deserving individuals in becoming trained lineworkers. Relatives of co-op employees or directors are eligible for the lineworker’s scholarship, as are individuals who have served or are serving in the armed forces or National Guard.

Contribution checks to the scholarship program can be made payable to the “ICCSF / IEC Memorial Scholarship Fund.”

Candidates are judged on the basis of grade point average, college entrance exam scores, work and volunteer experience, school and civic activities, and a short essay that demonstrates their knowledge of electric cooperatives.

Applications may be picked up at the McDonough Power office or they should be available through your high school guidance counselor. Again, the deadline for application submission is January 1, 2011.





McDonough Power leader earns credentials in electric utility competency

A director from McDonough Power Cooperative has earned a development certification from the National Rural Electric Cooperative Association (NRECA).

Board Director Jerry Riggins has earned the Board Leadership Certification. He was recognized at the NRECA's Region 5 & 6 meeting in Minneapolis, Minn. for his commitment to education and attainment of the Board Leadership Certificate before an audience of more than 1000 electric cooperative officials from six states, including Illinois.

Today's electric utility environment imposes new demands on electric cooperative directors, particularly



increased knowledge of changes in the electric utility business, new governance skills and a working knowledge of the cooperative principles. Electric co-ops in Illinois have a commitment to sharpen their employees' body of knowledge for the benefit of consumers. Riggins' certification is evidence of that commitment.

The NRECA Credentialed Co-

operative Director, or CCD, program requires attendance and demonstrated understanding of the basic competencies contained in five core courses:

- ◆ Director Duties and Liabilities
- ◆ Understanding the Electric Business
- ◆ Board Roles and Relationships
- ◆ Strategic Planning
- ◆ Financial Decision Making

The NRECA Board Leadership certificate recognizes individuals who continue their professional development after becoming a Credentialed Cooperative Director. Directors who have attained the Board Leadership certificate have completed 10 credits in advanced, issues-oriented courses.

Extension cord safety: make smart connections

During the holiday season, families often string together extension cords without a second thought. Unfortunately, not all cords are created equal.

Just because an extension cord can reach an outlet across a room doesn't mean it's the right one for the task at hand. If a tool, appliance, or holiday display draws more current than an extension cord can carry, it may cause the cord (and whatever is connected to it) to overheat and start a fire.

Cords come in many lengths and are marked with a size or gauge. The gauge is based on the American Wire Gauge (AWG) System, in which the larger the wire, the smaller the AWG number.

For example, a 12-gauge wire would be larger and power larger wattage appliances than a 14-gauge wire. A cord, based on its gauge, can power appliances of a certain wattage only at specific distances. As the cord gets longer, the current-carrying capacity of the cord drops.

Using the right cord for the job is only the first step in using extension cords safely. Follow these tips to ensure safe use and make smart connection decisions:

- ◆ Look for the Underwriters Labora-



- ◆ Never use an indoor extension cord outdoors, as it could result in electric shock or trigger a fire. Extension cords that can be used outdoors will be clearly marked "Suitable for Use with Outdoor Appliances."
- ◆ Extension cords should not be placed underneath rugs or other heavy furniture; tacked in place to a wall or taped down; or used while coiled or bent. Match the length of the cord to your needs.
- ◆ Store all cords indoors when not in use. Outdoor conditions can

deteriorate a cord over time.

- ◆ Unplug extension cords when not in use. The cord will continue conducting electricity until unplugged.
- ◆ On cords with more than one outlet, use the covers provided for unused openings. Children and pets face serious injury if they chew on unused outlets or stick sharp metal objects into the openings.
- ◆ Do not use extension cords that are cut or damaged. Touching even a single exposed strand of wire can result in an electric shock or burn.
- ◆ Never file or cut the plug blades or grounding pin of an extension cord or appliance to plug it into an old outlet.
- ◆ As a safety feature, extension cords and most appliances boast polarized plugs (one blade wider than the other). These special plugs are designed to prevent electric shock by properly aligning circuit conductors. If a plug does not fit, have a qualified electrician install a new outlet.

Source: Underwriters Laboratories, Inc.



Enjoy an EverGREEN Holiday Season

Get the most out of energy during the holidays

By John Bruce

Holidays are a festive time of year, with gifts, fun decorations, family visits and lots of laughter. But they can also ring in extra energy use for heating, decorative lights, and more. So what steps can you take to make sure the holidays don't leave a surprise "gift" on your next electric bill?

One of the most popular ways to save energy without dimming holiday cheer is switching to light-emitting diode (LED) holiday lights. These long-lasting and energy efficient lights have been used for years in vehicles to let you know when you're low on gas or need an oil change. Over the past few years, prices have dropped low enough to make these bulbs cost-effective for decorative use.

On the plus side, LEDs last longer than traditional incandescent lights. They run cool and colors don't fade over time. Best of all, they use about a tenth of the energy for the same amount of light. **VLS6-8ISHHSZS**

The news isn't all cheery. Decorative LEDs cost much more than strands of typically lights — up to \$40 or more to outfit a tree, according to Consumer Reports, an independent product tester. But over time, the higher investment pays off. When Consumer Reports compared LEDs and incandescent holiday lights in 2007, they found LEDs use between 1 and 3 kWh of energy, compared to between 12 to 105 kWh for traditional lights. This translates into a savings of up to \$11 every year. Because

LEDs are more durable, lasting more than 4,000 hours while incandescent bulbs burn out by the 2000 hour mark, the initial investment pays dividends over the long haul.

Whether or not you fork out extra bucks to switch to LEDs, it's a good idea to turn off your holiday lights before you go to bed. Consider installing timers to reduce the amount of time your holiday lights are on. Just 10 incandescent strands lit for 13 hours a day can easily add more than \$50 to an electric bill. Limit light displays to no more than six hours nightly.

Lights aren't the only holiday addition impacting your electric bill — family guests add to your costs, too. Because everyone wants to stay toasty during colder holiday months, heating usually accounts for the lion's share of cold-weather energy costs. Extra guests translate into extra water to heat for showers.

Make sure to set your thermostat as low as comfort permits. Each degree above 68 degrees adds 2 percent to 3 percent to the amount of energy needed to heat your home. Conversely, you'll save by lowering your thermostat (and leaving it there).

You can expect extra guests to strain your electric water heater — folks often take longer showers in colder weather, increasing water-heating costs. Before guests arrive consider installing a low-flow showerhead to reduce the amount of water used, and try to keep showers



to six minutes or less.

Finally, in the average home, 75 percent of the electricity used to power electronic gifts and gadgets is used while the products are off. This phantom power use can be avoided by unplugging the items or using a power strip.

To learn more about ways to cut home energy use, visit www.TogetherWeSave.com.

Sources: Consumer Reports, U.S. Department of Energy

John Bruce is a freelance writer based in South Carolina. He writes on energy efficiency 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.

Tip of the Month

If your home is more than 10 years old, it likely needs more insulation. How much depends on a variety of factors, most importantly where you live. For example, insulation for a home in the Northeast will have a higher R-value rating than a home in Southern California. Check out www.simplyinsulate.com to find out more.

Source: Alliance to Save Energy

MAP LOCATION GAME

Every month we will have four map location numbers hidden throughout *The Wire*. If you find your map location number, call our office and identify your number and the page that it is on. If correct, you will win a \$10 credit on your next electric bill.

