

RURAL ELECTRIC

NEBRASKAN

December 2019



Texas Grandmother with Leg and Feet Problems Goes from Near Cripple to Walking Her Dog Daily

You don't have to suffer anymore. Doctors never tell you about these 7 natural herbs, yet millions of people in China have used them for relief of leg and feet problems for 3,000 years. In fact, they are guaranteed to relieve your problems and provide soothing comfort - or you pay nothing.

By Michael Plane —
National Health Press

Mary Lentz of Plano, Texas suffered for over twenty years from leg and feet problems. Doctors prescribed one prescription drug after another. Then electrical stimulation. Then surgery. But after all these treatments - her legs and feet actually felt worse.

Mary was fed up with suffering. She took matters into her own hands. At wit's end, she discovered the best herbs for natural relief. She took them, and within just days, her leg and feet problems began to disappear. Now she walks her Golden Retriever Max every day (which she couldn't do before), works in her garden and regularly plays tennis with friends.

"If I kept listening to my doctors, I'd be a cripple today. I'd be in a wheelchair or in a nursing home. I am so thankful for these remarkable herbs."

Leg and feet problems could have been almost like a death sentence for Mary - and a shame for her suffering family. It is a terrible way to live out what should be the best year of your life.

Neuropathy is like a wildfire. It starts with a small flame, but then quickly turns into a raging fire in your feet that never stops. Left alone or treated in a way that doesn't work, it can lead to constant suffering - or even one of the 86,000 Americans who need a limb amputated each year according to the National Institutes of Health.



"I had so much pain from burning nerves in my feet I could barely move...but this makes it calm down so I can walk and sleep. I really love this stuff. Other pills didn't work. It stops the nerves from hurting so bad. It is amazing. NeuroFlo lets me move and sleep pain-free. It is wonderful."
- Katerina King-McCauley, Murrieta, CA

At Last - You Don't Have To Suffer Anymore

Here's why you have these problems: Your arteries have weakened. Your arteries can't carry enough blood, nutrients and oxygen down to your legs and feet. This damages your nerves and causes your burning, tingling and numbness.

The 7 herbs in the pill NeuroFlo strengthen your arteries that carry blood, nutrients and oxygen to your feet and legs. It improves your circulation so oxygenated blood goes to the nerves and repairs them. This makes your nerves grow stronger so your pain fades away and your legs and feet feel much younger again.

Until now, scientists could not combine all these herbs into one pill without losing their full potency, but finally, they have succeeded.

Dr. Ryan Shelton, M.D. says "This is new and different. It works for people who've tried many other things before. It is natural with no side effects. Don't give up hope for your leg and feet pain, burning, tingling and numbing. This pill is working for countless people after other treatments have failed them." From word-of-mouth, over 30,000 doses of this Chinese miracle have already been sold in America.

Instead of letting their doctors control their health with no real relief, people are taking this natural approach. They are staying active and independent as they age - and creating a bright future they are excited about, instead of fearing. Now you too can enjoy your best years yet.

Conventional Treatments All Wrong

In America, drugs and other OTC formulas try to superficially suppress the symptoms. This may be going after the problem completely wrong. Traditional Chinese Medicine (TCM) believes nerve problems are largely caused by stagnant blood circulation. This causes your legs and feet NOT to get enough oxygen-rich, nutrient-rich blood they need to heal. The ingredients in NeuroFlo get this crucial blood flowing to your legs and feet like a fast-running river stream so they can feel better fast.

Want proof? To show how important oxygenated blood flow is, hold your breath. Hold it too long and you'll pass out. This is what's happening to your feet and legs now -- they are not getting the oxygenated blood flow they need to feel healthy.

Now you can get a good night's sleep - peace-



Chinese herbs provide fast relief of leg and feet tingling, burning and numbness. They do this by improving the flow of blood, nutrients and oxygen to your legs and feet to repair damaged nerves.

ful, restful sleep - with no pain, tingling, zinging, itching or zapping. Improve your balance and coordination. No side effects - safe to take with other medications. Enjoy your favorite activities and hobbies again. Be more active, have more fun, enjoy life more. Don't risk irreversible damage to your feet and hands. Don't get worse and wind up in the hospital or a nursing home.

Neuroflo is GUARANTEED to work great for you - or you PAY NOTHING with a 90-day unconditional money-back guarantee. It is NOT sold in stores or online. No prescription or doctor visit is required.

Special Offer For Our Readers

This is the official nationwide release of NeuroFlo in the United States. And so, the company is offering a special discount supply.

A Regional Order Hotline has been set up for local readers to call. This gives everyone an equal chance to try NeuroFlo. Starting at 7:00am today, the order hotline will be open.

All you have to do is call **TOLL-FREE 1-888-383-4821** and provide the operator with the special discount approval code: **NEF158**. The company will do the rest.

Important: Due to NeuroFlo's recent media exposure phone lines are often busy. If you call, and do not immediately get through, please be patient and call back.



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RURAL ELECTRIC
NEBRASKAN

"The Rural Voice of Nebraska"

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Contents

Features

Peace on Earth

6

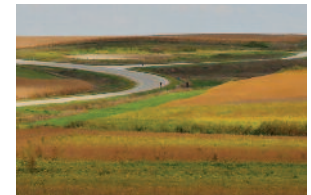
Freelance writer Marita Placek shares the story of Les and Janis Purviance and their Christmas Land display near Lynch, Neb. Visitors can view the display in December at no charge.



Meeting Customers at the Last Mile

14

Pat Pope, president & CEO of Nebraska Public Power District, provides a look at how the pioneering spirit of Nebraskans has led to a number of innovations. One such innovation is the development of a statewide Internet of Things (IoT) network.



Departments

EDITOR'S PAGE

4

SAFETY BRIEFS — Murphy

12

CUT YOUR UTILITY BILLS by Pat Keegan

16

CALENDAR OF EVENTS

18

RECIPES

20

MARKETPLACE/CLASSIFIEDS

22

On the cover

Winter has brought a chill to Pawnee Lake in northwest Lancaster County. Photograph by Wayne Price





by Wayne Price

Is it time to buy an electric vehicle?

The next car I purchase might be an electric vehicle. The idea intrigues me but I just can't seem to make a decision. It seems like there are too many variables that make me doubt the idea. Like will it have enough range to get me where I need to go and back home? Will it actually be any less expensive than a gas-powered vehicle? Will it be more expensive to maintain?

A lot of the information that I have been reading sure makes it sound like owning an electric vehicle is the way to go. But I wonder if those articles are considering owners who live in a large city rather than out in the rural countryside of Nebraska?

How hard will it be to find a place to charge my vehicle when I'm on a trip? Nebraska Public Power District is working to help answer many of those questions.

NPPD recently installed charging units at the Norfolk Operations Center and the Operation Center in Ogallala, Neb. A third unit has been installed at the Kearney Operations Center. The NPPD General Office in Columbus, Neb. has had a charging station installed since last year.

And they plan to keep adding more across the state. According to Matt Gilliland, director of operations support in York, Neb., from 2019 to 2021, NPPD will increase its electric vehicle fleet from one EV and one charging station to four EV's and eight stations.

"Electrification in transportation is moving fast, and so is NPPD," he said.

Charging stations already under development were partially funded by grants from the Nebraska Environmental Trust and Nebraska Community Energy Alliance.

Additional grant requests are being submitted for 2020 that include three more stations and two additional Sport Utility electric vehicles.

"These three chargers will be similarly placed in areas that experience relatively high public traffic, have emerging EV ownership and are routine destinations of NPPD's existing EV assets," said Gilliland.

