



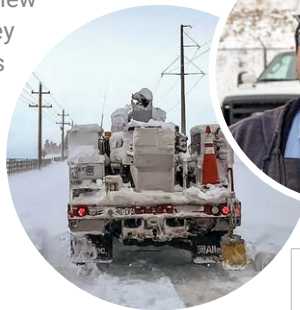
Lineman Appreciation Day

TUESDAY, APRIL 18



**They're the ones who go out when it's in the negatives and snow is pouring down.
They're the ones who make sure the lights stay on and your home stays heated.**

Line workers are a dedicated group of men and women who have a passion for all things power. From their early beginnings in line school to working while learning in an apprenticeship to reaching new heights in new roles, Poudre Valley REA line workers and line workers throughout the nation find their passion in exciting projects and keeping the power running for members throughout the country. **Be sure to keep up with our social media channels as we celebrate Lineman Appreciation Day this April 18!**



career as a line worker may be right for you. After a short bout in line school, apprentice line workers can learn while they work, making money while completing their apprenticeship program. Once the apprenticeship is complete, there's a myriad of ways to grow within a company and the skill set is transferable, as wherever there is power, line workers are needed.

If you're interested in learning more, reach out to us at communications@pvrea.coop, come talk to us at events, or follow our LinkedIn to stay updated on job listings.

If you're someone who likes to work with their hands, enjoys being outdoors, and wants the satisfaction of being an integral part of their community, then a

2023 Annual Meeting

IN CASE YOU MISSED IT

Learn how our mission drives us to continuously deliver on our promise of providing you and our other members safe, reliable, efficient energy solutions with exceptional service.



More info at www.pvrea.coop/annualmeeting



FACES, PLACES & VOICES OF



THE WWV & WWVB RADIO STATIONS *Keepers of Time*

If you've ever taken a trip down east country road 58, you've likely seen the large metal towers extending into the sky. Standing at roughly 400 feet, the towers are the tallest thing in the area for miles.

Many passersby have likely made guesses as to the purpose of these towering metal poles — are they for planes? Cell towers? Or maybe searching through space? Out here in Fort Collins, CO, the towers are actually for a much more specialized purpose: being the official source for accurate timekeeping for millions of North Americans.

The WWV & WWVB radio stations have been a part of the Fort Collins area since the 1960s. Chosen for its close proximity to the NIST (National Institute of Standards and Technology) in Boulder, the high ground conductivity due to the alkalinity of the soil, and its ideal distance from the mountains, the location of the stations allows for transmission of an omnidirectional signal, which communicates the time throughout the country with a received accuracy of fewer than 10 milliseconds.

But the history of WWV specifically extends well past their Fort Collins location. The station has existed since October of 1919, with its first official broadcast going on air in May of 1920 from the station's original location in Washington, D.C. While originally airing evening concerts, WWV is one of the oldest commercial broadcast stations, and arguably the longest consistent running radio station ever (depending on how you define 'consistent'). Since then, WWV has served a variety of purposes, emitted a variety of frequencies, and operated in a variety of locations before eventually finding its home here in northern Colorado.

WATCHING THE CLOCK

Time stops for no one — so who's around to do the timekeeping?

Inside a well-insulated building and surrounded by clocks, radio equipment, and transmitters originally designed by the navy for submarine communications sit the four WWV and WWVB staff members who keep things running. Among them are Matthew Deutch, electrical engineer, and Glenn Nelson, electronics technician, who together combine for 60 years of experience working at the stations.

"I was familiar with WWV in my early teen years," Matthew said. "I had a shortwave radio, and I lived out in Longmont, and I could hear this time signal, and it was intriguing. I was a big shortwave listener to all the international radio broadcasts, and WWV was right in the middle of them on those bands."



While Matthew and Glenn tend to predominately work inside these days, opting to maintain the internal systems, working on improving the signal, taking readings, and ensuring the time is still being transmitted accurately, the other two crew members do see frequent excursions up the 400ft towers surrounding the station grounds. Whether it's for clearing off ice and snow or repairing parts damaged by high wind or lightning, climbing up the tower is a long process, and feeling the tower sway as you climb can certainly get the blood pumping. But the view from 400ft up can't be beat.

Back inside WWVB, a workshop filled with parts and tools can be found. Back when the station was first built,

THE WWV & WWVB RADIO STATIONS — continued from pg. 8

a trip to town wasn't as easy as it is now. If something went wrong, especially late at night or in the middle of a winter storm, it was imperative to have the tools and resources to make any necessary repairs. Further in, the sound of consistent whirrs and clicks of machinery running can be heard. There's no shortage of electricity, heat, and moving parts here, and it all plays an integral role in keeping the time reporting consistent.

