



2022 ANNUAL REPORT

Perseverance: Our Key to Success



Mission

To enhance our community through exceptional service.

Vision

To inspire social and economic improvement through intentional action.

Core Values

- **Commit to providing exceptional customer service.**
- **Consistently strive to improve the quality, safety, and reliability of our services.**
- **Collaborate with others to encourage community growth and improvement.**
- **Become a leader in our industry, improving the quality of life for our customers and inspiring others by our superior results.**
- **Methodically plan our actions in keeping with our mission.**
- **Achieve greatness through discipline and consistency, not luck.**

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A Message from the General Manager



To the Community we serve:

During the year 2022, I sometimes felt like we were spinning our wheels. Unable to make forward progress on important projects because of material delays, uncertainty regarding the massive amount of government funding to become available for states and local governments, and staffing shortages across all industries, including our own, we could have easily gotten discouraged. But toward the end of year, as I sat back and assessed our progress over the past few years, I felt a new sense of vigor. You see, when hindered by seemingly neverending obstacles, we could easily lose our focus. But instead, my staff and I took the time as an opportunity to plan for what's to come.

There is a mountain of opportunity for us to take advantage of, and if I'm not leading HUB toward that effort, then I am giving up on a historic opportunity to help our community thrive. All our regulatory

agencies are encouraging us to think and plan smarter, to invest in energy efficiency (not only to save costs but also to lower our carbon footprint), to develop programs that take a more proactive approach to identifying and replacing aging infrastructure, to beef up our programs and invest substantially into cyber and physical security infrastructure (to protect not only informational technology but also operational technology), and to modernize our systems so that we can collect and utilize data like never before in hopes that we can improve upon things like reliability and resiliency. Massive amounts of government spending are earmarked for all of these endeavors and unfortunately, its often the smaller rural utilities that miss out on the opportunity to take advantage of such funding. At HUB, we have a mindset that we can be great no matter our size. One such example of that is that we are investing in the exact same Advanced Metering Infrastructure (AMI) technology as our friends at Knoxville Utilities Board. This new technology will help HUB save hundreds of thousands of dollars in the coming years. It will also pave the way toward allowing us to "modernize" our programs and procedures as we have been directed to do.

2022 has been defined by a single word... perseverance. Throughout the challenges of 2020 and 2021, we tried to maintain perspective; to see through difficulty and maintain our focus. I believe we succeeded in that effort. However, this past year has presented entirely new and different challenges. From critical supply issues and higher costs, to managing unprecedented opportunities for state and federal funding; 2022 has tested our resolve and commitment.

In 2019, we committed to a Five-Year Strategic Plan. In 2023, we will commence the final year of that commitment. The Strategic Plan has always been about much more than just organizing our efforts. It's been an essential tool for benchmarking actual progress towards meaningful goals that impact every department at HUB. Whether it was addressing much-needed updates to policy manuals and operating procedures, improving upon our relationships with those we serve... or implementing new technologies such as AMI.

It's been said, 'the best plans are subject to change'. We designed the Five-Year Strategic Plan to be flexible, without sacrificing intent. In 2022, we saw the impacts of rising material prices, delivery delays that far-exceed typical, and sweeping changes to how business is done across multiple industries that directly impact us. These in addition to rising interest rates and volatile energy costs (especially in natural gas and coal) really disrupted plans across the industry. Our Strategic Plan sets our course, regardless of what may change over time.

This year, perseverance has taken the form of laying the foundations for the next successful stage in our growth. Over the past four years, we have focused on shoring up what we have. We have made tremendous progress in improving our financial health across all four departments. We have experienced retirements and unexpected turnover and hired many new faces to carry out our new initiatives. We've accomplished a lot of projects, earned many accolades, and focused on improving our relationship with those we serve. When someone looks at what we are doing, we want them to see continual improvement.

In the past year, HUB and the City of Harriman secured over \$5 million for our community which we will direct toward water and wastewater improvements. These grants are coming from various sources including the American Rescue Plan, Appalachian Regional Commission, and the TN Department of Economic and Community Development (Community Development Block Grant). But we won't stop there! We have plans to apply for millions of dollars more in funding to support upgrades and improvements of our water system to allow us to wholesale much needed water to the Cumberland Plateau and at the same time improve reliability to our residents in the Oakdale area. The idea is that increased water supply in that area can help meet the demand of the highly anticipated FlatRock Motorsports Park under construction now in Cumberland County. We will also be pursuing funding to improve our electric system in the coming year. Just recently, there have been a lot of announcements regarding funding that may be used to improve reliability and resiliency of electric utility infrastructure as well as programs such as electric vehicle charging and clean energy generation. Spending packages such as the Bipartisan Infrastructure Act and the Inflation Reduction Act will slowly allow government spending to be directed to these causes. We have already secured a grant worth up to \$1 Million to build a public electric vehicle fast charging station from TVA through a program that was announced nearly two years ago. We are also looking for a site to possibly build a utility scale solar project, with the purpose of directly offsetting a portion of our TVA bill. Lastly, we will be studying the possibility of deploying fiber and/or broadband infrastructure across our electric network. We take advantage of grant funding and innovative projects such as those mentioned above in hopes of helping to stabilize our utility rates to help all our customers now and in the future.

In addition to funding, each of these necessary projects involves people; not just any people... the best people. Times are changing, and HUB is changing to keep pace. Long-gone are the days when we could count on a long line of willing and capable applicants for any position we might need. Turning today's apprentice into tomorrow's foreman, superintendent... or general manger requires a commitment to offering competitive compensation, excellent benefits, a real "work-life" balance, and meaningful opportunities to contribute. With increasing frequency, younger workers desire to make an "impact" ... and HUB certainly offers that. This has fostered a workforce that is very active in the local community, routinely volunteers and contributes "off duty", and comes to work "switched-on" to give their absolute best.

All that to say, measuring how far we've come in 2022 should include what we're ready to accomplish in 2023... and beyond. I am so appreciative of our team of employees who work hard every single day as well as our Board Members who volunteer to represent the interests of all our rate payers and hold us accountable for our actions. I hope next time you see our logo on the chest of an employee, on one of our trucks on the road, or on one of our smiling faces at the customer service counter... that you will have a better understanding of what we stand for, what we are doing, and where we are going. It truly is our honor to serve this community.

Sincerely,

Candace Vannasdale, P.E.
General Manager



HUB Organization

The Harriman Utility Board (HUB) is a group of five non-elected individuals who are appointed by the Mayor of Harriman, and charged with the responsibility to govern the Utility. The Board sets policy, approves the Annual Budget, authorizes major purchases, and is responsible for hiring the General Manager. Each Board member serves a four-year term. In 2022, Jason Shillings was appointed for his first, four-year term.



