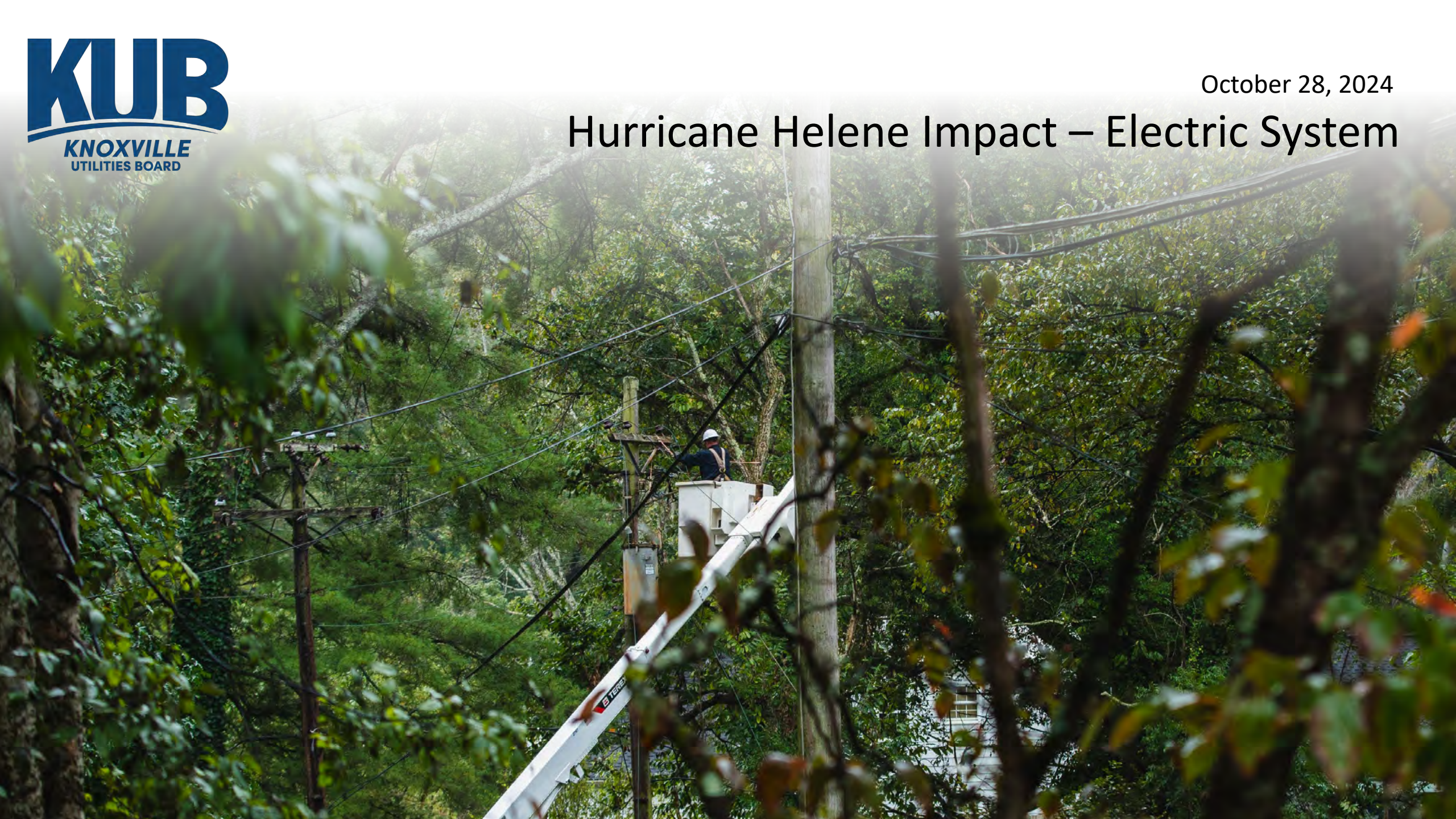




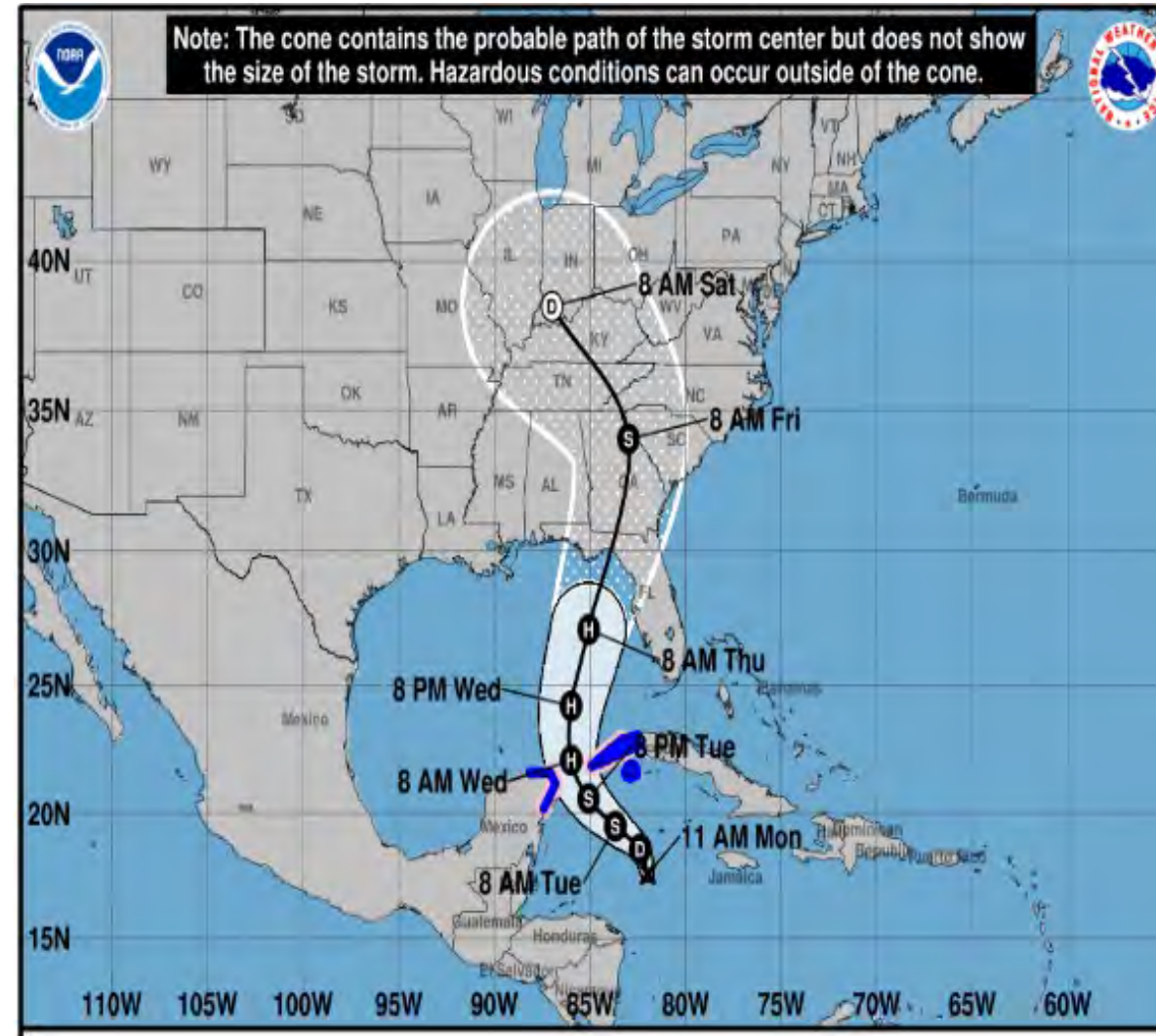
October 28, 2024

Hurricane Helene Impact – Electric System



Helene Storm Preparation

- Predicted near KUB service area
- NWS compared to 2005 Katrina
- Wind field grew to 350 miles
- Fourth deadliest hurricane since 1950
- Death toll surpasses 230
- Impacting five states



Helene Storm Preparation

- Limited weekend leave requests
- Incident Command Structure (ICS) initiated
- Held all weekly contract crews
- Requested additional contract crews
- KUB crews and assessment teams staged early morning hours on September 27
- Leveraged storm lead-time to train additional employees

