



# Harrison Rural Electrification Association, Inc.

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Your Touchstone Energy® Partner



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## HREA's long-range plan proves correct

BACK IN 2002, HREA management worked with an independent engineering firm to develop a long-range plan that encompassed the next 30 years. This plan was based on an analysis of the cooperative's current distribution system and its ability to serve the current load and the anticipated load growth throughout the cooperative's service territory. At the time the plan was developed, the HREA served about 5,800 meters over 825 miles of distribution line from five metering points and one substation located on a 23-kV radial feeder (Jarvisville), with a total system peak load of around 14,500 kW and about 56,750,000 kWh consumed annually. Over the 30-year period, the plan forecasted that the cooperative would grow to serve about 8,900 meters over 1,140 miles of distribution line from seven new substations, with a total system peak of around 28,019 kW and about

106,750,000 kWh consumed annually.

The major concerns at the time were the extensive use of metering points. Typically, metering points are three-phase taps from an existing third-party 12.47-kV distribution line where cooperative-owned distribution equipment is used to boost and stabilize the incoming voltage for distribution across cooperative lines. Historically, metering points were a cost-efficient means to locate power sources closer to where the membership was consuming the power. The cooperative was billed for the metered incoming power at each of these points, which normally ran 8 percent higher than the power consumed by the end-users supplied by that metering point. Eventually, the power suppliers argued that metering points placed an inordinate burden upon their distribution lines, so the power billed should be based on the power supplied at the 138-kV transmission level.

Depending on the location of the metering point, this eliminated any cost efficiencies associated with using metering points. The cooperative pays a monthly fee for each metering point that, in our case, is based on the provider's infrastructure investment between the metering point and the 138-kV source. Again, actual cost depends on the location, but the average cost for a metering

### Manager's Corner

by Terry Stout,  
CEO/General Manager



point is about \$2,800 per month plus about 4 percent line loss. For a substation, the monthly cost is around \$900 per month with only a 1.5 percent line loss factor. While the initial investment is far greater for a substation, the overall operating cost is less than the metering point.

Aside from the costs, the transition from metering points to substations should improve reliability. Both methods are subject to problems on both the load side (cooperative's infrastructure) and the source side (transmission provider's infrastructure) of the point of interconnection. Load-side issues are the same for both methods and involve vegetation management, pole inspections, conductor upgrades, etc., that HREA schedules annually. Source-side issues provide the larger opportunity for reliability improvement in that metering points are affected by the provider's level of attention to the same things the cooperative is addressing on the load side. When there are issues, the regulatory agencies deny authority, so the cooperative is at the mercy of the provider. For substations, the Federal Energy Regulatory Commission accepts the authority to require  
**(Continued on page 26)**

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# A cooperative day in your life

From morning until night, co-ops are all around us

Chances are that cooperatives like Harrison Rural Electrification Association were a big part of your day, from dawn until dusk.

Your morning orange juice might have come from Florida's Natural, a producer-owned cooperative based in Florida. If your morning coffee came from Equal Exchange, you get bonus points because it sources its coffee from farmer-owned co-ops in developing countries, and it is a worker-owned co-op. If you like milk in your coffee or cereal, check this out: More than 86 percent of all fluid milk flows through a co-op.

The wheat in your muffin or toast was most likely processed through a farmer-owned grain elevator in the Midwest. If you had cranberries in that muffin, they likely came from Ocean Spray, or maybe you used Land O'Lakes Butter or Welch's Concord Grape Jam — all producer-owned co-ops.

After that co-op-produced breakfast, parents might drop off their young children at one of the 1,000-plus preschool co-ops that operate throughout the U.S.

Perhaps this is the day to make some improvements to your home. Ace Hardware, True Value and Do It Best are all examples of purchasing co-ops. These are small businesses that come together to form a co-op so they can compete with big-box retailers that are not

owned by people in the local community.

Then, you might need to get some cash for that home project from one of the 25,000 ATMs in the credit union network. More than 100 million people in the U.S. are members of a credit union, and yep — you guessed it — credit unions are co-ops.