The charger at all NPPD locations is a ChargePoint unit (Level 2) and the station can be activated by smart phone or a ChargePoint card. Data and fees are collected by ChargePoint and data is provided to NPPD. The charge is set at \$1 for a four-hour session, \$1 per additional hour.

NPPD has also teamed up with the Nebraska

Environmental Trust and the Nebraska Community Energy Alliance in offering several incentives based on electric vehicles. The largest available incentive is for the purchase of an EV and a ChargePoint home charging station in the amount of \$4,500, with \$4,000 going towards the purchase of a vehicle. Another \$500 would be available for the charging station installation at a single or multi-family residential location with internet wireless connectivity.

Two other incentives are also available. One is for a ChargePoint home charging station installation of \$500 and a \$100 incentive is available for the pre-wiring for the installation of a residential EV charging station in the future.

Details of all three incentive programs can be found at www.nppd.com.

Hopefully these steps by NPPD help to eliminate some fears when it comes to owning an electric vehicle.

Electric vehicles account for only 1 percent of today's market, but are predicted to increase to 12% by 2055.



Safe Electricity.org

Information collected from the Department of Energy's Energy Information Administration



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Peace on Earth

Les and Janis Purviance share the Christmas Spirit with visitors to their Christmas Land display.

by Marita Placek

Life in Boyd, Knox and Holt Counties has not been the same since the way of life was disrupted on March 13 when the Bomb Cyclone occurred. That's the date the Spencer Dam was compromised and four bridges on the Niobrara River were damaged. Many roads were washed out and homes and property destroyed, plus the rural water pipe line carrying water across the river into Boyd County was ripped out.

The towns of Lynch and Spencer and most of Boyd County in northern Nebraska were without drinkable water for over six months. As if all the damage caused by the great flood wasn't bad enough, several more floods occurred during the summer months when the Ponca Creek overran its banks and caused more flooding in Lynch. Many of the roads are still impassable and may not be repaired until next year.

However, life goes on and people do the best they can with what they have available. Many have discovered different and novel ideas, sometimes better than the old way, in trying to accomplish their work and chores.

For example, Janis Purviance, who has been working on new scenes to add to the 2019 Christmas Land display, which grows bigger and more colorful every Christmas season. While working on her new displays for the coming Christmas, she was wondering what to do with all the empty plastic drinking water bottles that had piled up since the flood. One day while trimming tree branches, she had a brainstorm. She could decorate the tree with Christmas lights and the crushed water bottles.

Janis has learned from experience that she needs to do her painting earlier in the year when it's warmer. So this year she began working on the new cut outs from plywood in July and did her painting. Some of the new designs that will be gracing the colorful scenery include a scene of animated penguins in front of an igloo added to last year's penguins display, and two large Christmas ornaments with classic designs, and four medium snowflakes, plus two giant displays of the words "Love" and "Hope".

Last year's butterfly made from teeth off an old hay rake has been transformed into a beautiful angel this year. Disney characters and gingerbread people were added last year and the year before that was Charlie Brown and Friends, and toy soldiers. In 2018 a military scene was designed by her son-in-law. With a smile, Janis says, "Yep, the pattern was designed for me by my favorite son-in-law." (Janis only has one son-in-law.)

Starting in the early part of October, Janis began cutting cedar trees from the pasture. Harvesting the cedar trees serves a double purpose. She uses them for the basis of many of her decorations, plus, it also thins out the many cedar trees that are taking over the pastures. If he's in a good mood, Janis can talk her husband into helping her collect the trees. This year he worked with her for four days. Last year she decorated 47 trees.

Next comes the setting up of the trees, and then dragging out the many display figures, tubs of lights, and stringing out the extension cords. Janis says over the years she has learned that it's easier to set the scene and the extension cords at the same time.

Janis received a wonderful addition to her Christmas display last year when an older couple donated their family's cutouts of an organ and organist playing Silent Night and choir boys singing that an older couple donated to Janis's Christmas Land last year; penguins celebrating with a high-five; a remake of the butterfly from the rake teeth last year to an angel this year; Janis decorating the 'water bottle tree'.

Last year the displays had outgrown her garden and extended into her orchard, so she decorated her fruit trees also.

Christmas season opens at the Les and Janis Purviance farm when the family gathers for their Thanksgiving dinner. Later they bundle up to go outside and tour the many, many Christmas scenes Janis has designed, cut out and painted. After the grandchildren have ooh-ed and aah-ed, climbed and played on the many displays, they have the honor of officially opening Christmas Land by placing the baby Jesus in the crib.

Past years viewers have visited Christmas Land from as far away as Omaha, Norfolk, Creighton, Hartington, the state of South Dakota, and surrounding towns as well as local residents who have enjoyed sharing the Christmas spirit.

There is NO charge to visit Purviance's Christmas Land and its many displays. Janis says, "This is our gift to the people who come to share the Christmas Spirit with us. Only the ones that come get the gift. You have to make an effort to come. It's a free gift, but you have to come to receive it."

Christmas Land will be open December 1 from 5:30 to 9:30 P. M. and closed until the next weekend, December 6, 7, and 8th. Then Christmas Land will be open every night starting Friday, December 13, until December 31. Janis will keep the lights on later if a person calls 569-3737 and requests it. In case of bad weather, tune in to radio station KBRX for updates as to Christmas Land being open.



Clockwise from top: The organ and organist playing Silent Night and choir boys singing that an older couple donated to Janis's Christmas Land last year; penguins celebrating with a high-five; a remake of the butterfly from the rake teeth last year to an angel this year; Janis decorating the 'water bottle tree'.

Opposite: Les and Janis Purviance at their rural home near Lynch, Neb.

Directions to Santa Land at the Les and Janis Purviance Farm: Take highway 12 east of Lynch for 5 miles to 507 Avenue, take a right turn, (south) to 897th Road. Follow the Santa hats and/or stockings until you reach a mailbox decorated with Christmas lights and the life size Journey to Bethlehem display welcoming visitors to Christmas Land. Make a left turn and follow the road until you come to all the wonderful Christmas lighted displays.

WHAT TO DO: IF YOUR CAR CRASHES INTO A UTILITY POLE

Accidents happen. Would you know what to do if your car crashed into an electric utility pole? Knowing what to do could be the difference between life and death.

Always consider power lines and other electrical equipment to be live and dangerous!

IF A POWER LINE FALLS ON YOUR VEHICLE AND THERE IS **NO** FIRE:

Your safest option is to stay inside your vehicle until help arrives. The vehicle acts as a path for the electrical current to travel to reach the ground. You are safe inside the vehicle, but if you get out, you could be electrocuted.

Call 911 or your local electric utility for help.