Lonnie Wright - Chair

Mr. Wright is a graduate of South Harriman High School, the Castle Heights Military Academy, and the University of Tennessee. And he retired as the Plant Utilities Operation Manager at the Y-12 facility in Oak Ridge. He has served several terms on both the Harriman City School Board, and Harriman City Council. He was initially appointed to the Harriman Utility Board from 2005-2008, and has been serving subsequent terms since 2016.

Mr. Wright is also an active member of Trenton Street Baptist Church.

Alicia Harris - Vice Chair & Council Representative

Alicia Harris is a graduate of Harriman High School and has two Associate Degrees from Roane State Community College. Alicia has been an employee with the U.S. Department of Energy since 1985 in the Environmental Management Organization.

Alicia is a member of St. Mary's Baptist Church in Harriman, TN and has served on the Harriman Housing Authority Board for over 15 years. In 2022, Alicia was elected to the Harriman City Council.



Charlie Jones
Board Member

Mr. Jones is a graduate of Roane County High School and enlisted in the Army National Guard in 1981. He graduated from the U.S. Army Infantry School at Fort Benning, Georgia in 1982, and continued to serve with the Guard until 1991.

Following the terrorist attacks in New York on September 11th, 2001, he once again volunteered, joining the Tennessee Air National Guard.

Charlie was appointed to the Harriman Utility Board in 2015.



Shawn Smith
Board Member

Shawn graduated from the University of Tennessee at Chattanooga in 2004 with a Doctorate Degree in Physical Therapy, is a certified McKenzie practitioner in Mechanical Diagnosis and Treatment as well as a Certified Mulligan practitioner.

After 6 years as the Director of Rehab at NHC Oak Ridge, he completed the Administrator in Training program to become a Nursing Home Administrator.

He currently serves as Choir director at Riverside Baptist Church in Harriman.



Jason Shillings
Board Member

Jason Shillings was born and raised in Harriman, graduating from Harriman High School in 1996. He has worked full time for the Harriman Housing Authority as their Maintenance Director for the past eight (8) years. He and wife Sonya of 26 years owned and operated the well-known Chuck's Deli for eight years, taking over for Sonya's parents who ran it for 33 years prior. He currently serves on the City of Harriman Beer Board.

Jason was appointed to the Harriman Utility Board for his first term in 2022.

Full biographies are available at our website: hub-tn.com/board.html

Monthly Board Meetings

HUB board meetings are open to the public on the last Monday of every month. Except as posted, board meetings are held at 5:30 pm at the Main Office located at 200 N. Roane Street, Harriman, Tennessee 37748. Workshop sessions and special called meetings are also open to the public. Dates for these meetings are always posted on our company website, www.hub-tn.com.

Management Team



Candace Vannasdale - General Manager

Candace Vannasdale, P.E., has served as the General Manager for HUB since May 2018. Prior to this role, she served as the Manager of Gas, Water & Sewer (GWS) Administration & Engineering. Before beginning her career for HUB in 2014, she gained over 5 years of civil and environmental engineering consulting experience in Nashville and Knoxville and worked during college for both the Jackson Energy Authority in Jackson, TN and the White House Utility District in White House, TN.

Born and raised in McMinnville, TN, Candace holds a M.S. in Environmental Engineering from the University of Tennessee (2013) and a B.S. in Civil Engineering from Tennessee Technological University (2008). She is a licensed Professional Engineer in the State of Tennessee and is a certified Grade II Distribution System and Grade II Wastewater Collection System Operator in the State of Tennessee.

Dusty Fagan - Manager of Finance

Dusty Fagan graduated from the University of Tennessee at Knoxville where he earned a Bachelor of Science degree in Accounting in 2005. He subsequently received an MBA from Tennessee Tech University in 2014.

He worked for the Lenoir City Utility Board before joining HUB in May of 2017 as the Accounting Manager. Mr. Fagan then was promoted to Manager of Finance in May of 2018.

Dusty also provides leadership to the Administrative Departments of HUB, overseeing operations related to Human Resources, Accounting, Billing, Customer Service, Information Technology, and GIS/Engineering.



Heath Lewis - Manager of Electric

Heath Lewis graduated from Harriman High School and attended the University of Tennessee at Knoxville where he earned a Bachelor of Science degree in Electrical Engineering in 2004.

He worked as a Production Supervisor for General Shale, and a Process Engineer for Exedy America before joining HUB in 2010 as the Electrical Engineer. He was promoted to the Manager of Electric in 2017.

In this role, Heath is responsible for aspects of engineering, design, construction, and operation of the HUB electric system. In addition, he provides overall supervision of scheduling of the work of the Line and Right of Way crews. These functions include coordinating new service and system upgrades, as well as regular maintenance of all substations and associated equipment.

Frankie Davis - Manager of GWS

Frankie Davis serves as the Gas, Water, and Sewer (GWS) Manager for HUB. After graduating from Harriman High School with several years' experience working in his father's welding shop, Frankie gained experience in the construction industry before coming to work for HUB as a cashier in 1986. He quickly progressed within the company becoming a tree trimmer, utility man, meter reader, wastewater plant operator, welder, GWS foreman, GWS superintendent, and eventually the GWS Manager. During his time in GWS, Frankie has managed many major projects including the recovery from the TVA Coal Ash Spill Disaster, acquisitions of neighboring systems, and TDOT Utility Relocations and system extensions throughout the HUB service area. Mr. Davis was also instrumental in starting the Roane County Utility Forum, which allows all utility providers in Roane County to meet quarterly to discuss current projects and issues/concerns with one another.



