Electric Grid Reliability and Resilience



MESSAGE FROM GENERAL MANAGER/CEO JERRY BOZE

KEEPING THE LIGHTS ON IN THE EVENT OF A NATURAL disaster or cyber incident is a major—and growing concern for the electric industry. At Trinity Valley Electric Cooperative, we take steps to lessen potential

damage and ensure that the system recovers quickly so it can get back to the business of providing you power.

What's the Difference?

Power grid resilience and power grid reliability are frequently, and often interchangeably, referenced in conversations about keeping the lights on. This raises the question: What is the difference between reliability and resilience?



Reliability means the ability of the power system to deliver electricity in the quantity and quality demanded by users. Reliability means that the lights are always on in a consistent manner.

Resilience concerns the ability of a system to recover and, in some cases, transform from disruptive events. Resiliencefocused approaches to stabilizing the grid emphasize the idea that such incidents occur regularly, and systems should be designed and shored up to bounce back quicker and stronger.

Steps Toward Stability

A panel of national experts, including scientists from the National Rural Electric Cooperative Association, recently conducted a study on behalf of the U.S. Department of Energy to make recommendations for improving grid security.

The panel recommended more cooperation among stakeholders and steppedup coordination on threat assessment, training and joint recovery planning. Major emphasis was placed on the need for research involving government and industry players, including NRECA and its member cooperatives.

At TVEC, our own resiliency efforts involve every aspect of our operations—from the member service representatives in the call center to the linemen in the field, from the engineers in the control room to the communicators keeping the media and members updated.

Electric co-ops serve the most rugged, remote terrain in the country, covering more than 70 percent of the nation's landmass. We have learned how to restore power in incredibly difficult circumstances, and we're focused on increasing reliability and resilience for you, our members.

Lane Promoted



Jeff Lane was named assistant general manager in February, adding that duty to his current role as chief communications officer.

Lane started his career at TVEC in the engineering department in 1988 and has filled several positions of leadership during his tenure.

"It has been an honor to serve the members of TVEC for the last 30 years and I look forward to continuing to serve them in this new capacity," he said.

Lane lives in Kaufman with his wife Kathy. They are the parents of three sons—Cade, Clay and Chad.



HAPPY EASTER! APRIL 1

The offices of Trinity Valley Electric Cooperative will be closed March 30 in observance of Good Friday.

Celebrate National Ag Day

Tip your hat to farmers and ranchers

ALTHOUGH IT SEEMS AS IF SPRING HAS BEEN IN WEST

Texas for several weeks already, the season officially begins Tuesday, March 20, on the vernal equinox. According to the Farmer's Almanac, the equinox falls on March 19 or 20 every year, marking spring's beginning in the northern hemisphere.

Since the 1960s, National Ag Day has been celebrated on the first day of spring. Ag Day, celebrated during Ag Week, March 18-24 this year, was established to honor farmers and ranchers for their hard work and dedication to providing safe, abundant and affordable products, a strong economy, sources of renewable energy and a broad selection of job opportunities.

Agriculture Puts Dinner on the Table

In much the same way that we know electricity doesn't "just show up" ready to use at our homes, we also know that food and fabrics don't just arrive at the store-or magically appear on our dinner tables or in our closets. There's an entire industry dedicated to providing plentiful, safe food for consumption, as well as a range of clothing, textiles and garments.

Agriculture is responsible for providing the necessities of life-food, clothing and shelter-to every human on the planet. Yet this vitally important system is little understood among those outside the industry, much like electricity distribution.

Just a few generations ago, most people were connected to the agricultural way of life, or at least had friends or relatives involved with farming. Today, that's no longer the case. Few people now understand what it really takes to put dinner on their tables each night.

This is particularly the case in our schools, where students might be exposed to agriculture only if they enroll in related vocational training. And just like the number of electric cooperative linemen, the number of farmers is dropping in the United States. By building awareness through National Ag Day and other initiatives, the Agriculture Council of America is encouraging young people to consider career opportunities in agriculture.

An Important American Export

Most people are similarly unaware of the contribution that U.S. ag and farmers make to the national and global economies. Each American farmer feeds more than 144 people annually, on average, according to the ACA-a dramatic increase from 25 people in the 1960s.



Across the nation in 2015, more than 167,000 farms produced locally edible food and sold it through direct marketing practices, resulting in \$8.7 billion in revenue, according to a survey conducted by the National Agricultural Statistics Service. Most of those sales, which include fresh and value-added foods, such as meat and cheese, were through farmers markets and on-farm stores.