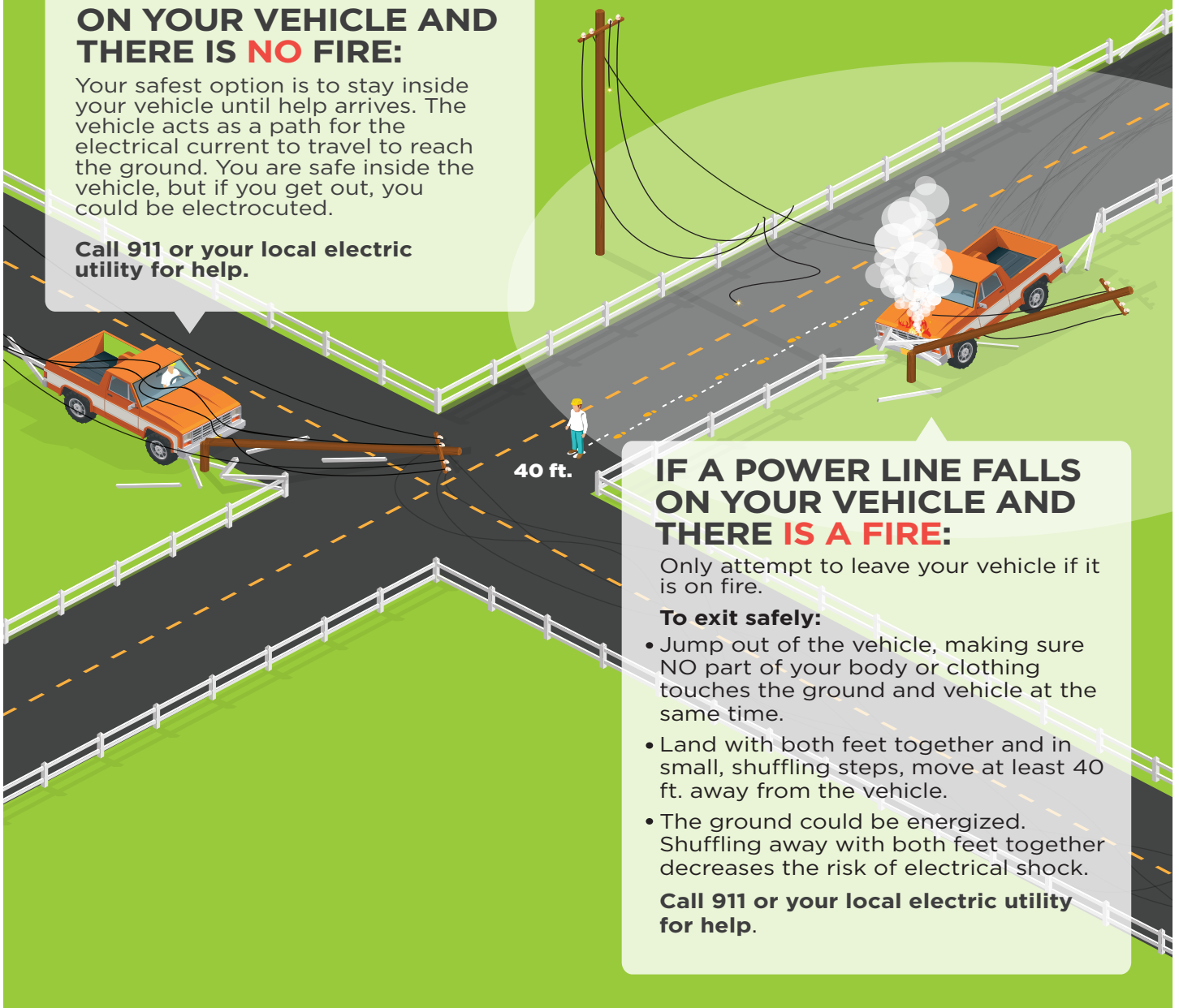
IF A POWER LINE FALLS ON YOUR VEHICLE AND THERE IS **A** FIRE:

Only attempt to leave your vehicle if it is on fire.

To exit safely:

- Jump out of the vehicle, making sure **NO** part of your body or clothing touches the ground and vehicle at the same time.
- Land with both feet together and in small, shuffling steps, move at least 40 ft. away from the vehicle.
- The ground could be energized. Shuffling away with both feet together decreases the risk of electrical shock.

Call 911 or your local electric utility for help.





Pad-mounted transformers route large amounts of electricity and you should avoid them. Only professional lineworkers and crews should be near them.

Underground Power and the Big Green Box

Electricity might flow into your neighborhood over your head, or under your feet. It's easy to spot wires on top of those wooden poles and figure out how electricity gets delivered by overhead lines. But there's also a way to deduce that you've got underground lines—look for green metal boxes about the size of a mini-fridge sitting in people's front yards.

They're called pad-mounted transformers and they do the same thing as those gray cans up on top of the poles—step higher-voltage electricity down so it's more useful and safer for your home. The major difference is a pad-mounted transformer connects to underground power lines.

No one's exactly sure what share of power lines in the U.S. are underground, but one industry study estimated 18 percent. To a lot of people, underground lines look better. But they're more expensive to install. A lot more. As much as five or 10 times the cost, according to the U.S. Energy Information Administration. And while falling

trees and cars crashing into poles can knock out above-ground power lines, underground problems can be more difficult to pinpoint and correct.

The big green boxes that connect power lines look surprisingly simple inside—wires come in and go out through the transformer.

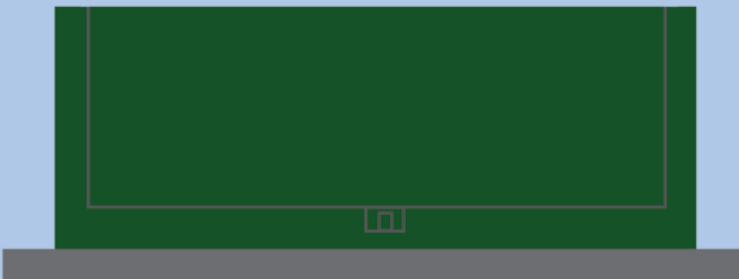
Now that you know what they are, you don't have to go looking inside, and you shouldn't. Those locked boxes are routing a lot of electricity, so only expert lineworkers should be near the equipment.

Never use pad-mounted transformers as benches while waiting for the school bus, and kids should never play on or near them. Don't plant landscaping around pad-mounted transformers because our crews may need to get to them, and roots can interfere with the underground wires. Never dig near a pad-mounted transformer—remember to dial 8-1-1 for any outdoor projects that require digging.

Remember, whether you're around underground or overhead utility equipment, the same safety rules apply—stay away from power lines.

Teach your children to never play around pad mounted transformers

These are green metal boxes that contain the above ground portion of an underground electrical installation. Pad mount transformers carry high voltages and are safe when locked, but they can be deadly if someone reaches inside. If you see one in your neighborhood that is open, call authorities and your utility immediately.



- *Recognize that these boxes contain electrical equipment.*
- *Respect the equipment and the boxes—do not open, tamper with, or obstruct access to them.*
- *If there is any damage, such as a hole or broken lock, immediately report it to your utility.*
- *Do not install fences around or plant immediately around electrical boxes in an effort to disguise them. It may make the cabinet difficult to find and block access, should an emergency occur.*

Courtesy of SafeElectricity.org

By Maria Kanevsky

A Smarter Grid Improves Reliability

With advanced technologies, the nation's grid is becoming smarter. These advancements provide benefits for electric utilities and the consumers they serve.

The electric grid has led to dramatic changes in our way of life, and as society continues to change, so does our nation's grid.

The smart grid is the modern-day version of the traditional grid that has evolved with more advanced technologies that allow for two-way communication between the electric utility and the consumer. With all of the progress from developing technologies, the smart grid provides many advantages for both utilities and consumers.

The smart grid is made up of a

variety of technologies that collectively help to make the grid smarter. A key feature is the smart meter, which provides two-way communication between the energy provider and the consumer. Smart meters help detect power outages and automate billing, which helps to improve reliability and efficiency. The smart meter is connected to smart distribution systems, smart substations and smart generation capabilities, which all work together to create a smart grid.

As research and innovation continues, additional technologies

are becoming available. Advancements like machine learning, where electric utilities can forecast energy use using past data and patterns, and total automation, where power generation to distribution is completely automated are just a couple of examples of how the grid will be more efficient.

The smart grid provides many benefits, and one of the most important is providing electricity in a more reliable way. With all the new technology, problems in the grid are much easier to prevent early on, easier to identify and easier to fix.



Photograph by Cindy McFarland

The smart grid also helps utilities plan for the future to reduce the likelihood of power blackouts and surges.