Supervisors



Tommy Barnard
Director of IT



Wayne Best
Director of External Affairs



Jeremy Gibson
Director of Safety



Joshua Gillespie
Project Manager



Whitney Helton
Director of HR



Andrew Knobloch
Asst Customer Service/Billing Manager



George Melhorn
Electric Superintendent

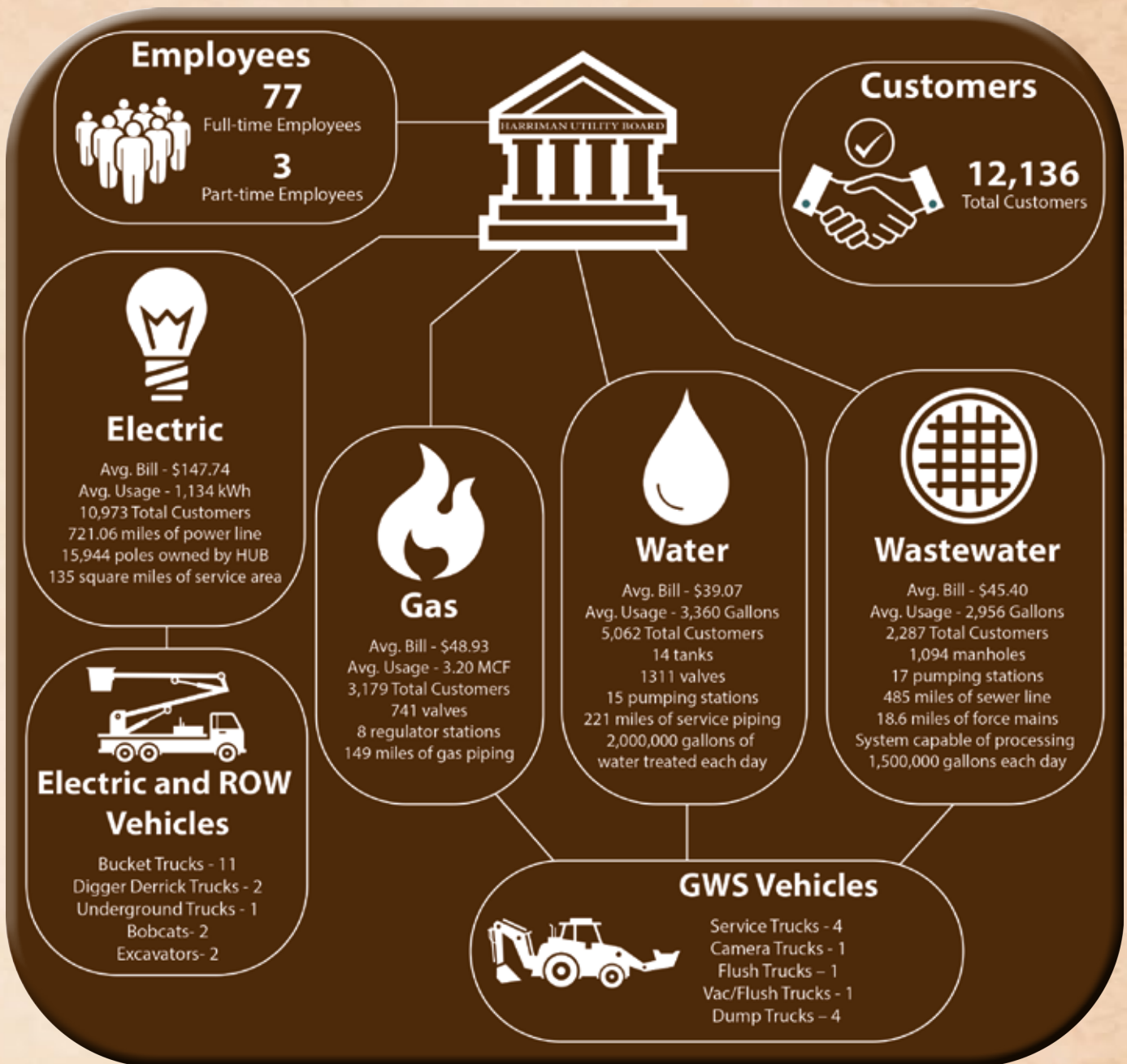


Jeff Mize
GWS Superintendent



Terecia Simmons
Customer Service/Billing Manager

General Statistics



As a public entity, HUB is required by the State of Tennessee Utility Management Review Board (UMRB) to conduct annual audits. The primary purpose of these audits is to ensure that gas, water, and sewer departments are self-supporting, and avoid financial deficiency. As a distributor of electric power, HUB submits to further federal oversight by the Tennessee Valley Authority (TVA).

Electric Vehicle Sales are hitting a Turning Point... How will this affect HUB in the future?

HUB wants our rate payers to understand that we are “plugged into” the conversation about electric vehicles (EVs). This technology will impact us, and likely sooner, as opposed to later. We are evaluating our electric system now, and are working with TVA to ensure we are prepared for the anticipated growth in customer demand accompanying the eventual wide-spread adoption of EVs. Despite the fact there are important questions to ask, and a lot of work to do in the interim, we are actually pretty excited about the positive opportunities this can provide to our service area!



Over the past two decades, we have seen a decline in electric usage per customer due to more efficient appliances in homes and businesses. This, combined with a slight decrease in overall number of customers and a significant decrease in industrial usage (due mostly to plant closures), has made it more expensive per customer to operate and maintain our electric system (leading to rate increases). Widespread EV adoption across our service area will actually help us from a revenue standpoint, ultimately helping us to stabilize electric rates. Did you know that 80% of EV charging occurs at home? As HUB customers charge their cars at home, it will also reduce the number of dollars our customers are paying at the gas pumps. That means reducing foreign dependence for energy. In our opinion, that's a “Win-Win” scenario.

One of the primary concerns raised about EVs is capacity of the electric system. You may be asking, “Won't this create widespread blackouts or brownouts across the Tennessee Valley?”. You may also be concerned that the “rolling outages” over the 2022 Christmas Holiday proved this to be a valid concern. These are good questions to ask, and HUB has been asking them as well. Winter Storm “Elliot” created cascading failures not only in the Tennessee Valley, but across the nation. Lessons were hopefully learned, and measures taken to ensure we don't see a repeat of that scenario as we head into summer.

As pertains to EV adoption however, TVA has been preparing for years for the resulting increase in demand. TVA has shared some interesting research with us that demonstrates the effect on the power grid that electrification is expected to have. For starters, there are 10 million residents in the Tennessee Valley. Collectively, there are 8 million light duty vehicles (LDVs). The average resident drives 15,000 miles per year and will use an average of 4,000 kWh of energy per year for charging their LDV. Therefore, if about 10% of LDVs are EVs, this will add about 2% demand to system energy. If 100% of homes have an EV, this will add about 10% demand to the system. Even if every LDV becomes an EV (i.e., 100% adoption across the Tennessee Valley), this will only add 20% demand to the system. Of course, none of us know for sure how long it will be to reach 100% adoption, but one could assume it would be 2050 or later. TVA is acting now to ensure the power supply we need is here. They do this while balancing the needs of consumers and industry and the incredible growth of population we are seeing across the Tennessee Valley. Managed charging (passive and active) will be key for utilities to address capacity issues and most utilities are already evaluating managed charging programs (directional managed charging is also a consideration by 2035). HUB is learning about all the options that are available now or will become available soon. One idea we are considering is offering at home charging stations to our customers, including installation and programming which will allow us to help you charge during off peak hours to keep rates as low as possible.