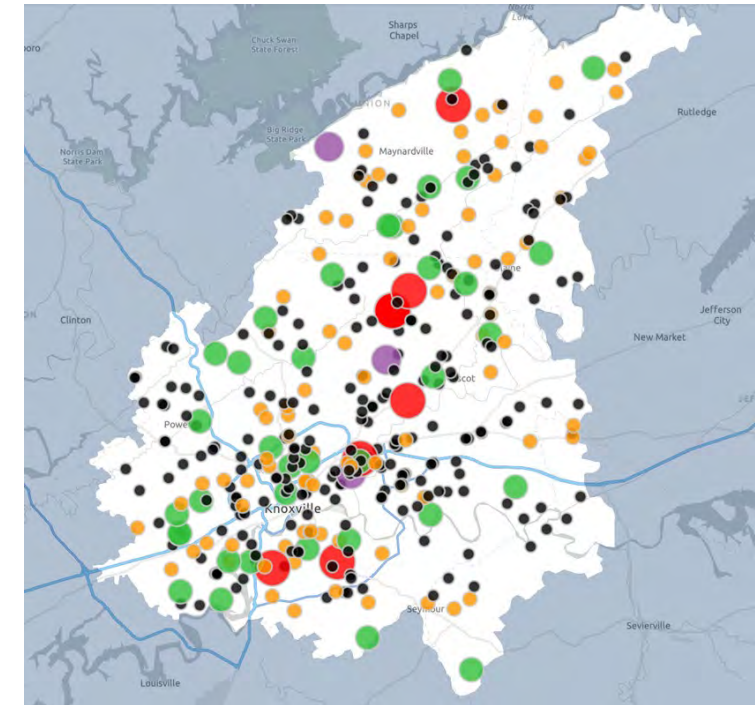


Tree-Related Outages Began September 27, Continued for Three Days

System Outage Events By Hour
September 27-September 30



- New Events
- Closed Events
- Open Events



Helene Storm Restoration

- 38,215 customer outages restored
- 1,108 jobs completed
- 45 broken poles
- 26 transformers damaged
- 10 assessment teams deployed
- 250+ KUB and contract resources



Helene Storm Restoration First 12 Hours

- By 6 p.m. on September 27
 - 20,550 customers restored
 - All breakers partially restored
 - Over 100 held line jobs
 - ICS transitions to 2nd operational period
 - Crews work throughout the night