Another benefit to the consumer is more access to information and new ways to control and manage their energy use. Consumers now have the ability to view their daily energy use online or via app before they receive their monthly bill, which can lead to better energy efficiency habits.

The grid will also be better equipped to handle demand response programs to manage the electricity load, which can ultimately save

Managing physical threats to the grid

While the threat of cybersecurity attacks on the electric grid get a lot of attention these days, physical damage from storms or critters is much more likely to disrupt power. There are many physical threats to our power delivery system that your rural electric utility works hard to manage on a daily basis. From weather events (such as ice storms, tornadoes and flooding) to criminal activity (including copper theft and shooting at a substation), it takes proactive commitment to consistently deliver reliable service. Even something as small as a squirrel can damage infrastructure and cause power outages.

If the lights do go out, your electric utility is ready to restore power as quickly and as safely as possible. Here are three key ways your utility works to keep your power as reliable as possible:

1. Being Part of the Community.

One of the most valuable things about being served by a public power district or electric co-op is that you also have an ownership stake in the way the utility operates. Electric utilities know our communities. We live and work in the neighborhoods and towns we serve. You know many of the board members and employees. And, in turn, board members and employees are personally acquainted with or are a part of fire departments, county supervisors, EMTs, etc.

2. Planning, Preparing and Practicing.

What constitutes a crisis can mean different things to members, depending on the role electricity plays in their daily lives or businesses. Your electric utility tests disaster and business continuity plans regularly and takes pride in being prepared at all times. Plans not only focus on how to prevent threats, but also how to respond and recover in the event of an incident. Business activities, such as vegetation management or pole inspections, may seem routine; however, they are strategically performed to proactively reduce power disruptions. Trees that are too close to power lines can cause major damage during a storm and may result in a lengthy outage.

3. Coordinating with Stakeholders.

Your electric utility places a high importance on partnerships with fellow utilities, industry partners and government agencies to mitigate the potential impacts of all types of threats to our system. We work closely with the rest of the electric industry, the Department of Homeland Security, the Department of Energy and the Federal Energy Regulatory Commission on matters of critical infrastructure protection – that includes sharing necessary information about potential threats and working together to avoid disruptions to the extent possible.

Although the electric grid is incredibly resilient and can withstand many physical impacts, it's also a dynamic infrastructure that requires constant attention. Your electric utility is vigilant in ensuring grid protection from physical and cyber threats in order to power your lives.

money for the utility and consumers. Having the ability to strategically manage the energy load will also help the grid to better integrate renewable energy into the system. Consumer-owned renewable energy generation systems, such as rooftop solar panels, are also more easily

integrated into the grid.

Considering all the benefits, it makes sense for utilities to invest in smart grid technologies. By investing now, they will help to reduce costs over the long run while also providing more reliable service to the consumers they serve.

Decorate your home safely this holiday season

The holiday season offers great moments for building memories, but when it comes to decorating, it's also the perfect time to think about safety.

Local fire departments look to the holiday season as a time of increased vigilance, often tied to many of the activities that have become family traditions.

"It's important to use common sense when you're dealing with holiday decorating, particularly with lighting, candles and electrical wiring," said Bruce Bouch, a U.S. Fire Administration fire program specialist. "Holiday decorations are designed for temporary use, and that means they are essentially disposable."

According to the National Fire Protection Association (NFPA), the top three days of the year for candle fires in the U.S. are Christmas Eve, Christmas Day and New Year's Day. NFPA statistics also indicate that one of four Christmas tree fires are caused by electrical problems.

"It's always important to inspect holiday lights each year before you



According to the National Fire Prevention Association, burning candles start two out of five home fires every year. Consider battery-operated LED candles as safer alternatives.

put them up," said Bouch. "You may find that there are pinches or torn areas on the insulation."

Open, exposed wiring or any signs of fraying or pinching are indications of weakened wiring. Those flaws are prone to breakage and may raise the potential for heat buildup, which can cause a fire.

Bouch recommends a thorough inspection of your holiday lights to identify potential hotspots and

damage to the strings.

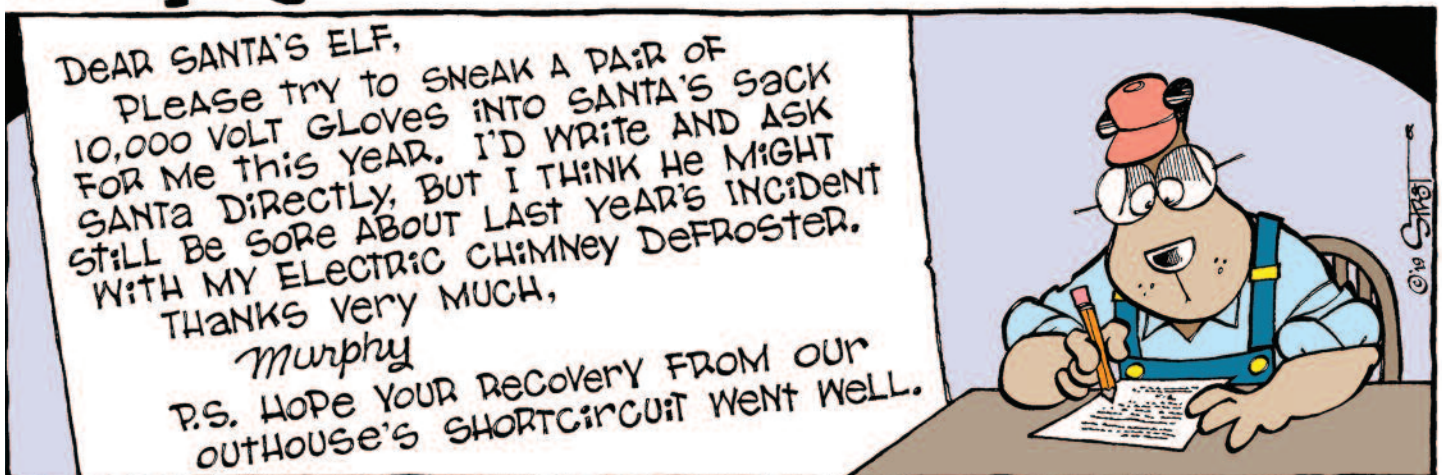
"When you're checking everything on the wiring and fixtures, make sure you check for chewing damage from wild animals or your own pets," adds Bouch. "Also look for signs that the insulation itself is wearing thin enough to expose wiring."

Experts also warn that candle use increases the risk of accidental fires, and suggests that consumers consider battery-operated LED candles as safer alternatives. According to NFPA, candles start two out of every five home fires each year, and about 100 Christmas tree fires occur each holiday season, causing about \$12 million in damage annually.

You can reduce the risks by placing your Christmas tree away from heat sources, like vents or space heaters, and topping off the water reservoir daily.

Nebraska's rural electric utilities join our local firefighters, the NFPA and the CPSC in urging you to consider safety as you decorate and enjoy the holiday season with family and friends.

Murphy

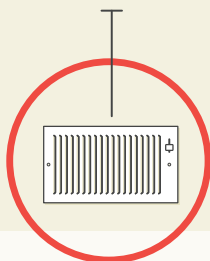


Holiday Tree Safety Tips

Ensure a merry and bright holiday season by safely maintaining your tree with the following tips.

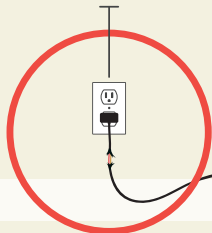
Keep away from heat:

Make sure your tree is at least three feet away from any heat source, like an air duct, fireplace or space heater.



Examine cords:

Examine extension cords and lights for signs of damage. Frayed electric cords should be discarded.



Inspect lights:

Carefully inspect all electrical decorations before you use them. Cracked or damaged sockets and/or loose or exposed wires can cause serious shock or start a fire.