Here in the Tennessee Valley, we have the added benefit of EV adoption being considerably slower (and arguably more responsible) than our west coast counterparts who have rigorous legislation in place pushing for a faster EV adoption rate. We also have a trusted energy provider in TVA, which is owned by the public, as opposed to shareholders who are most interested in earning profits. TVA's and HUB's approach to handling EV adoption will be much more methodical. We are preparing now for what is expected to be a major shift by 2035... not 2025.

We would like to believe this latest “change” will proceed much the same way other technology advances have over TVA's history. TVA began serving the Tennessee Valley in 1933, much earlier than widespread installation of air conditioning systems in homes and businesses. Affordable window air conditioning units weren't available until the late 1940s, with wide-spread adoption of home air conditioning booming throughout the 1950s. Central air conditioning became available in the 1970s. And by 2007, the percentage of US homes with air conditioning reached 86 percent. Since then, the energy efficiency of this technology has kept pace with the increasing demand. We expect a similar trend with EVs.

At the end of 2021, I was hand picked by the Tennessee Valley Authority (TVA) to participate in a collaboration group, enabling a wide range of viewpoints as we prepare to continue to serve the people of Tennessee Valley together. I was one of 14 local power company (LPC) managers selected from the 153 LPCs across the valley. Our group also consists of representatives from large federal organizations (ORNL, Redstone), customers associations (TVPPA), direct serve industries, and TVA. I find myself in a somewhat unique position representing both a small and relatively rural, municipally owned electric system, and the opinions of a millennial-aged female. The focus of this effort, known as “Valley Vision 2035”, is centered around the broader energy landscape and how TVA's and HUB's integrated public power model can best incorporate evolving technological/innovative trends and uncertainties (electrification, decarbonization, decentralization, and digitalization) into the future. We do this with much consideration of the major influencing factors of today, such as political/regulatory, economic, consumer/cultural, technological, environmental, and legal drivers.

Through Valley Vision 2035, I've spent significant time studying the current and projected trends of the EV market. Whatever our personal opinions or inclinations may be, it's important that we are knowledgeable of and prepared to meet imminent change.

You may have already heard that California adopted rules in 2022 that ban the sale of new gasoline-powered vehicles by 2035. It's important to remember that California has nearly twice as many registered vehicles as the next most populated state. The U.S. Department of Energy now calls transportation the largest source of atmospheric carbon in the country, surpassing even the electric power industry. In December of 2021, President Biden issued an order stating that the U.S. Government will end purchases of gas-powered vehicles by 2035. As a matter of fact, his Order said that light-duty vehicles acquired by the U.S. Government will be emission-free by 2027. That may sound "overly optimistic", but other reputable sources predict that by 2040, nearly half the nations in the world will have passed legislation banning the sale of ICE (Internal Combustion Engine) vehicles. It's even been speculated that truly autonomous vehicles have the potential to revolutionize the industry, which would turn all current assumptions on their head. We can't guarantee where the future is heading, but we can assume a lot of effort will be spent over the coming decade in electrifying transportation, particularly in urban areas.

EV sales grew more than 100% in 2021 and even more in 2022. As we closed out the year 2022, many automakers had announced they will no longer produce the internal combustion engine for light duty vehicles by the year 2035. Aggressive goals to go "all-electric", include brands like Jaguar by 2025, Lotus by 2028, Bentley by 2030, Cadillac by 2030, Lexus by 2030, Mercedes-Benz by 2030, Mini by 2030, Rolls-Royce by 2030, Volvo by 2030, Audi by 2033, and Chevrolet/GMC/Buick by 2035.

Large trucks and fleet vehicles will also be affected by the world's carbon-neutral transportation goals. In November 2022, Tesla Semi completed its first 500-mile trip with a full load (81,000 pounds) and is now expected to deliver production versions of the electric truck, with Pepsi receiving the first delivered production models. The Postal Service announced it is increasing its order of electric mail trucks as well. Officials with the agency said at least 40% of its new fleet would be electric, an increase from the 10% it originally planned. The Postal Service said it ultimately plans to buy 33,800 electric delivery vehicles, adding to its total of 84,500 new vehicles. Amazingly, these new vehicles could be seen on U.S. mail delivery routes as soon as late 2023. Officials say they are also working on a facility that will help support the electric vehicle battery value chain across the United States. Construction will begin next year, with the goal to start mass production in 2025. Once operational, the goal is to produce 120,000 tons of cathode battery materials annually – or enough to power 1.2 million electric vehicle batteries.

In September 2022, Ford Motor Company began construction on a \$5.6 billion electric-vehicle manufacturing complex in Stanton, Tennessee, the largest factory project in the automaker's 119-year history. The facility will be used to produce electric trucks and batteries in partnership with Korea's SK On in 2025. Once completed, the campus will cover six square miles and employ 6,000 workers. This is on top of the projected 21,000 indirect jobs that will be created by the project. The project known as "Blue Oval City" is part of a broader regional electric vehicle manufacturing investment by Ford that includes a \$5.8 billion battery factory in Kentucky.

In November 2022, Tennessee officials announced a \$3.2 billion investment to develop a cathode materials plant for electric vehicle batteries. The manufacturing facility will be built in Clarksville and create more than 850 jobs, according to a memorandum of understanding signed by the state of Tennessee and South Korea-based LG Chem.

There are two facts when it comes to change; it's often accompanied by uncertainty... and it is inevitable. When HUB was established, the automobile hadn't yet become an iconic part of American culture. Within twenty years however, "drive-in" movies and "carhops" were an indelible part of many people's lives. East Tennesseans adjusted to "change" then, and we can do so again. What does the future hold for the Harriman Utility Board? I can assure you this is a question we are evaluating constantly. While we attend to our critical core functions today; such as maintaining electric lines and repairing pumps and valves... we also have a responsibility to ensure the capacity to do so tomorrow. HUB has the operations and administration personnel to continue to be the best at both.



Winter Storm Elliott & the Implementation of HUB's ELCP Steps 40 and 50



Heading into the long holiday weekend on Thursday, December 22nd, TVA was very confident they had made all necessary preparations for the predicted winter storm, "Elliott". They had run three different models to project the expected peak power during such an event. They took this modeling data and applied a multiplier to be even more conservative. Additionally, TVA spent the days prior to the event firing up all available generation resources, including their remaining coal fleet, to run at full capacity.

