



ENERGY EFFICIENCY FOR BETTER BUILDINGS

Whether your home or business, the buildings you enter daily consist of several layers that create one building envelope, or shell. The envelope begins with the foundation in the ground and ends with the roof, and includes everything in between such as walls, windows and doors. To save energy and maintain comfort, an envelope should limit the transfer of heat in or out of the building. Improve your building envelope by applying weatherization best practices.

+ AIR SEAL CRACKS AND HOLES

Caulking and weatherstripping are cost-efficient air-sealing techniques that help maintain a comfortable temperature in your space. Air-seal gaps around windows, doors, electrical outlets, and other wall or ceiling penetrations to reduce drafts. Weatherstripping around the interior of door frames and window sashes will also limit drafts in these areas and improve the energy efficiency of your home.

+ ENSURE ADEQUATE INSULATION

One of the best ways to reduce your energy bills and increase the comfort of your home is by ensuring adequate and effective insulation in your home. The Department of Energy recommends that a home have 12 to 16 inches of attic insulation. However, not all insulation has the same effectiveness for energy efficiency, and as insulation ages that effectiveness declines. There are also several methods for insulation depending on where you live and the part of your home you are insulating (walls, crawlspace, attic, etc.) so it's best to contact a local certified contractor. Check your local building codes for requirements.

+ RESEARCH INCOME-QUALIFED PROGRAMS

Some income-qualified programs provide air sealing and insulation, along with making sure your home is safe, if you have combustion appliances like a gas furnace or water heater. Certain programs even cover up to 80% of the median area income and provide these improvements at no cost to the homeowner and in many cases renters as well.

To learn more about income-qualified programs, rebates, and incentives for energy-efficient upgrades, contact your local co-op or public power district. Visit us at www.tristate.coop/BE





Telling the story of Rural Nebraska

Volume 76 Number 11 November 2022



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The Nebraska Firefighters Museum and Education Center, located in Kearney, Neb., is dedicated to the courageous firefighters of Nebraska. Visitors can view antique fire trucks and other emergency vehicles and equipment exhibits.

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Antique fire trucks and other emergency vehicles are on display at the Nebraska Firefighters Museum and Education Center. See the related article on Page 14. Cover photograph by Wayne Price

Editor's Page



Wayne Price

Things To Be Thankful For This Year

On Thanksgiving Day, before we eat we have a tradition of having each person say what they are thankful for. Answers tend to include good health, being with family and the delicious food set before us. Occasionally you will get a response like "Spider-man!" from one of the little kids.

This year I'm going to give thanks for Nebraska's electric linemen. I realize this is something of an unconventional response but I think it's a good thing to be thankful for these days.

From restoring power after a storm to building new lines to serve customers, Nebraska's electric linemen are the face of public power in our state. They play a vital role in serving customers around-the-clock with reliable and affordable electricity.

They wake before the sun, pour steaming cups of coffee, and kiss their family goodbye. After swinging by the office to get the day's orders, men climb into their trucks and head out. Our lineworkers form a solid team with one job: to deliver safe, reliable electricity. But that job can change in a million ways when rough weather steps in.

We often take power—and the men and women who provide it—for granted. Let's take a moment and stand in their boots.

Linemen have to work safely, smart, and efficiently—all while 40 feet in the air wearing sturdy, thick rubber gloves. On a typical day, lineworkers maintain electrical distribution lines or build service to new homes and businesses in Nebraska. They have a lot on their plates. But when our dispatch center calls crews with a problem, everything else takes a backseat.

Power restoration takes precedence on a lineworker's to-do list. These brave men are always on call. We have crews standing by to serve you 24 hours a day, in the middle of the night or wee hours of the morning, weekends and holidays.

Can you imagine getting a call at 3 a.m. telling you to work outside during bad weather? Not many people are willing to face storms. Nebraska's lineworkers face harsh elements daily, all to serve you.

They don't always get the recognition they deserve. So this Thanksgiving, as you sit down to eat, say thanks to the electric lineworkers that keep our lights on.

Guest Editorial



Bob Beatty

Bob Beatty is the General Manager of KBR Rural Public Power District, headquartered in Ainsworth, Nebraska

Sharing a Sense of Duty

Being a veteran, Veteran's Day has always been special to me. Not so much as a reflection on my service but rather on the heroes that sacrificed it all serving their country. Everyone that has served in the Armed Forces has made sacrifices of some sort. From having to spend time away from your loved ones to the ultimate sacrifice of giving your life for your country, the sacrifices made are substantial.

There is a sense of shared experiences amongst veterans that people that have never served cannot share. For instance I spent 2 1/2 years in Germany and Wayne Price, editor of this magazine, also served in Germany. When I ask Wayne how he enjoyed his vacations at Grafenwoehr and Hohenfels, he knows exactly what I am referring to. Those were two of the major training bases in Germany and I think it was planned that the weather had to be horrible every time we deployed there. You get a nod and knowing smile from someone who has also been there and done that.