A SPOT IN HISTORY

As we've shifted away from calling in to hear a man read off the current time to instead checking our phones, where does that leave WWV and WWVB?

As Matthew puts it, the stations can act as the "Poor man's time stamp," providing precise time measurements often used in scientific projects. The WWV and WWVB radio waves are also used to see how



radio waves interact with the ionosphere. By studying how they hit the ionosphere and bounce back toward Earth, researchers can better understand how long-range radio communications are impacted by the ionosphere.

"There's a lot of interest now in studying the ionosphere using the time signals," Matthew said. "We broadcast across the six different frequencies and each frequency behaves differently. Every time we have a one-second tick, the amount of time it takes to go up through the ionosphere and back down varies, so people use those frequencies to better understand the ionosphere."

Beyond the world of science, many HAM radio enthusiasts utilize the signal from WWV to keep their systems calibrated, experiment with swapping frequencies, or simply for the fun of catching the time readings.



SAFETY CORNER

Celebrate Arbor Day Safely
Friday, April 28

When planning your home's landscaping, it is important to select the right tree for the right place. If you remember to do this ahead of time, you can enhance your property value while adding energy efficiency and ensuring the safe, reliable flow of electricity to your friends and neighbors.

CONSIDER THESE TREE PLANTING TIPS

1. Always consider the full, mature height and spread of your tree before planting it. We need 10-15' of clearance near power lines, transformers, and other electrical equipment.
2. Avoid dense, tall, or thorny shrubs that obstruct or obscure access to meters and padmount transformers.
3. Deciduous trees help block summer sun but lose leaves in the winter to allow warm sunlight into your home.
4. Evergreens block cold winds in the winter and provide shade from the hot sun in the summer.
5. Shrubs and trees can help shade sidewalls from the morning sun and protect air conditioners.

Learn more best-practices for your landscaping near our electrical system at pvrea.coop/outages-safety/safety/trees-power-lines/

DIG SAFE AROUND ELECTRICITY AND BURIED POWER LINES

Remember to always call before you dig. Contact 811 prior to any planned digging projects.

Learn more at pvrea.coop/outages-safety/safety/call-before-you-dig/



Efficiency Upgrades

to Help You Save This Summer

Spring and summer are opportune times for home upgrades and DIY projects. If you're planning to make improvements to your home, consider upgrades that promote better energy efficiency.



HERE ARE A FEW PROJECTS THAT CAN HELP YOU SAVE ENERGY AND MONEY – AND INCREASE THE COMFORT OF YOUR HOME!

Smart thermostats - Installing a smart thermostat is one of the simplest ways to manage home energy use and keep summer bills in check. Smart thermostats are easy to install and allow you to control your heating and cooling system from your phone. You can purchase an ENERGY STAR® certified smart thermostat for as low as \$100, which can save you 8% on annual heating and cooling costs – around \$50 per year. We offer rebates to help reduce the purchase price.

- Not to mention, by joining our Power Peak Rewards program you can get added value from your smart thermostat when paired with your AC system. Earn one \$50 bill credit for signing up and an annual \$30 participation reward after the cooling season. **Search Power Peak Rewards online to learn more.**



Sealing air leaks - While it's not as trendy as adding smart technologies, sealing air leaks around your home is a simple, effective way to save energy and lower your bills. Applying new (or replacing old) weather stripping around doors and windows can instantly make your

home more comfortable and reduce energy waste. Applying caulk to fill gaps can also improve the seal of your home. Caulk can be applied to a variety of areas, including windows, doors, bathtubs and sinks.

- Find other home energy efficiency tips and tricks online at pvrea.coop/for-members/residential-services/home-energy-management/

Upgrading appliances - Of course, there are additional efficiency upgrades that can make a big impact on energy use, like replacing old appliances with ENERGY STAR® models or upgrading your home's heating and cooling system. But these upgrades can be a bit pricey.



- Remember to check and see if you qualify for a rebate from your cooperative to help offset some of the purchase and/or installation cost. Rebate information is available online at pvrea.coop/for-members/rebates/

APRIL 2023

Energy Efficiency Tip of the Month



This planting season, include energy efficiency in your landscaping plans. Adding shade trees around your home can reduce surrounding air temperatures as much as 6 degrees.

Source: [energy.gov](https://www.energy.gov)

To block heat from the sun, plant deciduous trees around the south side of your home. Deciduous trees provide excellent shade during the summer and lose their leaves in the fall and winter months, allowing sunlight to warm your home.