TVA went into this storm with caution, but (based on available data) expecting nothing "extraordinary". However, "Elliott" had surprises in store for everyone. Not only did temperatures remain so low for such a longer period of time than expected... they also dropped across TVA's entire service area, at the same time.

On any given day, TVA has ~32,000 megawatts (MW) of power generation available, plus some contracted power generation. If they need more power, they have purchase agreements with neighboring utilities to purchase it. Going into the Christmas weekend, they felt they were fully prepared for a 31,700 MW peak with some extra resources and "products" to call on, if needed. The actual demand ended up being ~32,400 MW, and it would have been about ~35,000 MW without TVA deciding to enact the emergency load curtailment plant (ELCP).

So, what went wrong? A lot of folks have been asking that. From what we've heard them describe, a combination of unfortunate events transpired to the point they had exhausted all the available resources, used up their reserve capacity, purchased all they could purchase, called on all the "interruptible" power from the industries... leaving one remaining option: emergency load curtailment. Cumberland Plant, for example, experienced multiple failures at approximately 2 a.m. and around 4 a.m. Friday, December 23rd. TVA reported that this created great concern, but they were still not panicking until they lost three more units of generation elsewhere. Additionally, 750 MW of contracted generation failed and couldn't be replaced because that neighbor was operating at full capacity just like TVA. TVA was able to suspend Step 50 and Step 40 Friday afternoon as they got some of their generation back (namely natural gas). During that time, TVA pumped as much to Raccoon Mountain as it could hold to gain about 8 hours of generation. That still put them 2 hours short of what was needed for Saturday morning. By approximately 9:20 a.m. Saturday morning, TVA initiated Step 50 again.

TVA assures us they will learn from this event. We believe that a lot of effort and expense will be applied toward a variety of measures; better winterization of TVA equipment might be such an example. The Electric Reliability Council of Texas (ERCOT) managed to learn from their failures after February 2021's extreme winter weather event. That storm that took 4.5 million homes out of power and caused 57 deaths across 25 Texas Counties. ERCOT set a new all-time winter peak record of 74,427 MW on 12/23/2022; this is 4,615 MW more than the previous winter record of 69,812 MW set on 2/14/2021. This alone gives us great hope that TVA will correct its deficiencies and be better prepared when faced with similar challenges.

TVA is now well underway with an extensive after-action review. They have called on all local power companies (LPCs) to provide details on how they responded to the emergency load curtailment plan (ELCP) measures. They have also asked for feedback regarding TVA's management of the event. On January 18, 2023, HUB's General Manager Candace Vannasdale sent the following language in an e-mail to TVA:

I am reaching out to respond to your request for feedback regarding Winter Storm Elliott. Honestly, I don't think we can add anything that hasn't already been said.

- 1) I think the main thing we struggled with was the poor communication the first day. It seems to be that TVA does not utilize their own Facebook page for emergency communications like all the LPCs do.*
- 2) We had difficulty reaching any regional news agencies. For example, Appalachian Electric was able to get a story posted about the load reductions, but HUB and others were not. It would have been better if TVA had been the one sending the story on behalf of all LPCs since it wasn't just a handful of us affected. If you can tell us how to reach those agencies for emergency communications, that would be great as well. Apparently, they don't really answer the phone on holidays.*
- 3) HUB doesn't have the ability to perform "voltage reduction", so we will need to add infrastructure for that in the future.*
- 4) It seemed to us that other LPCs handled the rolling outages differently. I'd like to know that we are all on the same page as far as what is truly "required".*
- 5) Our community is increasingly concerned that TVA isn't adding enough new power generation to accommodate the population growth in the TN Valley. We keep hearing about new natural gas fueled generation that will replace coal fueled generation, but we aren't convinced (other than solar) that TVA has a plan to increase generation to the level needed to reduce our dependence on purchasing power outside the TN Valley.*

Overall, I think we did well at following our plans. I think TVA recovered well from the cluster that was Friday morning. However, you have really hurt public perception about the ability to serve the growing demand for electricity. I would sure like to see a lot of effort expended to correct that. We are currently sitting at a very awkward spot trying to explain how TVA can serve the electrification of vehicles and the growing population of the TN Valley and the massive industries that are moving into the TN Valley on top of everything else. Christmas weekend was a wake-up call that we need to press the brakes on killing the coal plants and that instead we need to add more generation. I think at the end of the day, people would rather pay more for reliability.

*Candace D. Vannasdale, P.E.
General Manager*



As you can see, the 2022 Christmas weekend was a challenge for the power grid. It was a challenge for gas, water, and sewer infrastructure as well. We are thankful that our crews were well prepared. Our pump stations and water treatment facilities were well winterized prior to the event. Unfortunately, HUB experienced a major water leak on a transmission line right in the heart of our system that ultimately caused disruption for our entire system. We are grateful for the hard working men and women at HUB that worked overtime the entire Christmas weekend to restore service as quickly as possible. And we are grateful the damages were not any worse. We want to thank our customers for the tremendous outpouring of love and respect for all our workers who endured the extreme cold that weekend to keep our essential services running.

American Rescue Plan Act (ARPA)



The American Rescue Plan Act (ARPA) was signed into law by President Biden in March 2021. In this Act, there was established a “Coronavirus Local Fiscal Recovery Fund” to support the State, Local, and Tribal governments in responding to the impact of COVID-19. The City of Harriman was awarded \$1,819,446.95. Roane County was awarded \$10,368,828.00. Morgan County was awarded \$4,157,282.00. This is generally referred to as “Direct ARP” funding.

In addition, the State of Tennessee through its Department of Environment and Conservation (TDEC) announced it will spend \$1 Billion through formula-based non-competitive grants for water and wastewater projects. Through this “TDEC ARP” funding, Harriman City was allocated \$1,319,050.01, Roane County was allocated \$5,316,994.05, Morgan County was allocated \$5,122,568.38, and the Town of Oakdale was allocated 588,866.37.

HUB is so proud to have been able to reach an agreement with our partners (Roane County, Morgan County, Town of Oakdale, and City of Harriman) to allow us to utilize \$3,191,760 in TDEC ARP funds and \$274,300 in Direct ARP funds. This means, that along with HUB’s matching funds, we will be investing a total of \$3,672,000 with projects expected to begin in 2023. Our current plan is to spend

approximately \$2,221,000 Million on drinking water improvements to replace our Wolfe Branch Pump Station located on Ladd Mountain and serving residents in Roane and Morgan Counties as well as an asbestos cement waterline that traverses Ladd Mountain and continues up Oakdale Hwy past the Roane and Morgan County line. This will provide more reliable service to the residents of Oakdale and beyond who are connected to the HUB water system. The remaining \$1,451,000 will be spent on sanitary sewer system improvements within the City of Harriman to help us reduce the amount of inflow and infiltration entering our sanitary sewer system. This will cut down on the unnecessary expense of pumping and treating rainwater, thus helping us to reduce overall operation and maintenance costs.