I like to share a story that reflects how much the training and culture never really leaves a person even when he or she leaves the service. I had served my four years and was heading back to college when I got recalled for Desert Storm (lesson here is always read the fine print). In the beginning the discipline of all the soldiers recalled was not really the best. No one really wanted to be there because we thought we had already done our time. However the day we got issued our uniforms and ditched the civilian clothes it was like a light bulb went off. It was time to go back to work.

Recently I heard a Congresswoman express the opinion that anybody that served in the military was throwing their life away. My first reaction was anger, that anyone, especially an elected representative, could have that opinion. Then I realized it was just ignorance from someone who does not know and appreciate the sacrifices that many have made so she has the ability to give her opinion, however flawed it is. I do not for a minute regret the four plus years I served in the Army. Serving gave me opportunities that I never would have experienced by not joining. Like any endeavor that one undertakes you will get out what you put into it. Now I admit those days in basic training when I was doing countless pushups I might have had a few regrets but looking back at it you realize it was not that bad and helped shape you as a person.

I apologize for hijacking this space in the magazine that is usually reserved to talk about public power. However, I see the same sense of camaraderie in linemen that one sees in servicemen and servicewomen and it makes me proud to be a part of it.

So in closing, this Veteran's Day, please think of those that have served and are currently serving and maybe say a little prayer for their wellbeing.

The Story of the Corn Sheller

The farmers tip over a five-gallon bucket apiece, using it for a chair. Each one chooses a sandwich, heavy on the mayonnaise, and a piece of chocolate cake, iced to perfection, plus a tall tin glass of tea, the outside sweating from the ice inside. Beside them, a corn sheller stops its rumbling, resting from a half morning's work near a pile of yellow ear corn. Wagons are heaped with shelled corn, others with corn cobs, soon to be spread out to gravel the lane or pitched into the hog pen for bedding.

The men have been up since day break, finishing chores before heading over to the neighbor's farm where they're part of a shelling crew. Bigger crews are reserved for threshing, but on the days they're summoned to help shell, it will take only three or four. They'll meet there with the man who makes his living operating a corn sheller.

At the age of 95, Wesley Schutte of Beemer



Wesley Schutte and his brother worked many hours to bring in their corn crop, picking the ears from the stalks with the help of a husking hook which they wore on one hand. The sideboards converted the wagons from 25-bushel to a 50-bushel wagon. Notice the ears inserted between the boards to make them reach a little higher. The bang boards on the far side of the wagon kept the ears from being thrown over the top.

6



remembers days like this. He began picking and shelling corn when he was only ten. First he walked through the fields with his dad and brother, snapping ripe ears from corn stalks while removing husks at the same time. As they threw the ears over their shoulder, they aimed for bang boards set up high on one side of the wagon. The boards kept the corn from being thrown over the top, dropping instead into the wagon box below.

On a good day in a good year a person could hand pick 100 bushels, Schutte said, loads which horses hauled into the farm place to be unloaded into a ventilated and slatted corncrib or a ring. Corn in a ring was piled onto a concrete or wooden platform, encircled by picket fence tied with wire and piled three deep. Eventually, hand-picking was replaced with two-row, pull-type, mechanical corn pickers.

When the day for shelling was selected, the man running the corn sheller was summoned, by telephone if the farms had phone lines by then, along with several neighbors to help. They used corn rakes to loosen up and tumble the corn down from the sides of the pile

by LaRayne Topp

where it had settled in tight. They placed the end of an elevator or conveyor—a drag feeder—under the alley in the corn crib or pulled out a few wire tunnels from beneath the corn in the corn ring, and began scooping. The wire tunnels were removed as they went, making room for the drag feeder into which corn was scooped and conveyed into the sheller on the back of a truck. At the end of the day the shelled corn was again scooped, this time from a wagon into a granary, hopefully free from mice and rats, where it was eventually scooped out once again and fed to the livestock.

Usually, a ring was filled with 1,200 bushels of ear corn, a good morning's work, Schutte said. Pay for the shelling crew was a tasty lunch or dinner. If a neighbor didn't do his share of the work, you "looked the other way," he said.

In later years, a loader mounted on a farm tractor did the scooping. "That took a lot of labor out of running the sheller," Schutte said, if it didn't scoop up too much dirt in the process.

Tom Brockman of Norfolk, Nebraska, remembers those days as well. His father, Pat, farmed, worked as a hired man, followed the wheat harvest, and assisted in a shelling operation. In 1945, he moved his family to Pilger, Nebraska, where he purchased his own sheller. Situated on the back of a Diamond T or a Max Thermodine straight truck, the sheller's cylinders stripped the kernels from the ear and sorted them via a series of sieves at a cost of three cents a bushel.