On your way home, you may stop at one of the 300 community-owned cooperative grocery stores in the country. Many of the meat products and vegetables are also sourced from co-ops. If you're in a hurry, maybe you swing by KFC, Taco Bell or Pizza Hut to pick up dinner. The franchise owners of these fast food restaurants are all members of a purchasing co-op, just like the hardware stores above.

After dinner, perhaps you watch TV from one of the more than 1,000 small cable companies that serve rural America and have come together to form a co-op, which helps keep costs as low as possible. Or maybe you're surfing the Internet through services provided by your local telecommunications co-op, making travel plans for your next business trip or vacation. If you stay at a Best Western, that is also a purchasing co-op.

And when it's time for lights out, you can flip that switch knowing you're receiving safe, reliable electricity from your local electric cooperative. HREA morning until night, you can have a very cooperative day.

## Did you know?

### Fun facts about electricity

- Electricity travels at the speed of light —that's more than 186,000 miles per second.
- Static electricity can reach up to 3,000 volts.
- Benjamin Franklin didn't discover electricity, but he did prove that lightning is a form of electrical energy.
- Lightning is a release of electricity through the atmosphere. Bolts of lightning can travel around 130,000 mph, while reaching nearly 54,000 degrees Fahrenheit in temperature. It can measure up to 3 million volts and lasts less than one second.
- You may have heard of direct current (DC) and alternating current (AC). The difference between the two is in the way the electrons flow. In DC, electrons move in a single direction, such as battery-powered appliances, while in AC electrons change directions. The electricity that powers your home is AC.
- In the 1800s, there was even a "war of currents" between Thomas Edison (who helped invent DC) and Nikola

Tesla (who helped invent AC). Both fought to have their systems used widespread, with AC eventually winning because it is safer and can be used over longer distances.

- There are numerous ways to generate power, including fossil fuels like coal and natural gas, which are abundant and reliable 24/7, and renewable energy like wind and solar, which are "intermittent." That means they do not consistently and steadily produce power. Usually, a mix of all these sources is the best way to ensure a reliable, affordable supply of electricity.

- Have you ever wondered why birds sitting on a power line don't get electrocuted? If a bird is sitting on just one line, the electricity flows around it. But if the bird touches another line, it creates a circuit, and the electricity flows through the bird.



# Cutting the cable: Part 4

BY LLOYD MASON

In the past few months, we have explored the steps one might take to expand the number of available TV and movie viewing choices while cutting monthly costs through the use of “streaming” devices connected to the Internet.

To recap: This approach allows you to watch TV and movies via Internet-only devices with the lowest monthly cost while not really sacrificing much in the way of content. Then we learned about choosing a streaming device, or more than one, to suit your needs. The most tech-savvy users can simply connect a laptop to the television and stream anything they want, with little or no limitation other than access to paid content. But you can also purchase “smart” TVs that come pre-loaded with streaming services and can wirelessly connect to the Internet. Or you can buy streaming devices, such as Roku or Apple TV, that hook up to your conventional TV.

The Internet will eventually be the way everyone accesses everything. What I liken the revolution to is the gradual migration away from AOL. For a period of time in the 1990s and early 2000s, AOL seemed to have cornered the market. The slogan “You’ve got mail” was used in famous movies and was well-known to even the least tech-savvy people all over the world. But times have changed, and so too has the business model for AOL. Simply put, people eventually realized the content being offered by AOL was available without paying AOL for anything.

So too will go the migration away from canned cable content. The business scramble these days revolves around who can supply the content people want in a form they can digest but that segregates them from competitors. This is an important point because this is how we have come together on this topic. Cable companies are doing the same thing AOL was doing so many years ago.

A free and unrestricted Internet is very important so development can flourish and true choice can become the standard. With that said, it is important to mention that everything we have been looking at for the past four months is possible because of an unrestricted and free Internet, which has been argued about under the term “net neutrality.”