As we finished up 2022, our engineers Smith, Seckman, and Reid Inc. (SSR) and Cannon & Cannon Inc. were busy finishing up the design for these highly anticipated projects. HUB is again very grateful for the various local governments that helped us apply for this historic and unprecedented grant opportunity.

Extension of Sewer System on Pine Ridge Rd.

One of the most important ways we can positively impact our rate payers is by adding new customers on HUB utilities. More customers mean more revenue to cover operating and maintenance costs which in turn, stabilizes rates. East Tennessee is growing, and this “rising tide will float all boats”... but we have to have our oars in the water to benefit! Growth in Harriman begins with development, and the owners of key real estate off Exit 350 on Interstate 40 are well on their way towards doing exactly that. Pine Ridge Rd. ought to be a setting for residential and commercial construction... both of which will need access to public sewer.

HUB initially hoped to apply TDEC ARP funds to extend public sewer along Pine Ridge Rd to just north of I-40, but since this project was “economic development” related and for “speculative development”, it was not eligible for TDEC ARP funds. Ultimately, HUB staff decided to apply to the Appalachian Regional Commission (ARC) for federal funding to extend sewer coverage along Pine Ridge Road to just north I-40 which would finally allow access to public sewer for whomever may choose to develop the properties in that area.

Much to our surprise, in August 2022, HUB was awarded a contract for \$500,000 in ARC funding for this project! Even better, HUB reached an agreement with the Harriman City Council and the Roane County Commission to each invest \$250,000 in matching funds (from their “Direct ARP” funding) to meet the total project budget of \$1,000,000. Leadership at the federal, state, county, and city level all see the potential for economic development and are taking a leap of faith that their investment will pay off.

Our engineer Cannon & Cannon Inc. is currently working on the design for this much needed sewer system expansion with construction to begin in 2023.

Waterline Replacement along Snow Lane & Riggs Chapel Rd.

For many years, HUB through the City of Harriman, has been successful at securing grant funding through the TN Department of Economic and Community Development’s (TN-ECD’s) Community Development Block Grant (CDBG) program which has historically helped rural communities address the challenges of aging utility systems (e.g. water loss, inflow/infiltration, etc.). Typically, for nearly 20 years, we have secured these funds for new projects about every two years (as often as the program allows). The current project was applied for under the 2021 CDBG program, however, changes in the Federal grant administration process delayed full approval of funds until 2022. Finally, in October 2022, HUB through the City of Harriman accepted a grant contract in the amount of \$630,000 to address excessive water leakage along Snow Lane and adjacent Riggs Chapel Road.

This scope of work includes the replacement of approximately 9,300 linear feet of existing 4” PVC water line with 6” PVC line. This will include replacing as many feet of waterline as possible along Snow Lane and Riggs Chapel Rd adjacent thereto where HUB has experienced excessive water leaks. Our maintenance crews have been out to make repairs in this area more times than we can track. The likely culprit for the continual damage was poor construction methods when it was originally installed. The waterline was constructed in a rock trench without proper bedding and backfill methods that have caused repetitive defects to spring up and cause leaks. HUB is so excited to now be able to address this problem area once and for all.

Year Three with the Home Uplift™ Program

Home Uplift provides an average of \$10,000 in free (yes, free) home energy upgrades to income-eligible customers. New or repaired HVAC units, attic and wall insulation, appliances, electric water heaters – these are just a few of the home energy upgrades that you may receive through Home Uplift.



At the end of 2022, HUB announced three winners for the third year of this program which is a partnership between us and TVA to target energy efficiency improvements to residents that need them most. We have already made improvements to six (6) households in the HUB electric service area. Now we are beginning three (3) more homes. Not only do these upgrades lower energy bills by reducing the recipients’ ongoing power usage, but the program also improves the air quality for many of its recipients.

We announced and advertised this opportunity to the general public through every local media outlet we could get in contact with in November 2022; however, we are confident that more households in our service area could use this help. If you would like to be on a mailing list to be notified when the applications become available for future funding, please call our office and ask to speak with Joshua Giles, project manager for the program.

Community Care Fund Donations

In 2022, HUB was able to connect several local non-profit organizations with TVA’s “Community Care Fund”. HUB was allocated \$15,000 by TVA to help support local non-profits that serve our customers. The catch was that we had to have matching funds as this is a 50/50 matching grant program. During the first two years of TVA’s program, HUB requested the funding to be contributed to Mideast Community Action Agency (MCAA) who administers our “Warming the Heart” program. But since a lot of nonprofits struggled due to cancelled fundraising events, HUB changed its strategy in 2022. By partnering with others to provide matching funds, HUB was able to help our community receive \$15,000 in funding!

Non-profit Organization	Matching Funds by...	TVA Grant
Family Promise of Roane County	Rotary Club of Harriman	\$4,500
Roane County Children’s Fund	Kingston United Methodist Church	\$4,000
Roane County United Way, Inc.	Harriman Utility Board	\$1,500
Disabled American Veterans Post #86	Harriman Utility Board/City of Harriman	\$3,000
Roane County Cooperative Ministries	Kingston First Baptist Church	\$2,000
TOTAL Grant Dollars:		\$15,000

HUB Partners with the City of Harriman to continue “Trunk or Treat” Traditions in 2022

What makes small town living special? One thing is that with fewer people often comes a closeness that simply isn't possible in the anonymity of a larger city. On a regular basis, we feel this closeness when partnering with other local agencies to support our community. We also feel it when some of our employees volunteer for events like Trunk or Treat while other employees are seen walking through the lines with their own children to collect treats. It's just a good reminder of how our employees live, work, and volunteer here in our community - they raise their families here and hope to improve the community one opportunity at a time. When the City of Harriman committed to hosting the largest trunk or treat event in the county (or perhaps the largest in the region), they really committed to it. With HUB's sponsorship, and that of many other local non-profits and businesses, the annual Harriman Trunk or Treat event has exceeded every expectation.

Each year, it is our hope that the Harriman Trunk or Treat event in historic downtown Harriman will be bigger and better than the year before. And 2022's event did not disappoint. Folks lined up for hours in some cases to attend the highly anticipated, free Halloween-themed festival where children from all walks of life are welcomed in for free food and candy. The costumes and decorations stretch on for several blocks, an image that is burned into the minds of those that attend becoming a cherished memory for years to come.