"My dad was pretty doggone inventive," Tom said about his father. Pat worked with a machinist to build a rack to cart the conveyor from farm to farm on the side of his truck. The conveyor—through the utilization of a custom-made, split drive shaft and pulley system—could be winched into place at the corn pile with the yank of a bar in the truck cab, without having to unload and attach each piece of the conveyor by hand.

Once the corn was delivered to the sheller, a blower sent the empty husks one direction, the cobs in another, and the shelled corn in still another.

Typically jobs were small, but sometimes the Brockman sheller ran all day. Tom's dad also ran it fast.



Top: Tom Brockman restored his dad's 1947 truck to mint condition.

Left: A pencil drawing by William Rennick of Lincoln, formerly of Pilger, shows Pat Brockman and how the conveyor was attached to the side of the truck, Pat's own invention.

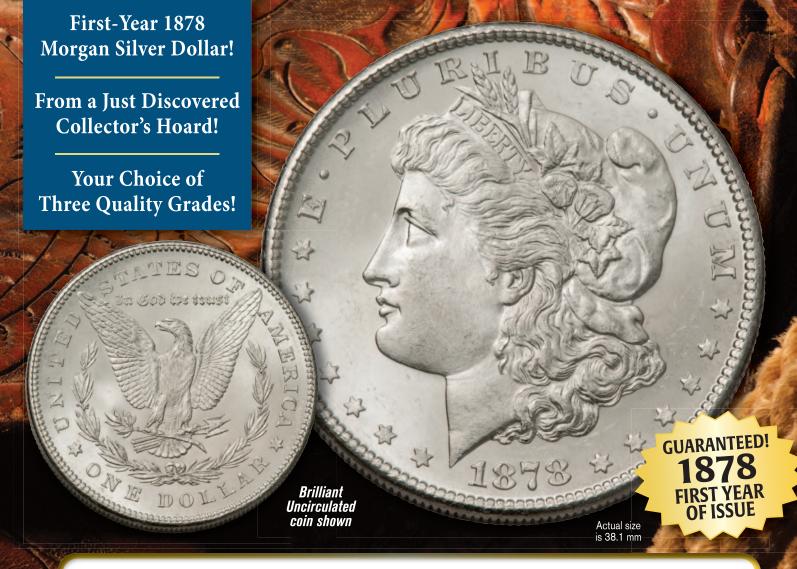
Tom remembers one day when they shelled several rings of corn, weighing in at the local farmers cooperative where the scales showing they had shelled 1,000 bushels an hour.

Pat Brockman kept at it through the late 1970s. Some farmers by then had quit picking corn in the ear, replacing the two-step picking and shelling process with a self-propelled combine which ran through the fields, picking and shelling corn as it went. When Pat Brockman decided to quit the business, corn shellers sold for little or nothing, Tom said.

Today, the corn sheller and two-row picker have been replaced with super-sized combines; its tires alone are taller than a corn picker used to be. Sixteen-row cornheads and a modern-day machine can combine as much as 7,200 bushels an hour.

What its operators are missing, however, is the exercise found on the working end of scoop shovel and the neighborliness accompanying visits over midmorning lunch break on days the sheller came to the farm.





Get an 1878, First-Year Morgan Silver Dollar! The Silver Dollar that Helped Build the Old West!

Maybe you knew that the Morgan Silver Dollar is the most widely collected and traded Silver Dollar ever minted by the United States—in part because of its iconic design, and in part because it was the hard currency found in the saddlebags of cowboys and ranchers, and of course outlaws. It was the coin that helped build the Old West.

Morgan Silver Dollars—All-American Coins

It's also popular because it's a 90% Silver Dollar with an American design that was first minted in 1878, from American silver that came from the Comstock Lode in Nevada. It was last minted in 1921 for circulation—which is why 2021 marked the coin's 100th anniversary.

It's a Wonder Any Morgans Still Exist Today

Coin experts estimate that fewer than 15% of all the Morgan Silver Dollars ever minted still exist today. At one point, the Pittman Act authorized the melting of 259,121,554 Silver Dollars to send to Great Britain to help that country during World War I—nearly half of the entire mintage of Morgans up to that time!

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Supply Chain Challenges

Prior to the Covid-19 pandemic, when locating a roll of toilet paper became a game of cat and mouse, the concept behind the supply chain was foreign to most of us. These days supply chain bottlenecks and product shortages are a typical part of our daily routine with many wondering when things will get back to normal. Experts are suggesting that these shortages could last well into 2023.

Public power districts and electric cooperatives are not immune to the supply chain challenges facing nearly every industry across Nebraska. Fewer freight trucks, less warehousing space, labor shortages, major weather events — all have contributed to the disruptions in manufacturing and delivery of basic machinery and components essential to providing power to electric utility consumers.