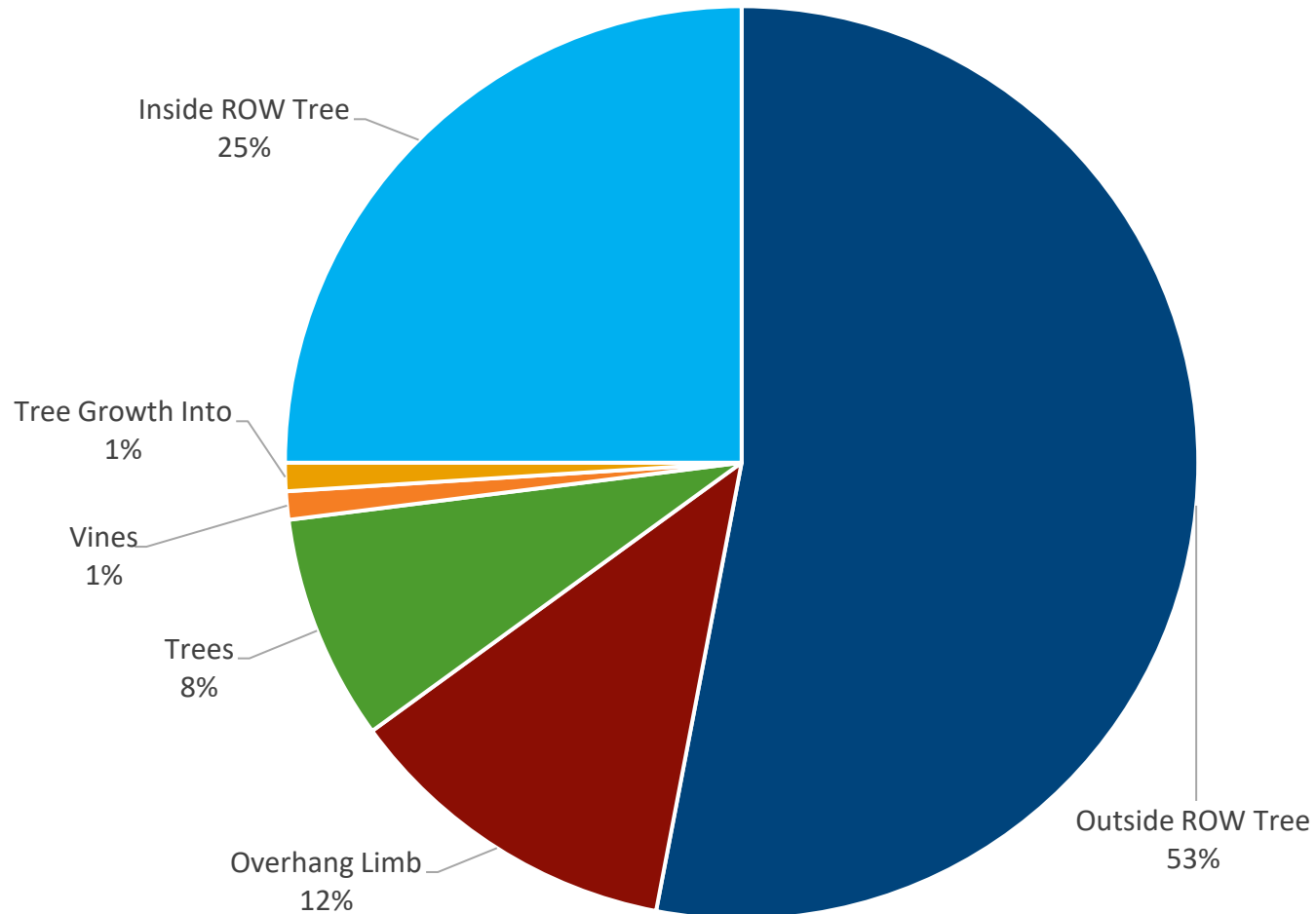


Helene Storm Restoration Next 24 to 48 Hours

- By 6 p.m. on September 28
 - ~1,000 customers remain out
 - All remaining events assigned
 - Assessment crews released
 - Crews continue working 200 line jobs
- By 6 a.m. on September 29
 - Move to Emergency Level 4
 - Transition to partial ICS
 - Crews work remaining 75 line jobs
 - Less than 500 customers out
- Work continued with isolated outages through September 30



83 Percent of Outages from Trees



Over 50 Crews Worked Continuously to Restore Service



**ABC Professional Tree Service
Asplundh Tree Expert
David H. Elliott
Service Electric
Pike Electric
Roadsafe
Global
Trees LLC/First Choice Tree Service
Xylem Tree Service**



Historical Comparison

	March 1993 Blizzard of '93	April 2011 <u>Hail Storm</u>	June 2011 Storms*	July 2015 Storm	May 2017 Storm	August 2023 Storm	September 2024 Storm
Customers out	40,000+	75,000+	127,000+	56,000+	54,000+	74,000+	38,000+
Poles replaced	100	142	151	81	40	81+	45
Transformers replaced	45	91	132	40	19	66+	26
Customer Events	N/A	7,800	23,000	2,700	3,400	1,905	1100+
Customer calls	50,000+	45,000+	220,000+	71,000+	28,000+	49,316	20,417
Restoration length	8 days	7 days	7 days	3 days	2.5 days	3.25 days	2.5 days
Estimated cost	\$2 million	\$2 million	\$4 million	\$2.5 million	\$1.2 million	\$3.7 million+	

* June 2011 event includes two separate storms on June 21 and June 23

Helene Mutual Aid Request

- Two PIKE Electric crews sent to BrightRidge Electric – 7 days
- Three Service Electric Crews sent to Mountain City – 28 days
- Two PIKE Electric Crews sent to Florida – 8 days

"I just wanted to say thank you on behalf of SEC and Mountain City for letting the crews stay as long as you have. This place is a wreck and will still be a wreck when we leave next week. I've been in line work 25 years and been a lot of places, but this tops it all. Again, thank you KUB".

Scotty Helton Region Supervisor for Service Electric Company

Mountain City is a small town in Northeastern Tennessee, very close to the Western North Carolina border

Customers Recognized our Employees' Hard Work

"We just want to say thank you to all the linemen and others working around the clock to bring power back to Knoxville communities. God bless you and keep you safe." -Mia R.

"Thank you for all of the countless hours worked being away from your families to make sure our family had power. May the Lord continue to watch over you, keep you safe and bless you." -Terry and Tammy on Marilyn Drive

*"Thank you. I know how hard your people are working."
-Charlene R.*

"Thank you...Thank you... Thank you to all the line personnel who worked to restore the power in Holston Hills and the surrounding area. Our neighborhood truly appreciates you." -MJ C.

"Thanks for all the hard work the man and women behind the scenes. Y'all do an awesome job to keep the power on." -David K.