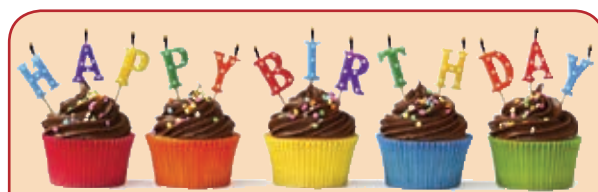
The argument over net neutrality may be one of the most important fights for continued growth and development we have seen for many years, as big business tried to slow down the Internet — unless, for example, streaming services like Netflix were to pay extra money to Internet service providers for fast streaming speeds — and restrict access to choice. In June, rules from the Federal Communications Commission went into effect that “are ensuring consum-

ers and businesses have access to a fast, fair and open Internet,” according to FCC.gov.

The Internet does not belong to any one group or entity; it belongs to everyone. Protecting that idea is maybe the best platform to voice our strong conviction that information should be free to all: free to read, use, and better our communities and our lives.

*’Til next time @TECH CORNER — happy streaming.*

**LLOYD MASON** is the manager of information technology at Harrison Rural Electric Association. He writes monthly on technology issues affecting our cooperative and members.



If you see one of these people this month, be sure to wish him or her a very happy birthday!

**Brittany Grover, cashier/receptionist – Sept. 6**

**Rachel Rollins, work order clerk – Sept. 15**

**Missie Stephenson, accountant – Sept. 16**

**Chris Davisson, meter technician – Sept. 29**

**Lloyd Mason, IT manager – Sept. 29**





# How to *splurge* sensibly

Tips for building **responsible** spending tactics into your discretionary income **budget**

BY ALEXANDRIA SHETLER

The Consumer Federation of America reported that the average American spends \$2,000 a year on unexpected expenditures. In other words, when unexpected spending is not used for emergency situations, Americans like to splurge. But it's not always as impulsive or as harmful as it sounds — as long as it is done in a thoughtful way.

By building responsible splurging tactics into your discretionary income budget, you can reward yourself today while staying focused on your medium and long-term financial goals. To change the negative connotation of splurging, practice “sensible” versus “mindless” splurging. When you find yourself tempted to splurge, stop and ask, “Why do I want or need this?” and “What positive purpose is this going to serve?” By asking these questions, you're actively thinking about possible triggers that may act as a catalyst for the splurge.

Finding a healthy balance between saving and splurging happens only when you make informed decisions and weigh your happiness today against that of your future self. After all, in most cases, savings are nothing more than delayed consumption.

## Splurging tips

If an opportunity to splurge arises, use the following tips to avoid buyer's remorse:

**1. Splurge for free.** Indulge in free splurges whenever you can to treat yourself. Whether it's going to a free museum or a park to play with your kids or pets, or enjoying the sunset from a friend's backyard, learn to master the art of savoring the little things in life.

**2. Splurge toward others, within reason.** Spending on others can make us happier than spending on ourselves. Consider using part of your splurging budget toward a charity or for family and friends.

**3. Splurge small and frequently.** Social psychologists have found that small and frequent splurges actually help people achieve financial happiness. The pleasure it provides quenches your thirst for splurging while helping you promote a better relationship with money. So set aside a certain amount of money each month for these small splurges.

**4. Splurge from your savings, and never use a**

**credit card.** To stay on a reasonable budget, use cash set aside from your discretionary spending. Remember, the point is to only spend money you have, not money you don't.

As long as you're saving money, you can create healthy splurging habits by making smart decisions that positively affect your current well-being while maintaining progress toward your long-term goals.

**ALEXANDRIA SHETLER** writes for the *National Rural Electric Cooperative Association*, the service arm of the nation's 900-plus consumer-owned, not-for-profit electric cooperatives.

## HREA's long-range plan

(—continued from page 23)

transmission providers to meet various criteria covering maintenance and service provisions, so these interconnections tend to be far more reliable.

Given these facts, the long-range plan that was developed 13 years ago is still correct in its theory that substations are the preferred interconnection type for the cooperative's current and future power needs. Any opportunity to improve reliability while reducing operating costs deserves the cooperative's utmost attention. Of course, there is still the challenges of acquiring the capital to make the initial investment and the proper siting of substations to support one another while spreading our reliance on the grid to multiple transmission sources. Due to economic and load growth over the years, we need to make some adjustments to the plan to keep up with current events; however, those adjustments center around substation capacities and location.

I hope your summer has been enjoyable despite all of the rain. Remember that school has started, so keep an eye out for the kids and school buses in your travels. ☞