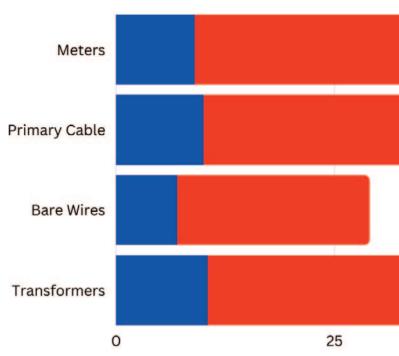
Three-phase transformers are one of many components used by electric cooperatives stranded in the supply chain bottleneck. Transformers are used to step up or step down the high voltages in different stages of the energy transmission system. According to the National Rural Electric Cooperative Association (NRECA), the typical lead time for three-phase transformers of 10-12 weeks has ballooned to eight months.

Tom Rudloff, general manager of Elkhorn Rural Public Power District, said the supply shortages have had a significant impact on his utility.

"Because supply is limited and demand has stayed



Average Quoted Deliv



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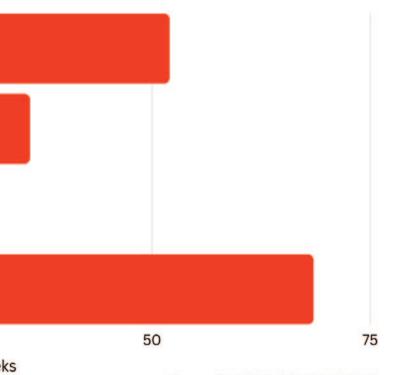
constant or increased causing increases in the price of almost all materials," he said. "In addition, we have had to increase our amount of inventory, on items when we can get them, and with the increase in cost, our inventory carrying cost has doubled."

Rural electric utilities have reported that some manufacturers of pole mounted transformers are no longer accepting new orders due to backlogs.

Additionally, the lead time for substation transformers has been extended by a full year. Meanwhile, the wait time for pad-mounted transformers, which are necessary to provide underground electric service, is six months. Utilities also report orders for electrical conduit have been delayed five-fold to 20 weeks, while digital meters,

Transformers are one of many components used by public power districts and electric cooperatives stranded in the supply chain bottleneck.

ery Times: 2018 v. 2022



Source: NRECA DATA COLLECTION

bare wire and primary underground distribution cable are all taking longer to procure, which is impacting project schedules for new service and infrastructure build out.

Not only are public power districts and electric cooperatives waiting longer to receive equipment orders, but, like everything else during these challenging times, they are also paying more, often up to 200% more than normal.

Colyn Suda, Southwest Public Power District general manager, said his employees have had to get creative in dealing with supply chain shortages by recycling materials from retired services and by ordering further in advance than in previous times.

Many rural electric utilities are working with other utilities to look at other options for inventory and supply chain solutions.

"We have also been working with our utility neighbors to look for opportunities where they might have excess supplies in some areas that we are short in," he said. "The next couple of years will require that we reserve more inventory than normal at times in order to ensure our current customers needs are met in the event of outage situations."

Some relief may be ahead, but it won't be immediate. On June 6, President Biden invoked the Department of Energy to use the Defense Production Act (DPA) to accelerate domestic manufacturing of transformers and electric grid components. This declaration should help shorten lead time for acquisition of items essential to providing reliable electricity.

Public power districts and electric co-ops are meeting supply challenges by working together to find materials, helping each other where possible, along with changing how they approach inventory and project scheduling. Key for the utilities is prioritizing inventory for outages, ongoing maintenance and storm restoration while balancing new construction requests.

Suda said it will take more planning and communications with our utility neighbors and vendors for the foreseeable future.

"We have expanded our vendor network in an effort to get some of the supplies we use," he said. "We are working with Nebraska Public Power District and other utilities to look at other options for inventory and supply chain solutions."



by Sarah Farmer

House of

Your home stores carbon for decades





Top: Trees are part of the carbon cycle and continue storing carbon even after they are harvested and used to build homes. Photograph courtesy of USDA Forest Service

Above: A metric ton weighs over 2,000 pounds. Between initial building and repairs, one average size house can store almost a hundred metric tons of carbon dioxide. Photograph by Wayne Price

Source: USDA Forest Service

Wood is infinitely useful. Look around, and you'll find it in all sorts of places, from cardboard boxes to pianos. It is even used in some frames for bikes and cars. If you live in the U.S., wood was also likely used to build your home. All these wood-based items are valuable to people in their own way. They also help reduce the amount of carbon dioxide in the atmosphere by storing carbon.

The wood used in people's houses may be particularly important when it comes to storing carbon. According to a new Southern Research Station study, the wood used to build and maintain houses will continue to store large amounts of carbon for the next 50 years.