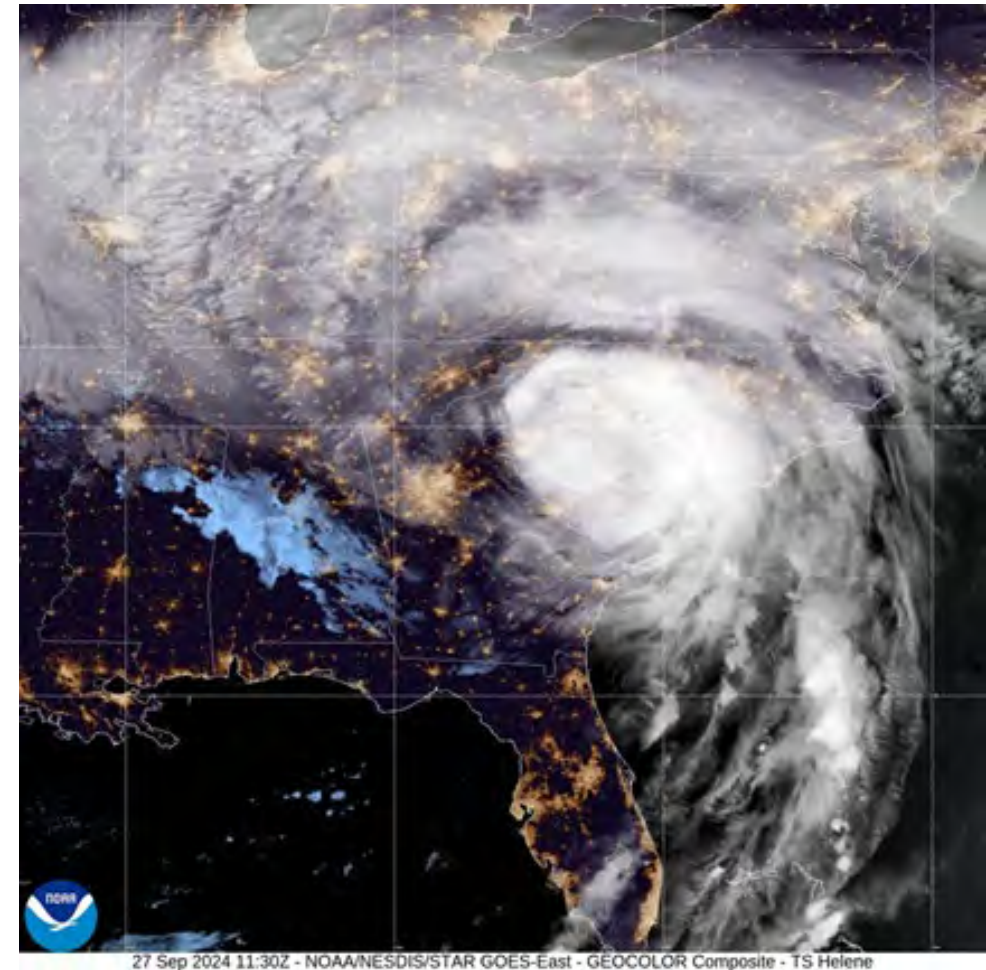
October 28, 2024

Hurricane Helene Impact – Treatment Plant Operations



Hurricane Helene Weather

- Helene shifted east a few miles
 - Rain preceded hurricane impact
 - Total rain 5.4 inches
 - 2.3 inches on September 25
- Extreme flooding to our east
 - Asheville, NC – 15” rain
 - Busick, NC – 30.78” rain



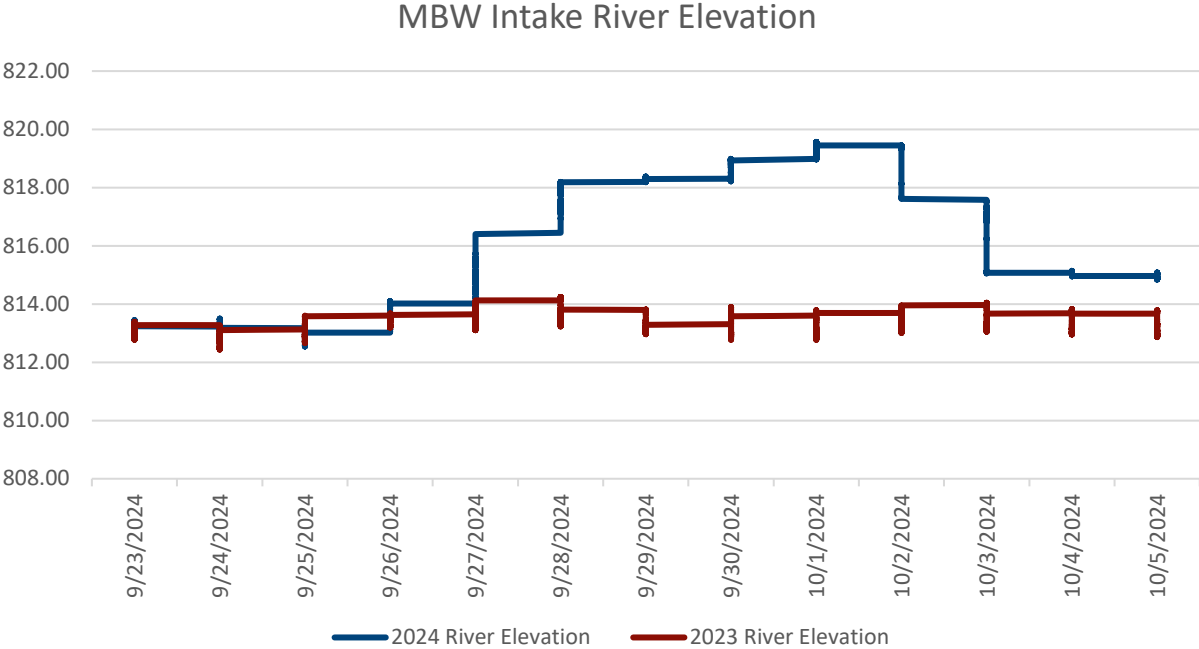
River Watershed

- Tennessee River fed by French Broad and Holston Rivers
 - TVA manages via Cherokee Dam and Douglas Dam
- Typical seasonal flows
 - Cherokee – 2,000 CFS
 - Douglas – 2,500 CFS
- Peak flows during Helene
 - Cherokee – 18,000 CFS
 - Douglas – 62,000 CFS