About 304,000 people were involved in making decisions for the U.S. farms that marketed food for human consumption directly in 2015. Thirty-eight percent of those decision-makers were women. 23428001

Texas ranked sixth among all states, with \$357 million in direct farm sales of edible commodities. This revenue was generated by 11,078 Texas agricultural operations in 2015. Value-added food products accounted for about one-third of the \$357 million.

Farms and ranches are big business in Texas and across the country-and it's obvious why. An industry so vital to human lives and livelihoods deserves a day of recognition. On National Ag Day, March 20, thank a farmer!

Trinity Valley Electric Cooperative



The Dangers of DIY

EACH YEAR, THOUSANDS OF PEOPLE IN THE UNITED STATES ARE CRITICALLY INJURED

and electrocuted as a result of electrical fires and incidents in their own homes.

More homeowners than ever before are tackling do-it-yourself projects. However, most do not have the training or experience needed to safely perform home electrical work, increasing the risk of injuries. Working with electricity requires thorough planning and extreme care. Cutting corners can prove a costly mistake.

Trinity Valley Electric Cooperative strongly recommends hiring a qualified, licensed electrician to perform any electrical work in your home.

However, if you do decide to do it yourself, consider the following important safety tips before undertaking any home electrical project:

► Always turn off the power to the circuit that you plan to work on by switching off the circuit breaker in the main service panel.

► Take time to learn about your home electrical system so that you can safely navigate and maintain it.

▶ Never attempt a project that is beyond your skill level. Knowing when to call a professional may help prevent electrical fires, injuries and fatalities.

▶ Be sure to unplug any lamp or appliance before working on it.

► Test wires before you touch them to make sure that the power has been turned off.

▶ Never touch metal pipes when performing a do-it-yourself electrical project.

► Many do-it-yourself projects involve the use of power tools. Using power tools safely requires skilled instruction and training. The most common scenario for power tool-related electrocutions occurs when the equipment comes in contact with live electrical wires while it is being used.

Stay safe by following these tips:

► Use ground-fault circuit interrupters with every power tool to protect against electric shocks.

▶ Do not use power tools with an extension cord that exceeds 100 feet in length.

▶ Never use power tools near live electrical wires or water pipes.

► Use extreme caution when cutting or drilling into walls where electrical wires or water pipes could be accidentally touched or penetrated.

▶ When working with electricity, use tools with insulated grips.

Laundry Day Savings

TO SAVE MONEY IN THE LAUNDRY ROOM,

use cold water and less water overall. Unless the stains on your clothes are

oil-based, warm or cool water in your washing machine will do just as good a job of removing them as hot water, according to the U.S. Department of Energy.

Here are some ways to clean your clothes without cleaning out your bank account:

► Wash clothes in cold water and use cold-water detergents.

► Wash and dry full loads only. If you must run the washer before it's full, adjust the water level so the whole machine doesn't fill up unnecessarily.

► Towels and heavy cotton items like jeans tend to take longer to dry than lightweight clothing. Don't dry the two types together.

► Let the dryer decide how long your clothes need to tumble. Newer models have moisture sensors and automatically stop the cycle when clothes are dry.

 Clean the dryer's lint screen after each load. Letting the lint build up creates a fire hazard.

► If you have a high-efficiency washer, use detergents labeled "HE." The American Cleaning Institute says these low-sudsing detergents clean clothes well in machines that use less water.



Trinity Valley Electric Cooperative



Because I have a Co-op Connections membership card, I save on everyday purchases for myself and my family. Plus, I save 10–60 percent on prescriptions at my participating local pharmacy. It's just one more way I benefit from being a member of my electric cooperative.

Flash your card to save on everyday purchases and prescriptions.

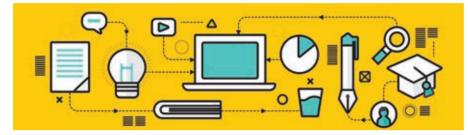
Pharmacy discounts are not insurance and are not intended as a substitute for insurance. The discount is only available at participating pharmacies.



FIND ALL THE WAYS TO SAVE AT TVEC.NET

Looking out for you.