"As trees grow, they pull carbon from the atmosphere and the soil. When trees are harvested to make products like lumber for homes, some of that carbon continues to be stored," says Jeff Prestemon, lead author of the study and research economist with the Southern Research Station.

Even after the wood used in buildings reaches the end of its useful life and ends up in a landfill, it does not immediately release its carbon. It continues to store that carbon for many years. In this way, wood retains its storage capacity for several more decades.

Between initial building and repairs, one average house can store almost a hundred metric tons of carbon dioxide. And in the U.S., where more than 90% of new single-family homes are built with wood, the carbon stored in homes quickly adds up.

Houses store so much carbon that figuring out how many will be built in the future is important for understanding the total U.S. carbon storage capacity.

"The wood used to build houses will remain an increasing, significant component of the overall forest carbon sink – regardless of whether the U.S. population grows or shrinks, and regardless of high or low economic growth," says Prestemon.

The researchers examined how population growth and income can project the number of new homes that may be built in the future.

"It is likely that fewer homes will be built in the coming decades," says Prestemon. "However, existing homes will need repairs and renovations, which require wood. Our research suggests that even if new home construction declines, the amount of carbon stored in wood products will increase."

Be Alert to Avoid Lightning

By Larry Oetken



Did you know lighting can strike even if it's not raining? Lightning strikes kill 55 to 60 people every year, according to the National Oceanic and Atmospheric Administration (NOAA). More than 400 people are hit by a bolt each year.

But if you prepare before an outdoor event and know how to protect yourself, you can keep your family safe from lightning. Follow these tips from NOAA:

- Plan ahead. Just as you have an emergency plan for fires and weather events like [tornadoes/hurricanes], form an action plan for lightning. Choose a safe shelter, and time how long it takes to get there.
- Check the weather. A simple forecast can tell you whether you should delay outdoor activities to avoid a dangerous situation. Dark skies, whipping winds, and lightning flashes

are all signs that you should seek shelter.

- Seek shelter. As soon as you hear a rumble of thunder, head for a safe place—an enclosed structure, one with plumbing and wiring is best, or a car. Open-air shelters, sheds, and covered porches are often not safe places. Avoid tall trees that stand alone, towers, and poles, as well as metal fences and other conductors of electricity. And keep out of open areas, so that you're not the tallest object in a field.
- Wait it out. Leaving safe shelter too quickly makes you vulnerable to lightning strikes. Wait at least 30 minutes after the last rumble of thunder before you head back outdoors.
- Avoid corded phones and appliances. If you're indoors when a storm hits, do not use corded phones or appliances. Lightning can travel through your home's wiring.

If someone near you has been struck by lightning, call 911 immediately. A certified person should begin CPR right away if necessary—the victim will not have an electric charge and is safe to touch.

Larry Oetken is the Job Training & Safety Coordinator for the Nebraska Rural Electric Association.

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November 2022

Mebraska Firefighters Museum

Honoring the history and heritage of Nebraska's fire service

The Nebraska Firefighters Museum and Education Center is dedicated to the courageous firefighters of Nebraska. It is located just off I-80 exits at Kearney, next to the Great Platte River Road Archway.

According to Jennifer Slater, museum director, the museum honors the history and heritage of Nebraska's fire service and educates people on fire prevention and fire safety through images, artifacts and interactive exhibits.

The museum opened in 2009 and features a variety of exhibits. These are changed each October.

The Nebraska Firefighters & EMS Memorial was added to the campus in October 2010. The red granite line of duty death memorial tablets provide a somber reminder of the sacrifices made by many Nebraska firefighters and emergency rescue personnel. The black granite commemorative caps pay tribute to those of the past and of the present who have given or who are still giving so much to their community.

"The Memorial honors those that have put commitment into protecting their communities," Slater noted. "Those that served or are still serving are represented on the black



granite, or bricks lining the path to the Memorial."

The museum holds an annual Memorial service for all members who have passed on and for those who have made the ultimate sacrifice. Those who paid the highest price are memorialized on the red granite tablets at the North end of the Memorial.

The museum is open from 10:00 a.m. to 5:00 p.m. Monday through Saturday and from 1:00 to 5:00 p.m. on Sunday. Admission is \$6 for adults, \$4 for Seniors and \$3 for Youth (6-17). Children under five are free.



by Wayne Price







Safety Briefs

Use portable welders safely

On many farms they are essential to keep equipment working, but on other farms they are death lurking at the end of a frayed cable. Portable welders kept in good condition and used properly, keep important equipment usable, and keep a farm running. But many farmers and farm workers have not only suffered debilitating shocks, but electrocution from welding equipment that is not maintained and should have been replaced long ago. Safe Electricity, a program of the Energy Education Council, strongly urges farmers to keep welding equipment in good repair.