Flood Risk

- River elevation typically 812-814 feet
- River elevation increased rapidly
 - Remained elevated for 11 days
- MBW intake elevation peaked at 819.7 feet
 - MBW flooding risk at approximately 825 feet
 - MBW prepared flood prevention measures



Source: MBW Intake river elevation meter

TVA River Forecast Center

- KUB coordinated with TVA's RFC
- Daily communication with RFC
 - Current conditions and river elevations
 - Douglas Dam status
 - TVA released 323 billion gallons of water
 - French Broad / Holston River forecasts
- Max flow rate at Douglas Dam – 62,000 CFS
 - At this river velocity, particles cannot settle
 - Fill Neyland Stadium in 10 minutes
 - Douglas Lake's level rose 22 feet

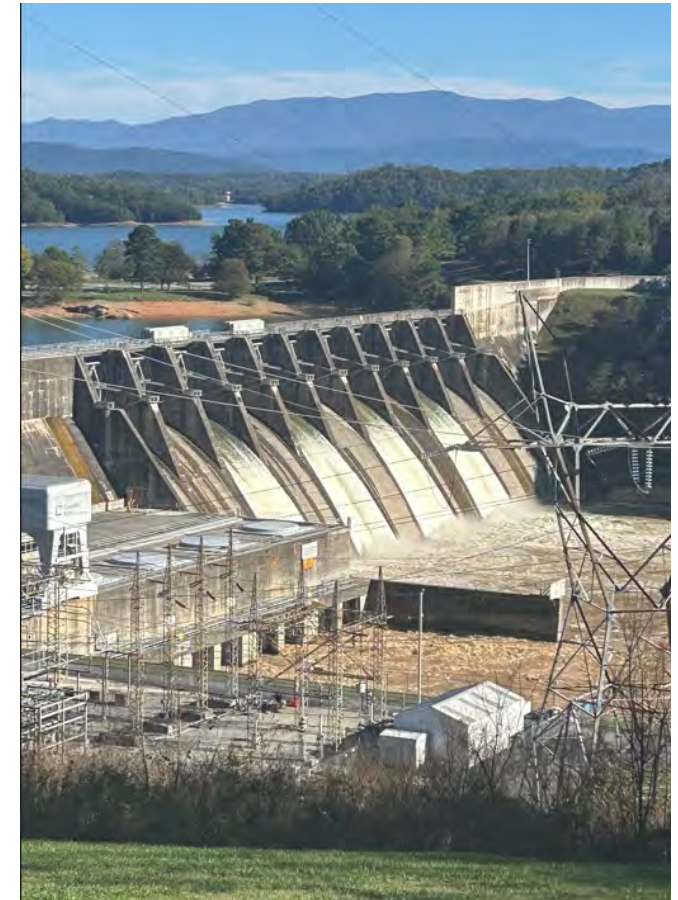


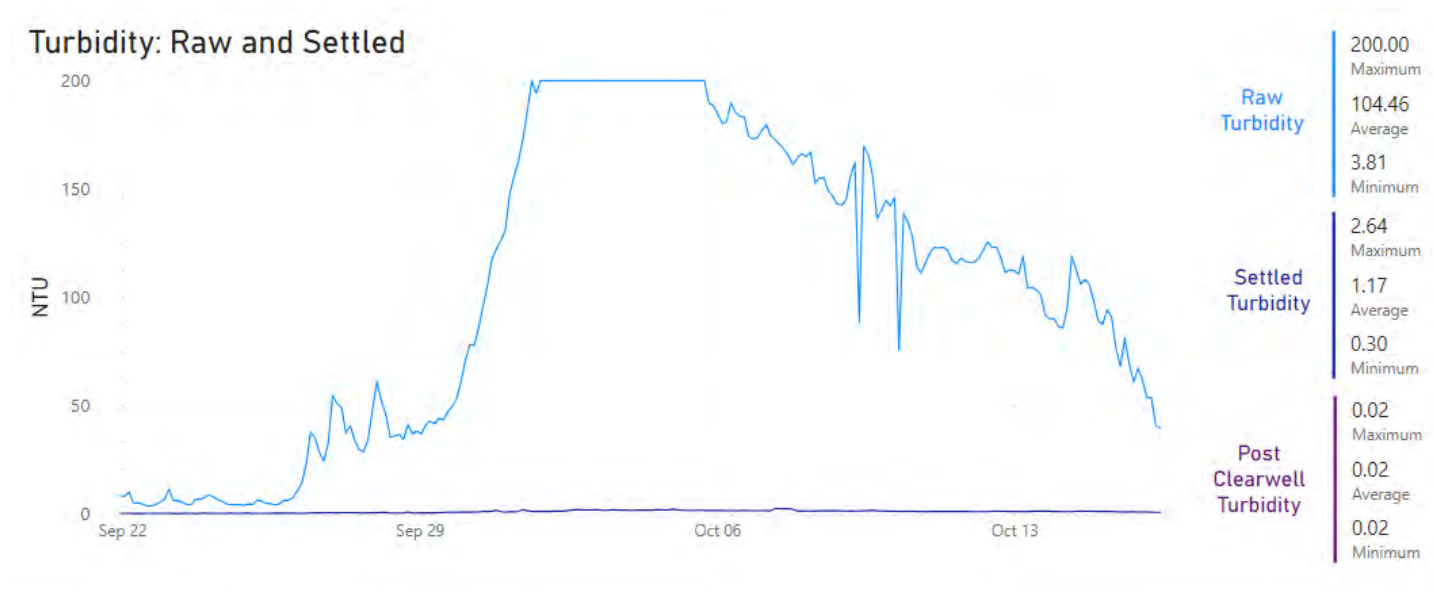
Photo – River flows at Douglas Dam on October 9, 2024. Combined flows at the time of this photo are estimated as 24,000 CFS

River Turbidity



Source Water Turbidity

- Turbidity measures sediment in the water
- Normal levels for the Tennessee River are 4-15 NTU
 - Can elevate to 25-80 NTU after rain events