Trim the stump:

Trim the tree's stump by at least two inches on freshly cut trees. Allow it to absorb water for 24 hours before bringing it inside.

Keep it watered:

Fill the water reservoir daily and check the condition of the trunk bark and branches for moisture. Shedding or dry needles could mean the tree is drying out, increasing overall fire risks.



Source: National Fire Protection Association

Ensure a happy holiday with these tree safety tips

About 95 million American households will host at least one Christmas tree this holiday season, and 81 percent of those trees will be artificial. But a real tree you cut from a field or buy from a store or lot was farm grown and harvested eight to 10 years after they were first cultivated from seed.

Whether your tastes run to firs, spruces, pines, cedars or cypresses, it's more likely than not that the tree has spent years being sheered, shaped and refined before it was cut this autumn and displayed for sale.

"If you've got a local tree farm in your area, cutting your own is the best way to make sure your tree is fresh," said Jami Warner, executive director of the American Christmas Tree Association. "If you buy your tree from a local retailer, there's a good chance the trees on the lot were cut at least a month ago."

Dryness and electrical malfunctions with lights and trees located too close to heating sources can make for a deadly combination. According to the National Fire Protection Association (NFPA), fires involving Christmas

trees cause an estimated \$13 million annually in property damage.

"Always make sure when you buy a live Christmas Tree, it is fresh cut," Susan McKelvey, communications manager of the NFPA. "Grab a branch, run your hand along it and see if any needles fall. If you have a lot of needles in your hand, it means the tree is already drying out."

Tree retailers should be willing to cut a few inches of the stump exposing moist wood, capable of absorbing water through the trunk and circulating it to the tree's branches, said McKelvey. "When you get it home, set it in a large container of water and let it absorb as much as it can for at least a day before you bring it inside."

Consumers need to remember that Christmas trees are flammable, so the longer they are inside, the more likely they are to dry out, and that's when they pose an increased fire hazard, said McKelvey.

The NFPA also recommends that the trees be set up at least three feet away from any heat source, like a fireplace, heating duct or portable space heater.



By 
Patrick Pope
NPPD PRESIDENT & CEO

Meeting customers **at the last mile**



Nebraskans are hardy. We're resilient. As such, we know the key to success lies in perseverance and innovation. We're regularly at the forefront of change, especially when it presents significant opportunity and benefits for our customers.

Our pioneering spirit has yielded great outcomes throughout the years. Look no further than Frank Zybach of Columbus. His first invention was an automatic tractor guide for steel-wheeled tractors. Though it never caught on, Zybach's incessant tinkering in 1947 paid off with his immensely successful invention of the center pivot irrigation system.

NPPD takes cues from Zybach's tenacity. Not only are we invested in improving offerings to customers, but in bettering their quality of life, too. A new partnership with Paige Wireless opens the door to nearly limitless ways to do this. Most exciting is that to the best of our knowledge, Nebraska will be the first state in North America to host a statewide Internet of Things (IoT) network like the one Paige Wireless is developing.

Under this partnership, we will work closely with the Nebraska Rural Electric Association and our wholesale partners to help Paige Wireless reach the most remote corners of the state with its LoRaWAN network. This network will build interconnectivity by way of the IoT and low-cost sensors, radios and base stations.

So, what does this mean, exactly? Look at the way music has evolved from records to tapes to CDs and finally, iTunes. If you wish, you can now buy music at a fraction of the cost, one song at a time, and listen to it virtually anywhere.



Similarly, this nonproprietary network will be a much more low-cost, effective and convenient means to access and leverage data that will influence and improve our efficiencies, sustainability, and economies. Collaborating with internet service providers (ISPs), wireless internet service providers, and telecommunications businesses on broadband initiatives will enable us to reach that last mile in ways previously thought impossible, driving home continued benefits to all customers. As part of this partnership, we have already begun facilitating discussions on a handful of pilot projects within at-need regions of our service territory, including Custer Public Power District and Dawson Public Power District.

It reminds me of the advent of public power when rural areas first received electricity. It was a thrilling time as utilities demonstrated their unique value to others.

Applications of Paige Wireless' technology are also quite exciting, allowing utilities, homeowners, farmers, students, industries, communities – you name it – to thrive.

At home, a sensor could inform you when your refrigerator is leaking. Meanwhile, communities could use data to develop smart cities capable of solving critical problems like water shortages.

Precision ag is taken to the next level for farmers, who will be able to test soil moisture, carbon levels and much more. Sensors can even alert producers to pinpointed weed outbreaks and withering areas, leading to greater yields and reduced input costs, due to precision application of water and chemicals, and less time spent crisscrossing fields with machinery.

Meanwhile, students will no longer be confined to the walls of their classrooms. Central Community College in Columbus is working on using the network to study nesting habits of birds through sensors on custom-built bird boxes. Thanks to the LoRaWAN network,

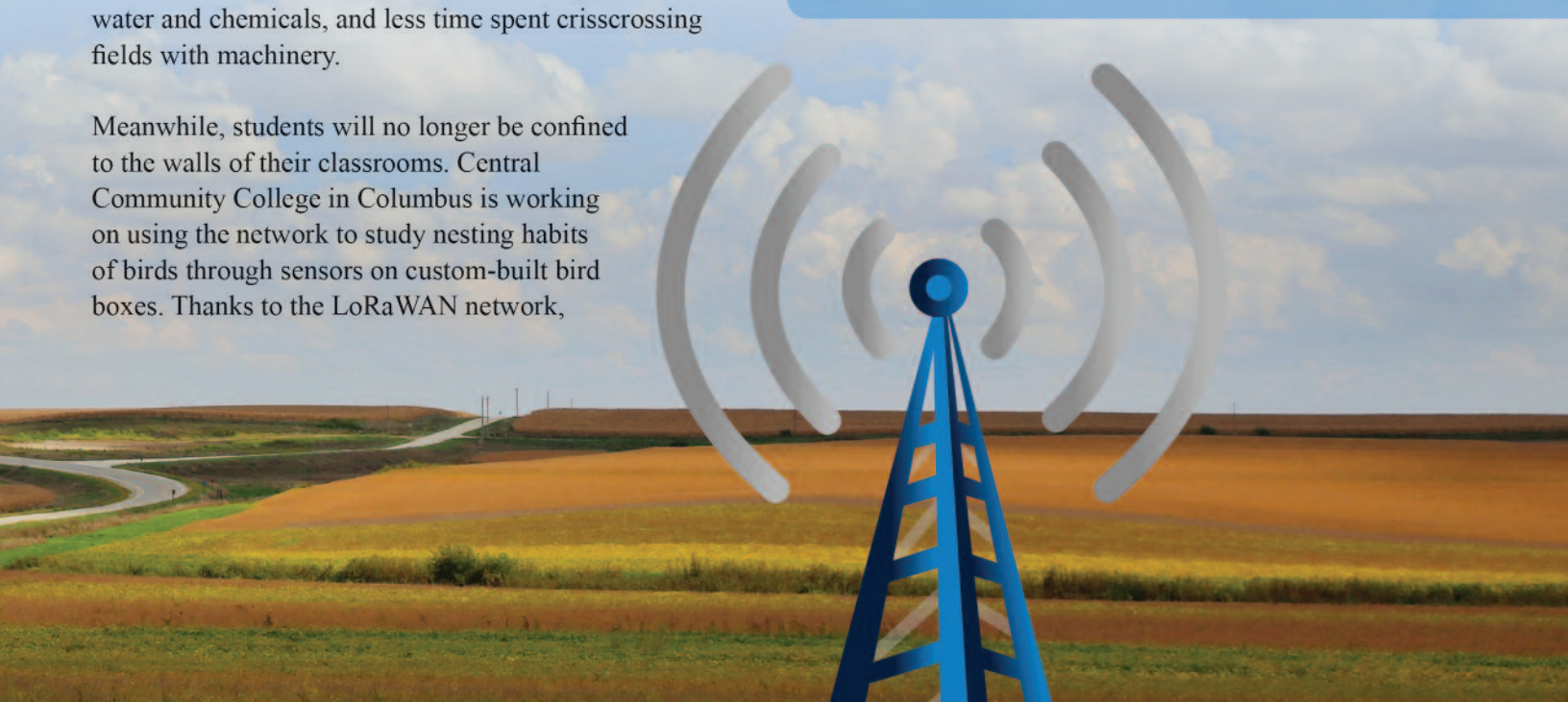
robotics systems are gaining peer-to-peer communication systems, too.