A few summers ago, a Michigan farmer plugged in a welder to do repairs on a mower. The farmer used a 40-year-old welder with a broken off ground wire and had exposed wires in several areas. The mower became charged with electric energy from the welder, and the 43-year-old farmer was electrocuted.



To avoid tragedies like this one, Safe Electricity recommends maintaining equipment and personal protective equipment.

Grounding plugs should be functional, and groundless adapters should not be used. Welding cables and grounding clamps should be completely insulated. If the insulation shows signs of wear, the cables should be repaired or replaced. The cost of maintaining equipment is a fraction of the cost of being out of work because of a preventable accident, or the price a

family pays when a loved one passes away in an accident.

Safe work procedures need to be developed for welding, such as using extended reach cables if the welder cannot be placed adjacent to the worksite. Connect the grounding clamp as close as possible to the area being welded, and ensure it is in good condition, as well as the grip for the electrode.

Properly sized ground fault circuit interrupters (GFCI), which shut off power instantly if there's a problem, should be used.

Murphy



Highline Electric Association adds potential game changer to the EV charging world

Most drivers traveling to or from Denver through the north-eastern plains of Colorado might approach exit 180 on Interstate 76 without much thought. But for electric vehicle drivers traveling the route, that's about to change.

Thanks to Highline Electric Association, and its partnership with Tri-State Generation and Transmission and the Colorado Energy Office, the Wagon Wheel Conoco at exit 180 in Julesburg is home to the second single-phase DC fast-charging station in Colorado.

The FreeWire® BoostTM Charger 150 is located at an ideal place for EVs to hook up for a fast charge when driving along I-76 to or from Denver. The interchange is 180 miles from the Denver metro area and the placement couldn't be more perfect, as the average range for most EVs is over 200 miles.

Highline's Manager of Member Services Tad Huser said this charger is designed for public use, and this location on the Interstate 76 corridor bridges the EV fast-charging gap between Fort Morgan, Colorado, and Ogallala, Nebraska.

Traditional EV fast chargers run on three-phase power, which can be a less common setup in rural areas due to the infrastructure demands and upgrades often needed to install a typical EV fast charger.

"The FreeWire Boost Charger technology enables public EV fast charging at gas stations, convenience stores and restaurants that run on single-phase power," Huser stated.

The Boost Charger 150 unit has an on-board 160-kilowatt-hour battery that can impart up to 150 kilowatts of power to a single user. If both charging heads are being used, the max power to each charging head is split and can charge at 75kW max each. Both charging heads are the CCS connector that is quickly becoming the international standard outside of Tesla's proprietary connector.

The fees at the station are \$0.25 per kWh and there is a parking/idle fee of \$0.10 per minute after 30 minutes of idle (plugged-in) time to incentivize unplugging and moving along once charging is complete. The station has a credit card terminal where users can swipe to pay. Users may also scan a QR code on the unit that takes them to the EV Connect mobile app where they can pay via their phone as well.





Top: A Ford F-150 Lightning uses the FreeWire Boost fast charger.

Above: Highline Electric Association's new FreeWire Boost fast charger is located at the Wagon Wheel Conoco in Julesburg, Colo.

"The FreeWire direct-current, fast charger is one of the first of its kind in Colorado in that it can use existing single-phase conductors, in combination with battery storage technology, to charge vehicles comparable to charging times for systems currently available in the market today," said Dennis Herman, general manager for Highline Electric Association. "This represents a breakthrough in efforts to offer reasonable charging times with the distribution systems we have available in rural areas."

Holiday Efficiency Tips

: How can I save energy at home during the holiday season?

: The holidays are a magical time when we come together with our loved ones to share food, gifts and quality time. It's also the most expensive time of year for many of us. Along with the expense of gifts, meals and travel comes colder weather and darker nights that lead to more electricity use and higher bills.

One way to reduce the financial burden of the most wonderful time of year is by implementing efficiency tips to use less energy at home and lower your monthly bills.

Home Practices

If you are hosting guests, your household will consume more electricity than normal. Be prepared with efficiency basics:

- Have your thermostat programmed at 68 degrees when you are home and dialed back 8 to 10 degrees when you leave the house or go to sleep.
 - Run the clothes washer on cold with full loads.
- When not in use, turn off lights and the TV; fully shut down computers and gaming systems instead of putting them in sleep or standby mode.
- Lower the thermostat when guests are over or cooking food. Most gatherings happen in the center of the home, so save energy by turning the heat down in areas you are not using.

Cooking Efficiency

Whether you are making holiday treats or a feast, here are a few tips to help lower energy use in the kitchen.

Use the oven light to check food. Every time the oven door is opened, the temperature inside is reduced by up to 25 degrees, according to the Department of Energy (DOE). When possible, make use of a slow cooker, microwave, toaster oven or warming plate, which use less energy than an oven and stovetop. According to DOE, a toaster oven can use up to half the energy of the average electric stove over the same cooking time.