- Maximum event turbidity – 276 NTU
- Sustained turbidity above 100 NTU for 14 days



Debris in Douglas Lake



Boom at MBW's Intake



As flood waters reached Knoxville, large amounts of debris accumulated at the MBW intake building

Water Treatment

- Source water concerns
 - Debris – Trees, trash, etc.
 - Turbidity – Silt, mud, sediment suspended in water
 - Flood potential – Rise in Tennessee River level
- Operators responded quickly to changing source water conditions
 - Adjusted treatment processes
 - Increased process monitoring
- Communicated with TVA River Forecast Center
 - Prepared flood protection devices
 - Monitored the protective boom
- Coordinated adequate chemical supplies
 - Turbid water requires increased chemical use
 - Chemical usage increased 4x to 5x
- Successful treatment during entire event



A photo taken of the confluence of the Holston and French Broad rivers shows the difference in water quality. The French Broad carries muddy floodwater from as far as North Carolina into the Tennessee River.

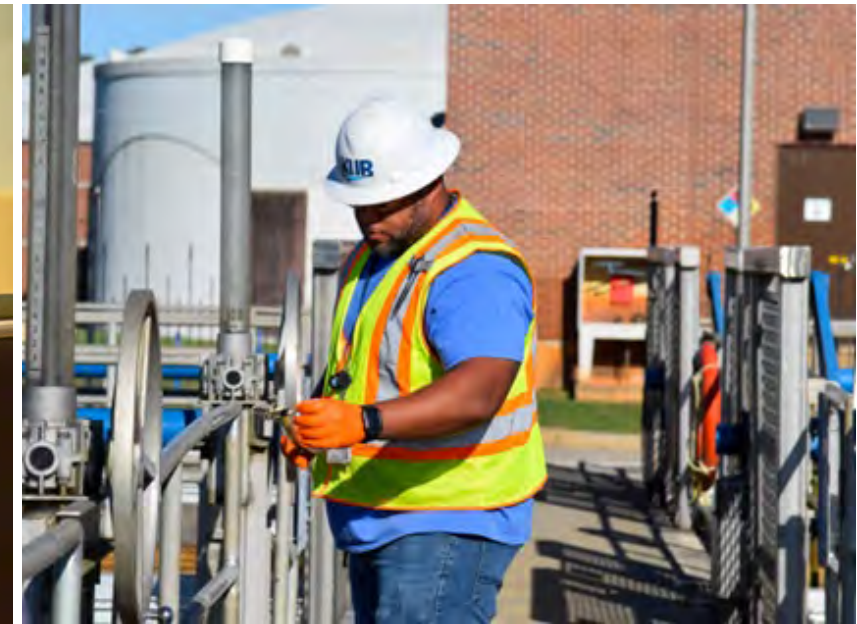
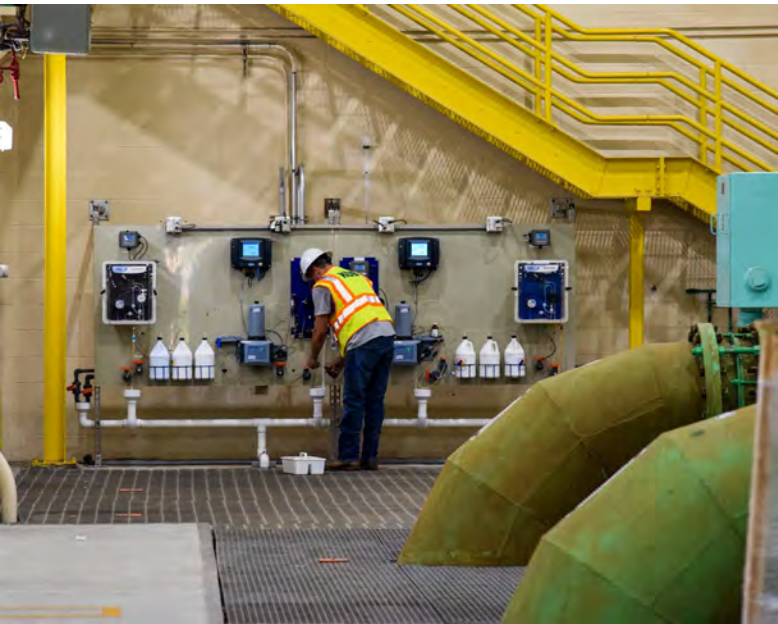
Wastewater Treatment