For utilities, data is invaluable in helping enhance communications, security and safety measures and making better decisions that positively impact our bottom-line, operations and customer service.

Efficient electrification becomes much more plausible across the state, and we're just scratching the surface on how this technology can help us pinpoint grid congestion, forecast load, improve rate structures and monitor renewable energy, to name a few applications.

Paige Wireless began deploying their network last March, and I expect the rapid pace of development to continue. As we begin partnering with local utilities and ISPs on related projects, the Midwest's "Silicon Prairie" will no doubt begin to boom with innovators, start-ups and a future workforce looking to utilize our state's advanced technological resources.

It's a good thing for our economy and our communities. For local utilities, our partnership with Paige Wireless can help us identify cutting-edge solutions to how we best generate power and continue innovating our industry to stay competitive, reliable, sustainable and low-cost. Perhaps this technology will provide a platform for the next generation's Frank Zybach to further revolutionize Nebraska's powerful ag sector.



Bright ideas for smart home lighting

by Pat Keegan

Q : I've heard a lot about smart lighting for the home. What is it, and will it save energy?

A : It seems like every device is getting smarter these days. Since smart-home lighting is so new, many of us could use a little introduction.

At its heart, smart lighting covers a range of bulbs, controls and lighting systems that are programmable through an app on a mobile device, computer or smart speaker. Smart lighting can do more than just turn on and off at the right time. Some smart lighting systems can dim at various times. Some can be connected to a sensor or motion detector so that a light goes on when a door is opened, or someone enters a room. Some smart lighting systems can change color so you can set up a holiday light show indoors or outdoors. It can also be practical, providing lighting that matches sunlight during the day and is more relaxing in the evening. You may even be able to play music directly from the bulb!



Many smart lighting systems can be controlled through smart speakers like the Amazon Echo shown here. Photograph by Amazon

In most cases, you control smart lighting through your home Wi-Fi. You can communicate to individual smart bulbs or to a hub that, in turn, controls individual bulbs. In some cases, you can use Bluetooth® on your phone to control smart lighting, but you'll need to be within range of the bulb or hub. Smart lighting can also be used outdoors, but the range of your control device could limit this approach.

If the smart bulbs are the type that connect through a hub or connect directly to your Wi-Fi network, you should be able to control them via smart speakers like Google Home, Amazon Echo or Apple HomePod, and remotely through the internet or smartphone. While a hub-based system is more expensive, it allows lights to be grouped by floor or room, and also uses less bandwidth on your network than running many separate bulbs. Some hub kits also allow you to use regular bulbs instead of requiring more-expensive smart bulbs, which could save you money.

Will smart lighting save energy? That depends on how you light your home and control your lighting now, and on how you would control the smart lighting you install in the future. If you use smart lighting to turn lights off when they aren't needed, like when rooms are empty or no one's home, or to reduce the wattage, you will save energy.

How much energy can you save? Lighting accounts for about 6 percent of electricity use in the average home, which means your total cost for all the lighting in your home might only be \$100 per year. If you have some high wattage bulbs that are on for long periods of time

every day, your lighting use could be significantly higher than average.

Investments in smart lighting are not likely to pay back as quickly as some energy efficiency measures that control heating or air conditioning. Smart bulbs are more expensive than typical LED bulbs, ranging from \$15 to \$80, and a hub can cost of up to \$125, so it could take a long time to make your money back. Chances are, you're better off investing in smart lighting for the features than the energy savings.



Smart lighting systems that run through a hub, like the Philips Hue shown here, can control all the lighting inside and outside your home. Photograph by Philips

One alternative to smart lighting is smart wall outlets or wall switches. For example, you can plug a lamp with a standard bulb into a smart wall outlet, or you can have several lights wired to one smart switch. The downside to smart switches and outlets is that installation could be more challenging, and you may not have as many options and features that come with smart lighting.

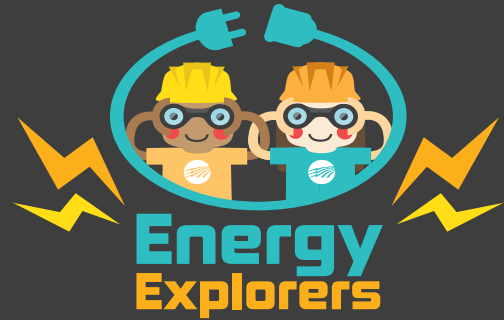
Another strategy for smart lighting that has been around for a long time and is reasonably priced is to use occupancy sensors, motion sensors or timers as control devices.

The wide number of options and costs makes it difficult to select the best smart lighting for your situation. We suggest you do the research to make sure it's worth your time and money to make the change.

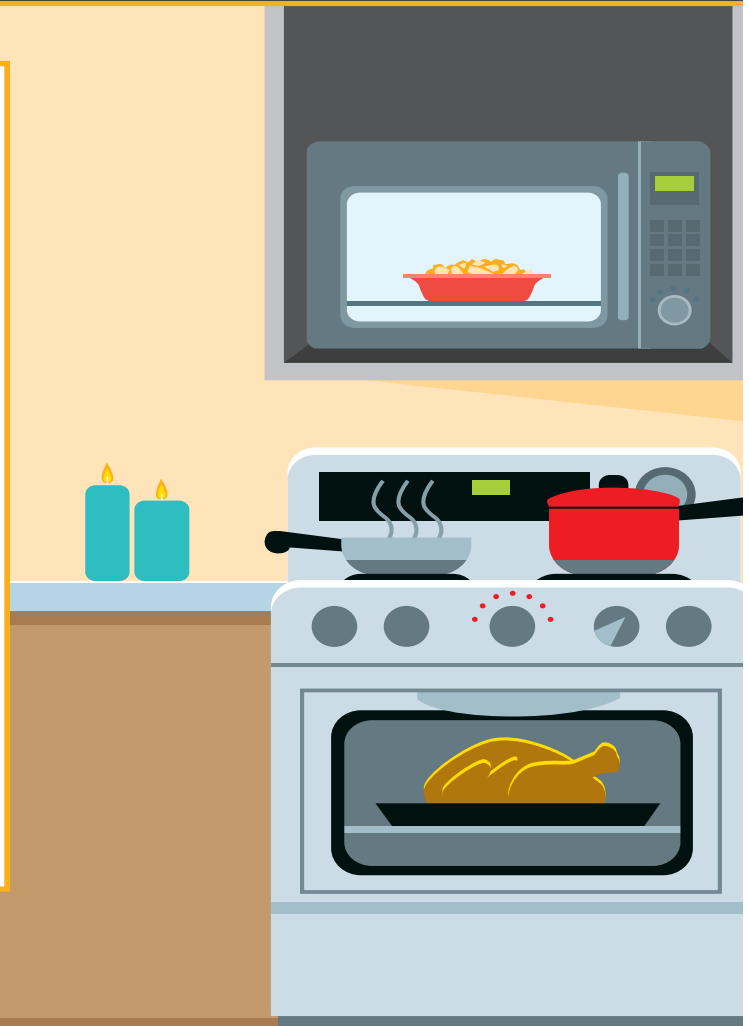
FALL SAFETY TIPS FOR KIDS!