Let hot food cool to room temperature before placing it inside the refrigerator. This ensures you don't increase the



This year, make the switch to LEDs for all your holiday lighting. LED holiday lights consume 70% less energy than conventional incandescent light strands. For example, it costs 27 cents to light a 6-foot tree for 12 hours a day for 40 days with LEDs compared to \$10 for incandescent lights.

Pick up a few light timers so you don't have to remember to unplug your lights every evening. You can also choose to upgrade to smart holiday lights that offer a wide range of approntrolled options, including time, colors, music and modes.

temperature inside your fridge and cause it to use more energy to cool down. You can also take some of the stress and expense out of your holiday cooking by asking guests to bring a dish.

Out-of-Town Efficiency

If you're visiting family and friends during the holidays, prepare your home to use less energy while you're away.

Water heating is the second-largest energy expense in your home, accounting for about 18% of your utility bill, according to DOE. Switching your water heater to vacation mode will reduce wasted energy by keeping the water at a lower temperature. If your water heater does not have vacation mode on the dial, you can adjust it to the lowest setting.

Set your thermostat to around 55 degrees so you're not wasting energy to heat the home while you're away.

Instead of leaving lights on all day, consider upgrading a lamp or fixture to a smart lightbulb. This allows you to control lights from afar and set a schedule for the light to go on and off. Another option is to repurpose your holiday light timer for one of your living room lamps.

Lower your energy bills this holiday season with these simple efficiency tips. Happy Holidays!

Nebraska Lineworkers Rescue Elderly Driver

In a story that could have had a tragic ending, a Nebraska family is thanking a sharp-eyed journeyman lineman and his foreman at a public power district for helping rescue their elderly mother who had been missing for two days after her car crashed into a ditch and had gone undetected by other motorists.

Loup Valleys Rural Public Power District's Bruce Koch and Nick Schaaf were out inspecting lines Sept. 1 in 90-degree heat when Schaaf looked out the passenger window and spotted a vehicle several hundred feet away.

Thinking the car was abandoned, he clambered across rough terrain to investigate. "There was no exhaust coming off the car, or heat or steam, so it had been there awhile."

But inside the car, Schaaf found 86-year-old Wanda Erks, conscious and sitting in the passenger seat with a lot of abrasions, dried blood and "a real shiner on her left eye."

"I opened the door, and she said, 'I need a drink of water.' She was very coherent and asked if I could take her somewhere to get cleaned up."

Fresh off a "mayday" training drill with first responders the previous month, both men worked together to get help. Koch radioed the district's dispatcher, who then called 911, and helped Erks drink water from a jug kept in the truck. He kept her company until the first responders arrived about 10 minutes later. Meanwhile, Schaaf flagged down rescue vehicles.

Obscured by trees and tall grass, the wreckage wasn't visible from the main road and was easy to miss, the men said.

"People drove by all day long and never even spotted it," Koch said. "The car was goldish brown in color and kind of blended in with the grass being brown. It was just in the right spot."

Erks was transported via medical helicopter to CHI Health Good Samaritan Hospital in Kearney, according to Ord Sheriff Casey Hurlburt. She suffered a broken vertebrae and broken wrist but is recovering, her daughter told the Ord-based PPD when she called to thank them.

Koch and Schaaf wouldn't take full credit for the rescue, insisting it was a team effort that included the district office, the volunteer fire department and the



When they aren't helping stranded motorists, Loup Valleys Rural Public Power District's Nick Schaaf (left) and Bruce Koch keep the lights on. Photograph by Sarah Zulkoski, Loup Valleys Rural Public Power District



A medical helicopter transports an injured driver to a hospital after her rescue by two lineworkers and first responders. Photograph by Bruce Koch, Loup Valleys Rural Public Power District

helicopter pilot.

"It wasn't just me and Bruce," Schaaf said. "We couldn't have done it without the rest of the people; a lot happened during those 45 minutes and it was just like a rehearsal. Everybody did their job and got things done." *Victoria A. Rocha is a staff writer for NRECA.*

Celebrate the Season with Holiday Delights

The holiday season and all its celebrating often means full days of visiting family and friends, opening gifts and enjoying moments with loved ones, even if much of that interaction may take place virtually this year. With all the laughter and happiness, you're bound to get hungry, and feeding the family throughout the day means you'll need recipe ideas ready for the occasion.

Starting the big day with a bountiful breakfast helps begin the festivities on a high note, while appetizers help hold everyone over for the main course, sides and, of course, dessert. Consider these tasty dishes to take your holiday gatherings to new heights from morning to night.

Visit Culinary.net to find more holiday meal ideas.