This year, HUB had a total of 30 employees volunteer for the event. HUB provided nachos, popcorn, cookies, and drinks free of charge to thousands of area residents in attendance, sponsored in part by our friends at TVA who provided a \$1,000 donation. We also handed out \$2,500 worth of candy paid for by HUB employees themselves.

This year, we had a visitor from an urban city in the Pacific Northwest stop by our hot dog booth. In awe of immense energy and excitement of the evening, they simply said, “when I thought of what small town living might be like, this is what I imagined”. Folks, we might not have all the glitz and glam of the urban elite, but what we do have is good people with good hearts that pour their time and energy into making events like these amazing for all of us. And that is pretty special in our book.

“HUB” for the Holidays



Realizing how blessed we are, HUB employees readily accept any opportunity to give back, especially during the Holidays. Each year, HUB participates in an “Angel Tree” program. Working in conjunction with the Harriman Housing Authority (HHA), we obtain the names of area children who may not receive many presents this Christmas... if any. HHA provides us a list of children, including their ages, sizes, and preferred toys. At our annual Thanksgiving Lunch, HUB employees select names and then, using their own money... purchase clothing, shoes, and toys for these children in our community.

On December 1st, HUB employees and their families participated in the annual Harriman Christmas Parade. HUB entered two “floats”, one by the Electric Department and one by the Gas, Water & Sewer Department.



HUB also hosts a “Santa Day” where area children can come and tell “Santa” their wishes for a Merry Christmas. Children in attendance get to enjoy milk and cookies, decorate an ornament, and take home a special gift along with a photo of themselves visiting Mr. and Mrs. Claus.



“Growth”; It’s About more than Expansion

For years, decades really, we’ve recognized the need to relocate our Warehouse and Operations Center. Two years ago, we began the process of evaluating possible locations. In 2022, we hired a firm to complete a feasibility study to determine what is needed and how much it might cost. CT Consultants, Inc. was hired to evaluate the possible purchase of a former industrial site here in Harriman.

Hiring CT Consultants was a necessary step. Building a new warehouse and operations center, even on a previously occupied site, will be expensive. From preparing the site to meet our needs, to compliance with a gauntlet of environmental regulations, it was critical to understand just what our options were, and what the associated costs would be. CT Consultants took the time to gather input from each department towards assembling a practical, economic, and efficient proposal for building at the former industrial site. Unfortunately, when all factors were considered, the estimated cost was approximately \$26M, well beyond the proposed budget!



That said, a new Warehouse and Operations Center isn’t a “want”, it’s a need. Our existing facility is nearly a century old, has been haphazardly expanded as needed (and a far stretch from meeting any modern building codes or standards), sits in a known flood plain, and even has a major water transmission line running right below its foundation. HUB’s team is hoping to find an alternative, more affordable option. This may include repurposing an existing, newer commercial facility in HUB’s service area. While it’s disappointing not to have a clear answer on this much needed project, we are hopeful that we have started along the path of reaching our goal of a newer, expanded and more modern facility that will help us to continue to grow over time.

The “HUB” of a Thriving Community



Anyone who has lived and/or worked around Harriman for the last several years will tell you... things are coming ALIVE downtown! As few as five or six years ago, multiple commercial properties were abandoned and moldering under disuse. Today, these buildings have been sold, renovated, and are now home to a variety of exciting new shops and businesses. At the center of it all, is HUB.

More than just a “Local Power Company”, HUB is the professional home of some of the community’s most active citizens. Our Board of Directors includes current and former members of the Harriman City Council, business leaders, and key municipal employees. Employees at HUB volunteer significant portions of their time to various community activities, including coaching local sports, leading religious organizations, participating in volunteer organizations, serve on local governing boards, and are alumni of “Leadership Roane County”. Politicians, engineers, small business owners, coaches, veterans, former first responders, entrepreneurs... can all be found wearing the HUB logo proudly.

The natural outgrowth of these relationships is commitment; a consistent and sincere desire to see what’s best for the community. This is fully encapsulated in our mission; to enhance our community through exceptional service. We don’t just have a “good job”; we have an opportunity to make direct, positive change that impacts our own families, churches, non-profits, and businesses.

In the past year, HUB staff have achieved two major successes in terms of economic development in pursuit of helping our community continue to thrive into the future. First, HUB successfully recruited its largest electric customer in history to occupy a small lot near the Roane County Industrial Park. Revenue from this single customer will bring in the equivalent revenue that a normal sized electric rate increase applied to all electric customers would bring. We sought this opportunity because it aligned with our more long-term goal of stabilizing rates. Second, HUB successfully recruited a buyer for about 38 acres of land we own on Hannah Hwy. The expectation is that this property will soon be home to 135 new single-family houses inside the City of Harriman. That’s more new services that we added in the entire year 2022 across our entire electric system! Plus, it will help meet a demand for new, affordable housing.



Harriman Utility Board partners with TVA to Award a \$100,000 Grant to Oakdale School through School Uplift

Tight budgets and aging buildings leave many schools facing a difficult decision between funding learning programs and making needed facility upgrades. TVA's \$7.3 million School Uplift program is helping 160 public schools in seven states solve that problem.

School Uplift is a 12-month behavior-based energy management training program developed with the State of Tennessee's Energy Efficient Schools Initiative that helps public school districts make smart energy choices that improve the classroom learning environment and save money through decreased energy use.

"School Uplift is another way we've partnered with TVA to invest in our community," said HUB's Project Manager & Grant Administrator, Joshua Gillespie. "We are so excited that Oakdale School earned this grant, which will enable administrators to make needed upgrades that will improve their facility and make the school more efficient, healthy and comfortable for teachers and students. The faculty, staff and students committed to making energy efficiency a priority over the last school year and earned this grant through their hard work."

Sixty schools have completed the School Uplift pilot over the past two years, competing to earn grants for building upgrades and other learning environment improvements. On average, participating schools have saved more than 10% on their annual energy bills from behavior changes alone.

"Every dollar invested in our schools helps districts allocate resources to where it matters most - educating our children - and we're excited to bring School Uplift to the communities we serve," said Cindy Herron, vice president of TVA EnergyRight. "Helping schools save money on their energy costs and improve learning environments is an important investment in the Valley's future. I look forward to seeing how this program makes an impact for years to come."

HUB and TVA partnered together to celebrate with the entire student body as well as the school's staff. HUB employees prepared and served popcorn, cookies, and drinks to the entire group. "What I was most impressed by was the enthusiasm of all the students and staff when we made the announcement to them. You could just feel the energy of excitement in the gymnasium," said HUB's General Manager Candace Vannasdale.