Fall is finally here! The leaves are changing, the weather is cooler and the holidays are just around the corner. But Fall also brings a higher risk of home fires and electrical safety hazards.

Read the safety tips below and fill in the blank with the correct term from the word bank.



1. Candles and _____ should only be used by adults.
2. An adult should always stay in the kitchen when something is _____.
3. Smoke alarms should be tested every _____ to ensure they are working. Batteries should be replaced at least once every _____ or right away if they start to “beep.”
4. Make sure all _____ are blown out before leaving a room.
5. Keep any items that can burn away from the stove, toaster and other cooking _____.



WORD BANK

APPLIANCES
COOKING

YEAR
MATCHES

CANDLES
MONTH

Answer Key: 1. matches 2. cooking 3. month 4. candles 5. appliances

Calendar of Events

DECEMBER

■ NORTHEAST

December 1-31, SantaLand, Creighton, Neb. Santa's Workshop and Gingerbread House will be open from 6 p.m. to 10 p.m. The Gingerbread House is a new addition to the existing Santa's Workshop.

December 2, Christmas in Madison, Madison City Auditorium. The Annual Holiday Market featuring lots of direct sales, crafters, handmade items, and unique pieces. Santa Claus will arrive on a fire engine.

December 6, Parade of Trees, Schuyler, Neb. The Schuyler Municipal Building becomes holiday central during this community display of dozens of Christmas trees, prize raffles, food, warm drinks, camaraderie and holiday cheer. One lucky person will win the coveted Wreath of Gifts.

December 7, Parade of Lights, Verdigre, Neb. Come to Verdigre on Saturday for the Lighted Parade. 6 p.m. – 6:30 p.m.

December 8, Holiday Light Parade, Creighton, Neb. Parade begins at 6 p.m.

December 11-13, NSAA State Play Production Championships, Johnny Carson Theatre, Norfolk, Neb. Nebraska's top high school theater casts make their way to Johnny Carson Theatre for the 2019 NSAA State Play Production Championships!

December 31, New Year's Eve Polka Dance, Clarkson Opera House, Clarkson, Neb. Come ring in the New Year with The Bruha's! \$15/person or \$30/couple includes: Admission, Party Favors, Champagne & Breakfast! 8 p.m. to 12 a.m.

■ SOUTHWEST

December 6, Christmas Light Parade, McCook, Neb., 6:30 p.m. Light up the Bricks for the 2019 Christmas Light Parade! Make plans to attend the annual Christmas Light Parade sponsored by High Plains Radio and the McCook Chamber.

December 7-8, 14-15, 21-23, Christmas at the Cody's, Buffalo Bill Ranch, North Platte, Neb. Enjoy caroling, horse-drawn rides, hot chocolate and roasted chestnuts on the grounds of Buffalo Bill's decorated Victorian mansion. From 5:30 p.m. to 8 p.m.

December 14, Reindeer Run 5K, Barnett Park, McCook, Neb. The course is cross-country style: over the hills and through the trees and around the ponds.

December 28, Cozad Guided Barn Quilt Bus Tour, Cozad Grand Generation Center, Cozad, Neb. During the tour you will see many

barn quilts and learn more about them. Tickets are \$20. Contact Tammie at 308-784-2747.

■ SOUTH CENTRAL

December 1, Light Up Lexington Christmas Parade, Lexington, Neb. Enjoy marching bands, performers and parade floats as everyone waits for Santa's trip through downtown Lexington. 5:30 p.m. to 6:30 p.m.

December 5, UNK Wind Ensemble Concert, UNK FAB Recital Hall, Kearney, Neb. Free concert begins at 7:30 p.m.

December 7, 14, 21, Santa's House and Fire Truck Rides, Lexington, Neb. Children can go downtown and visit Santa in his "Santa House" and also get a ride on a 1947 American LaFrance fire truck driven by members of the Lexington Volunteer Fire Department. 1 p.m. to 3 p.m.

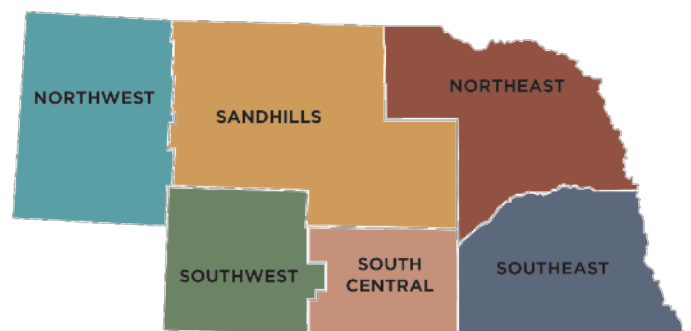
December 19-22, Elf the Musical, Merryman Performing Arts Center, Kearney, Neb. Tickets available online at CraneRiverTheater.org or by calling 308-627-5796.

■ SANDHILLS

December 7, Winterfest Craft Show, Cherry County Fairgrounds, Valentine, Neb. Local vendors will be displaying and selling homemade goods just in time for the Holidays!

December 14, Santa and his Reindeer will be in the Heart City, Valentine, Neb. Meet Santa downtown and give him your list, get your picture taken, and take home a sleigh full of savings from Valentine area businesses.

December 14, Christmas at the Bowering, Arthur Bowering Ranch State Historical Park, Merriman, Neb. - 6:00 MT. Get your tickets early. Steak Dinner and live music, door prizes and more. Perfect for the whole family. For tickets call 308-684-3428.



To add events to Calendar, please email info to wprice@nrea.org or mail your info to: Calendar, Rural Electric Nebraskan, PO Box 82048, Lincoln NE 68501. Please submit info two months before the date of the event.

Four gift ideas for Your Favorite Energy Nerd

The holiday season is the time for gift giving, but knowing what to get your loved ones isn't always easy. Here are some gift ideas that are perfect for the energy nerd in your life! The costs range from \$25 to \$100, so there's something for everyone.

These are just a few gift ideas for the energy nerd in your life. Whatever you decide to wrap under the tree, have a safe and happy holiday season!

Smart Power Strip

Power strips allow you to increase the number of outlets in your home, but unlike a normal power strip, smart power strips help to reduce "vampire power" – this is the energy used by electronics even when they're in standby mode.

The great thing about the smart power strip is that you can leave all your electronics plugged in without having to worry about them using standby power because the smart power strip shuts off electricity to those devices when they are in standby mode. This can help you save a significant amount of money over the year, and depending on your home, you can potentially save 10 percent to 20 percent of your home energy consumption.

There are three types of outlets in the smart power strip. The first is the "always on" socket, which is meant for things like Wi-Fi or a cable modem; the second is the "main" socket, which is meant for televisions or computers; and the final is the "secondary" socket, which should be connected to electronics like printers, speakers or gaming consoles.

Some smart power strips include additional features, like the ability to connect to smart home assistants through voice control or an app, or being able to set a schedule to automatically turn certain devices on or off.

You can purchase a smart power strip for about \$25 on Amazon.com or at your local retail stores.

EnergyStar-Certified Sound Bar

Imagine listening to great sound while watching television, but also using less energy when doing so. The EnergyStar-certified sound bar uses about 70 percent less electricity than regular sound bars, which saves you energy and money. Sound bars create a three-dimensional surround-sound effect, reducing the need for multiple speakers around the room.