Gingerbread Cookies

- 1/2 cup (1 stick) unsalted butter, softened
- 1/2 cup dark brown sugar
 - 1 large egg
- 1/4 cup molasses
- 1 3/4 cups all-purpose flour
 - 1/2 teaspoon baking soda
 - 1/8 teaspoon salt
 - 1 teaspoon ground ginger
 - 1/2 teaspoon ground cinnamon
 - 1/4 teaspoon ground nutmeg
 - 1/8 teaspoon ground cloves royal icing

In large bowl of electric mixer fitted with paddle attachment, cream butter and sugar about 2 minutes on medium speed until light and fluffy. Add egg and molasses; mix until well incorporated.

In separate bowl, whisk flour, baking soda, salt, ginger, cinnamon, nutmeg and cloves. Use mixer on low speed to add to butter mixture until combined and dough is formed.

Divide dough in half, wrap with plastic film and refrigerate at least 1 hour.

Preheat oven to 350 F and line baking sheets with parchment paper.

Flour clean work surface. Roll dough 1/8-1/4 inches thick. Cut out shapes with desired cookie cutters.

Transfer cookies to lined baking sheets and bake 10-12 minutes, or until firm. Let cookies cool on baking sheets 2-3 minutes then transfer to cooling rack. Cool completely.

Decorate cookies with royal icing.

Reader Submitted Recipes



Orange Eggs Benedict

- 2 egg yolks
- 1 orange, juice only
- 1/2 teaspoon kosher salt
- 1/2 cup unsalted butter, melted water
- 1 tablespoon white vinegar
- eggs
- cup butter, softened
- French baguette slices, 3/4-inch thick each
- thick slices ham
- 1/2 cup orange marmalade orange zest, for garnish

To make Orange Hollandaise: In small bowl, blend egg yolks, orange juice and salt until combined. Gradually add melted butter into egg mixture while blending. Set aside.

In skillet, add water halfway up sides. Add vinegar. Bring to simmer. Break eggs into water to poach. Cook 3-4 minutes until whites are cooked through and yolks are still runny. Using slotted spoon, remove eggs and drain on paper towels.

Spread butter on one side of bread slices. Place bread in skillet and cook until golden brown. Add ham to same skillet and cook until browned on both sides.

To assemble, spread bread slices with orange marmalade. Top each with one slice cooked ham and one poached egg. Pour hollandaise over eggs and garnish with orange zest.

Frozen Cranberry Salad

- 1 can (lb.) jellied cranberry sauce
- can (8 1/4 oz.) crushed pineapple, drained
- 2 (3 oz.) pkgs. cream cheese softened
- cup chopped walnuts
- 2 Tablespoons lemon juice
- 1 banana, diced
- 3/4 cup sugar
 - 1 (8 oz.) container of whipped topping, thawed

At least 4 hours in advance, refrigerate can of cranberry sauce. Open can at both ends and remove onto plate. Slice and then cut into small chunks. Refrigerate. Mix cream cheese, lemon juice and sugar thoroughly with electric mixer, until smooth and creamy. Stir in pineapple, nuts and banana. Fold whipped topping into mixture. Lightly fold in cranberry chunks. Pour into a 9 x 5 x 3 inch loaf pan, that has been lined on all sides with a double thickness of waxed paper. Cover and freeze for 12 hours or overnight. To unmold, lift salad out of pan and invert onto platter. Peel off waxed paper and slice 1/2 - 3/4 inch thick. About 12 servings. This is a beautiful and delicious salad, especially for the Holidays!

Lois Cockson, Bellwood, Nebraska

Houska

- packages yeast cups milk, scalded
- 1 cup sugar
- 3/4 cup Oleo
 - teaspoon salt
 - eggs

- 1 teaspoon vanilla
- 3/4 cup raisins
- cup almonds, chopped optional
- 7 8 cups flour

Dissolve yeast in 1/2 cup warm water, with 2 teaspoons of sugar. Scald milk, add Oleo. Cool. Add sugar, eggs, salt and vanilla. Add raisins and nuts. Add flour 2 cups at a time and mix well, until forming a soft dough. Knead dough for 5 to 10 minutes. Put in greased bowl and let rise until double in size. Divide dough into 6 portions. Braid 3 portions. Place in greased pans and let rise. Back 35 – 40 minutes in 350 degree oven.

Helen Kohmetscher, Lawrence, Nebraska

White Chocolate Mix

- cups each: Rice Chex, Corn Chex and Honeycomb cereal
- 1 cup mixed nuts
- 1 cup Cinnamon Toast Crunch or Cinnamon Life cereal
- 2 cups pretzels
 - Red and Green M&M's or Fall M&M's—optional
- 1 15 oz. white almond bark-melted

In a large bowl combine cereals, nuts, pretzels and M&Ms. Pour melted almond bark over mixture. Mix well and then spread onto baking sheet lined with wax paper. Let cool for 20 – 30 minutes and then carefully break apart.

Deanne Cooper, Oshkosh, Nebraska

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