Technology Adds Ease and Convenience for Managing Co-op Member Accounts



Keeping up with technology is a never ending process, but Trinity Valley

Electric Cooperative has added a number of programs to keep members informed about energy use on a daily basis. In some cases, members have been able to find problematic appliances, malfunctioning air conditioners and even safety issues by catching a spike in energy usage.

TVEC.NET Member Service Portal

Manage member account details, update contact information, set usage alerts, see usage graphs and pay bills easily from your computer.

My TVEC Smartphone App

Available for Android and Apple IOS devices, the My TVEC app contains most of the Member Service Portal functions listed above.

Energy Alerts

Get daily energy usage alerts by email or text. Alerts let you know how much energy you have consumed each day. Alerts also may be set so that you receive them only if your usage exceeds a specific dollar amount you set.

Home Energy Audits

Our energy management experts have the tools to determine what uses the most energy in your home, as well as the training and knowledge to outline the most effective steps you can take to maximize the efficiency of your home.

Meter Tests

Every TVEC member is entitled to a free meter test if there is any question about their meter's accuracy. TVEC billing calculated using a simple formula based on energy use, so accurate meters are important for all of us.

Social Media and TVEC.NET

TVEC uses social media and the tvec.net website as an efficient way to communicate current information during outage and storm situations, co-op news and other useful information.

Win \$25 Just for Reading

Somewhere, hidden on Pages 18–23, is a TVEC account number. Read closely. If the account number is yours, contact the Member Services Department by March 30 to receive a \$25 credit on your electric bill. Don't miss out—you could be a winner!





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Food Pantries Fill Often-Hidden Need Throughout TVEC Territory

For most, an empty refrigerator or pantry means a trip to the grocery store, but that isn't necessarily an option for everyone. A 2017 U.S. Department of Agriculture report showed more than 14 percent of Texans are "food insecure" at any given time. That means that at some point, a large number of our neighbors do not have ready access to food or the money to buy food, and they may not know where their next nutritious meal will come from.



TVEC PR representative Kari Wilmeth, left, presents an Operation Round Up™ grant check to Linda Horton for the Henderson County Food Pantry Using that statistic, we can estimate that more than 7,000 Trinity Valley Electric Cooperative members may be living in food insecurity, along with many more in the towns that dot the TVEC service territory.

Thankfully there are organizations throughout the area that have risen to the challenge of helping fill one of the most basic human needs, and TVEC member donations through Operation Round Up^{TM} have helped stock the shelves since the program's inception in 2013.

The Henderson County Food Pantry, located in Athens, received its fifth TVEC Charitable Foundation grant in 2017. Linda Horton, the food pantry's president, said that, as a TVEC member herself, it is encouraging to see how the program works as both a donor and grant recipient.

"Every little bit, plus everyone else's little bit, it all adds up and then you are talking about real money," Horton said. "And it isn't how much you give, but if you have that spirit in you to give, it encourage others to give also."

HCFP acts as an emergency food aid resource, giving to anyone in need once every three months. Clients are interviewed, and the amount of aid is determined by the number of people in the household.

"We are covering people to get them by—it is really to help people through a rough time," Horton said. "It is portioned to the size of the family, and we have been able to start adding some things like baby formula, dish soap and toilet paper when those things are donated."

With 23 years of experience at the food pantry, Horton noted that every may not be who you might expect.

situation is different, and the people who need help may not be who you might expect.

"You never know what someone's situation is by looking, you can't judge it that way," she said. "When someone loses a job or has some other problem, they may have nice clothes or a nice car. That doesn't necessarily mean they are able to buy food that day."

Horton also has seen a shift toward more elderly clients, many of whom have stepped up to raise grandchildren.

There are safeguards in place to help ensure that the resources go to those who need them most. Clients are registered and identities are checked. Some situations require the food pantry to turn down requests, like when three teenagers showed up after running away from home.

"We've caught people doing things to take advantage, and we've learned through the years, but I guess in any situation you run into that," Horton said. "We are not a religious organization, we are independent, but it think we are here because Jesus said 'Feed my sheep.' If you meet me at church, the first thing I will do is ask if you want to sing in the choir. The second thing will be if you would want to volunteer at the food pantry."

Founded in 2013, the TVEC Charitable Foundation is an independent, nonprofit organization. The foundation was created to serve the community and help improve the quality of life for residents in our service area. **The foundation is funded entirely by donations from TVEC members who participate in Operation Round Up.** For more information, please call 1-800-766-9576 or visit tvec.net.