For anyone that enjoys curling up to a good movie or binging the latest show, the EnergyStar-certified sound bar is a great gift to give. The costs depend on the brand, bells and whistles, but Samsung and Vizio offer EnergyStar-certified sound bars for about \$100.

Kill A Watt Meter

The Kill A Watt meter allows you to monitor how much energy your appliances are using. By simply plugging in the meter between the appliance and the power outlet, the device can display the energy use in either volts, amps, watts or Hertz. The large monitor clearly shows the electricity use depending on the type of units you choose. The Kill A Watt meter can also calculate cumulative electricity expenses by day, week, month or year, which can help you to plan ahead. You can purchase a Kill A Watt meter for about \$20 to \$30 online or at local retailers like Wal-Mart and Home Depot.

LED Holiday Lights

If you want to celebrate the holidays but also save 80 percent of the energy you use while doing so, then LED holiday lights should be on your gift list. Get festive this holiday season without taking a toll on your energy bill.

The benefits of LED holiday lights aren't limited to energy savings. They are safer since they don't get as hot as incandescent lights, and they're sturdier since they aren't made of glass. LEDs also last much longer than incandescent lights, and they're easier to install because they're less likely to overload a wall socket. To manage your energy use more efficiently, you can also add a timer that shuts off the lights as you go to bed.

A Holiday Roast to Remember

The holiday season is a perfect opportunity to gather with friends and family, and few things bring people together like an elegant, seasonal meal. Serving up a mouthwatering main dish worth celebrating can elicit rave reviews from your guests and keep them gathered around the table longer, creating lasting memories.

Creating a crowd-pleasing holiday centerpiece starts with choosing a flavorful, tender cut of meat. For example, elegant cuts like Chateaubriand (roast-size filet mignon) or Bone-In Frenched Rib Roast from Omaha Steaks, a leading provider of premium beef and gourmet foods, can serve as the focal point of a memorable meal. Flash-frozen to capture freshness and flavor at their peak, you can select a roast hand-cut and carved by an expert butcher and have it delivered directly to your door.

Simple to prepare and easy to carve, all you need to do is season (or marinate) and roast before serving alongside a wine-infused sauce like Red Pepper Cranberry Sauce or Apricot and White Wine Glaze.

Find more recipes and tips to create a holiday dinner to remember at OmahaSteaks.com.



Whiskey Marinated Holiday Roast

Marinade:

- 4 ounces water**
- 2 ounces whiskey**
- 1/4 teaspoon baking soda**

Roast:

- 2 pound chateaubriand or 4 pound bone-in frenched prime rib roast, thawed completely (allow 48-72 hours)**
- 1 package Omaha Steaks Private Reserve Rub**

To make marinade: In large, re-sealable bag, mix water, whiskey and baking soda.

To make chateaubriand: Place roast in bag and marinate in refrigerator 30 minutes.

Remove roast from marinade. Discard marinade.

Season roast with rub 12-18 hours before cooking and leave uncovered in refrigerator overnight. When ready to cook, heat oven to 225 F. Place roast on elevated rack in roasting pan.

Roast 2 hours, or until roast reaches internal temperature between 120-125 F.

Let roast rest 30-45 minutes.

Broil on high 2 inches from broiler, 4 minutes on one side then flip and broil 2 minutes on other side, or until brown crust uniformly covers roast.

To make bone-in frenched prime rib roast: Place roast in bag and marinate in refrigerator 45 minutes.

Remove roast from marinade. Discard marinade.

Season roast with rub 12-18 hours before cooking and leave uncovered in refrigerator overnight. When ready to cook, heat oven to 225 F. Place roast on elevated rack in roasting pan.

Roast 3 hours and 15 minutes, or until roast reaches internal temperature between 120-125 F.

Let roast rest 30-45 minutes.

Broil on high 2 inches from broiler, 4 minutes on one side then flip and broil 2 minutes on other side, or until brown crust uniformly covers roast.

Red Pepper Cranberry Sauce

- 1 tablespoon olive oil
- 2 medium red bell peppers, finely diced
- 1 cup red wine
- 1/4 cup red wine vinegar
- 1/3 cup white sugar
- 2 teaspoons yellow mustard seeds
- 6 tablespoons dried cranberries
- 6 tablespoons dried currants
- 1/4 teaspoon salt

Heat medium skillet on medium-high heat.

Add olive oil and diced red pepper; saute 3-5 minutes.

Add red wine, red wine vinegar, sugar, mustard seeds, cranberries, currants and salt. Bring mixture to boil then turn temperature to low and simmer 20 minutes, or until liquid is mostly evaporated and thickened.

Bring to room temperature before serving alongside holiday roast.

Apricot & White Wine Glaze

- 1 1/2 cups white wine
- 2/3 cup white wine vinegar
- 3/4 cup apricot jam
- 2 tablespoons yellow mustard seeds
- 2 tablespoons brown mustard seeds
- 1 teaspoon salt
- 1/2 teaspoon granulated garlic
- 3/4-1 teaspoon chili flakes

In medium saucepan over medium heat, combine white wine, white wine vinegar, apricot jam, mustard seeds, salt and garlic.

Bring to boil then turn to low and simmer 25 minutes, or until reduced by one-third.

Remove from heat and stir in chili flakes.

Reheat or bring to room temperature to use as glaze or serve as sauce for holiday ham.

Note: Both can be prepared up to three days in advance.

Dilled Crab & Mushroom Chowder

- | | |
|--|---|
| <ul style="list-style-type: none"> 1 cup sliced fresh mushrooms 1/4 cup chopped celery 1/4 cup sliced green onion 2 tablespoons butter 1/4 cup flour 1/2 teaspoon salt | <ul style="list-style-type: none"> 3 cups milk 1 cup Half & Half 2 potatoes, cooked and cubed 1 6 oz. can crab meat, drained and flaked 1/2 teaspoon dried dill weed |
|--|---|

Cook mushrooms, celery and green onion in butter till tender. Stir in flour and salt. Add milk and Half and Half all at once. Cook and stir over medium heat till thick and bubbly. Stir in potatoes, crabmeat and dill weed. Heat through, stirring occasionally.

Dawn Schaldecker, Grafton, Nebraska

Crockpot Bacon & Cheese Potatoes

- | | |
|--|--|
| <ul style="list-style-type: none"> 1/4 lb. bacon, diced 2 medium onions, thinly sliced 4 medium potatoes, thinly sliced | <ul style="list-style-type: none"> 1/2 lb. cheddar cheese, thinly sliced salt and pepper, to taste butter green onions, optional |
|--|--|

Line crockpot with foil, leaving enough to cover the potatoes when finished. Layer half each of bacon, onion, potatoes and cheese. Season to taste and dot with butter. Repeat layers of bacon, onion, potatoes and cheese. Dot with butter. Cover with remaining foil. Cover and cook on low for 3 to 4 hours.

Margaret Walker, Sidney, Nebraska

Butterscotch Dessert

- | | |
|--|--|
| <p>Crust:</p> <ul style="list-style-type: none"> 1/2 cup butter, melted 1 cup all purpose flour 1/4 cup packed brown sugar | <p>Filling:</p> <ul style="list-style-type: none"> 3 packages instant butterscotch pudding mix 4 1/2 cups cold milk 12 oz. whipped topping |
|--|--|

Mix all together and spread on a cookie sheet, bake at 350 degrees stirring every 5 minutes until golden brown. Cool and put in 9" X 13" plastic pan with lid. Keep out some crumbs to sprinkle on top.

Mix pudding and milk in bowl. Add half of the container of whipped topping, mixing by hand. Put remaining whipped topping and crumbs on top. Refrigerate, then serve.

Colleen Barleen, St. Paul, Nebraska

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