Harriman Utility Board's Water System Receives Distinguished Awards



Each year, the Kentucky/Tennessee Section of the American Water Works Association (KY/TN Section AWWA) and the Clean Water Professionals of Kentucky & Tennessee (CWP-KT) join forces to present the largest conference in Kentucky and Tennessee for water professionals, the KY/TN Water Professionals Conference (WPC). This year's event was held in Lexington, KY on July 17-20.

On Tuesday morning, Harriman Utility Board was honored with two awards. The first award was for Outstanding Water Treatment Plant Award for small systems (less than 5 million gallons per day treated). The second was for Outstanding Distribution System for small systems (less than 10,000 service connections).

HUB's General Manager maintains that despite our size and limited resources, HUB continues to hold itself to high standards comparable to or higher than systems in larger, more affluent communities. With a state-of-the-art GIS mapping system, continuous SCADA monitoring of system assets, implementation of zone metering to help identify water loss, and efforts toward digitization in dispatching our crews and recordkeeping; HUB has become more efficient than ever before. In the coming months, HUB will be one of the few small water systems to implement advanced metering infrastructure (AMI). This means, that HUB will be able to read the customer water meters remotely and identify problems such as water leaks before the customer knows about them. Customers will be able to use their SmartHub® app to monitor their water usage on as little as an hourly basis. The AMI system will help HUB cut down on its operating costs and reinvest those savings into replacing aging infrastructure.



"Our biggest problem is aging infrastructure, which is costly to replace and leads to high water loss. HUB is fully aware of its challenges and is continually either working on improvements or planning for future improvements. In the next 2-3 years, we will be spending over \$3 Million of mostly grant funding on the drinking water system alone. Our customers in Morgan County particularly will see better reliability," says HUB's General Manager Candace Vannasdale.

HUB currently has five (5) full-time employees who hold a Water Treatment Certification and eleven (11) employees who hold a Distribution Certification through the State of Tennessee. These hard-working employees qualified HUB for the distinguished awards by demonstrating a noticeable commitment to water quality, recordkeeping, maintenance programs, professionalism, safety, emergency preparedness, use of innovative technology, and plant and/or system security.

"Sometimes people only focus on our utility rates. What they don't necessarily see is that our operators are continually having to do more with less. We have less customers today that we did 10 years ago. Our customers are using less water than 10 years ago. This has forced us to modernize and work smarter than ever before. I'm proud of the team of employees who earned these awards. It's nice to have them be recognized on such a big stage," Vannasdale said.



Tree Line Helicopter



With spring, comes warmer weather and relief from months of dreary, wet days... but also the onset of what our team calls “growing season”. HUB’s Right of Way department works tirelessly to try and tame the nearly 600 miles of powerline that spans our service area, but sometimes we encounter trees that are so far off the beaten path that our trucks can’t reach them. And sometimes the only option has been to spend many months climbing with chainsaws to get proper clearance around the

powerlines. Faced with such a challenge, in March 2022, HUB utilized the services of Treeline Helicopters of Bristol, TN to tackle a job that may have cost us over \$200,000 in house.

For about 10% of the cost of doing it ourselves, Treeline Helicopters was able to clear the right of way along the 69kv transmission line from Harriman Primary in Emory Heights down through West Hills to Cardiff Substation near Roane State. The work completed in only two days saved HUB many weeks of climbing and trimming. In total, the helicopter was able to trim about 6 miles.



Safety Summary for 2022

2022 was another great year for HUB in terms of Safety.... While we did have a few OSHA recordable injuries, we completed our second consecutive year with Zero Lost Time!! HUB employees worked over 155,000 hours in all types of inclement weather and all hours of the day facing many different challenges and hazards with each job.

Defensive Driving continues to be one of the many safety topics that get a lot of discussion during safety meetings and rightfully so. HUB employees drive countless hours putting over 380,000 miles on everything from backhoes to bucket trucks. We definitely have some highly skilled operators!!

Moving into another year, we hope to remain accident free so that our employees can always return home at the end of their workday to those they love.



Calendar of Events



Monday, January 2, 2023	HUB Office Closed to observe New Year's Day
Monday, January 16, 2023	HUB Office Closed to observe Martin Luther King, Jr. Day
Monday, January 30, 2023	HUB Board Meeting beginning at 5:30 p.m.
Monday, February 27, 2023	HUB Board Meeting beginning at 5:30 p.m.
Monday, March 27, 2023	HUB Board Meeting beginning at 5:30 p.m.
Friday, April 7, 2023	HUB Office Closed to observe Good Friday
Monday, April 24, 2023	HUB Board Meeting beginning at 5:30 p.m.
Monday, May 29, 2023	HUB Office Closed to observe Memorial Day
Tuesday, May 30, 2023 (tentative)	HUB Board Meeting beginning at 5:30 p.m.
Monday, June 26, 2023	HUB Board Meeting beginning at 5:30 p.m.
Tuesday, July 4, 2023	HUB Office Closed to observe Independence Day
Monday, July 31, 2023	HUB Board Meeting beginning at 5:30 p.m.
Monday, August 28, 2023	HUB Board Meeting beginning at 5:30 p.m.
Monday, September 4, 2023	HUB Office Closed to observe Labor Day
Monday, September 4, 2023	"Hooray for Harriman" in Downtown Harriman
Monday, September 25, 2023	HUB Board Meeting beginning at 5:30 p.m.
Thursday, October 26, 2023	"Trunk or Treat" in Downtown Harriman (5-8 p.m.)
Monday, October 30, 2023	HUB Board Meeting beginning at 5:30 p.m.
Thursday, November 23, 2023	HUB Office Closed to observe Thanksgiving
Friday, November 24, 2023	HUB Office Closed to observe Thanksgiving
Monday, November 27, 2023	HUB Board Meeting beginning at 5:30 p.m.
Monday, December 25, 2023	HUB Office Closed to observe Christmas
Tuesday, December 26, 2023	HUB Office Closed to observe Christmas

How can HUB Serve You Better?

HUB's management team is always interested in ways we can serve our community better. Do you have suggestions or ideas for how we can improve our service? You can stay on top of recent developments, current projects, and other HUB activities on Facebook™, or contact us through our website, www.hub-tn.com. You can also visit our primary location at 200 N. Roane Street during regular business hours, 8:00 a.m. to 4:30 p.m., Monday through Friday.

Thank you for being our partners in Enhancing our Community through Exceptional Service!





Connect with us!

@harrimanutility



www.hub-tn.com



**Call, Click, or Stop by
(865) 882-3242**