- No significant impact
 - Area received 5.4" of rain over six days
- WW plants operated in typical high-flow conditions September 26-28
- On September 30, muddy river water began entering Kuwahee
 - Elevated river level and debris allowed river water to enter the plant
 - Minor treatment impact to multiple plant processes such as anaerobic digestion and secondary treatment
 - Operators were able to manage with no issues



Continuous Quality Water

- Due to the readiness and dedication of KUB employees, drinking water quality and wastewater treatment was maintained allowing KUB to continue to serve our customers and community throughout this entire event





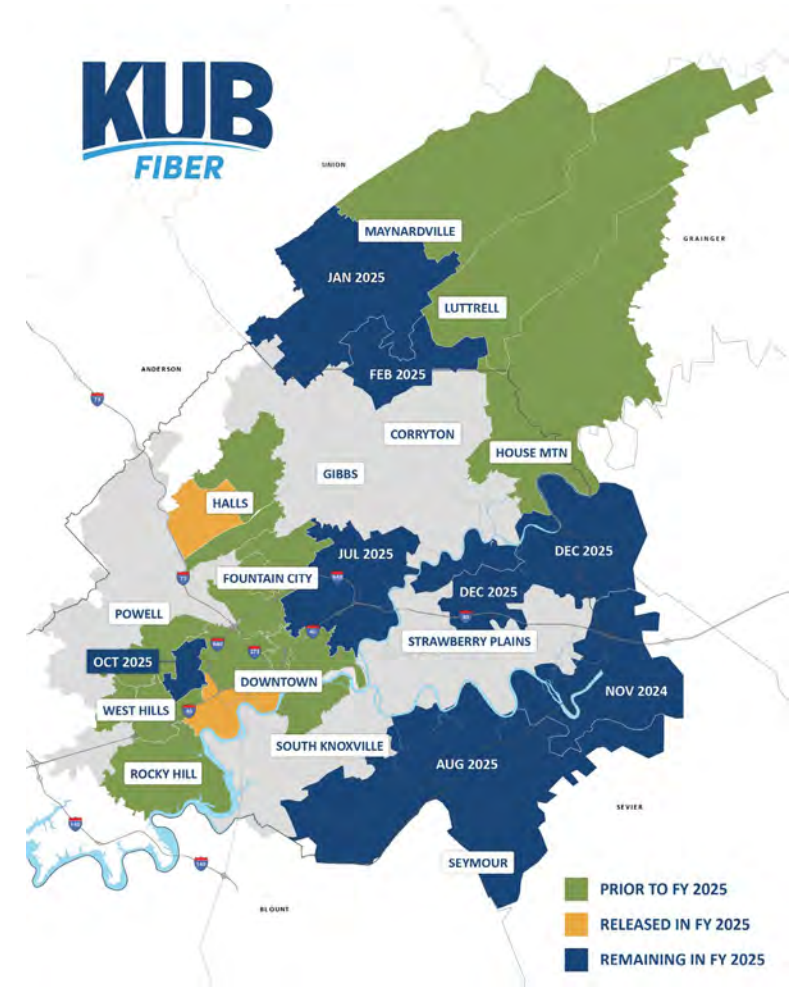
October 28, 2024

FY25 First Quarter Fiber Update



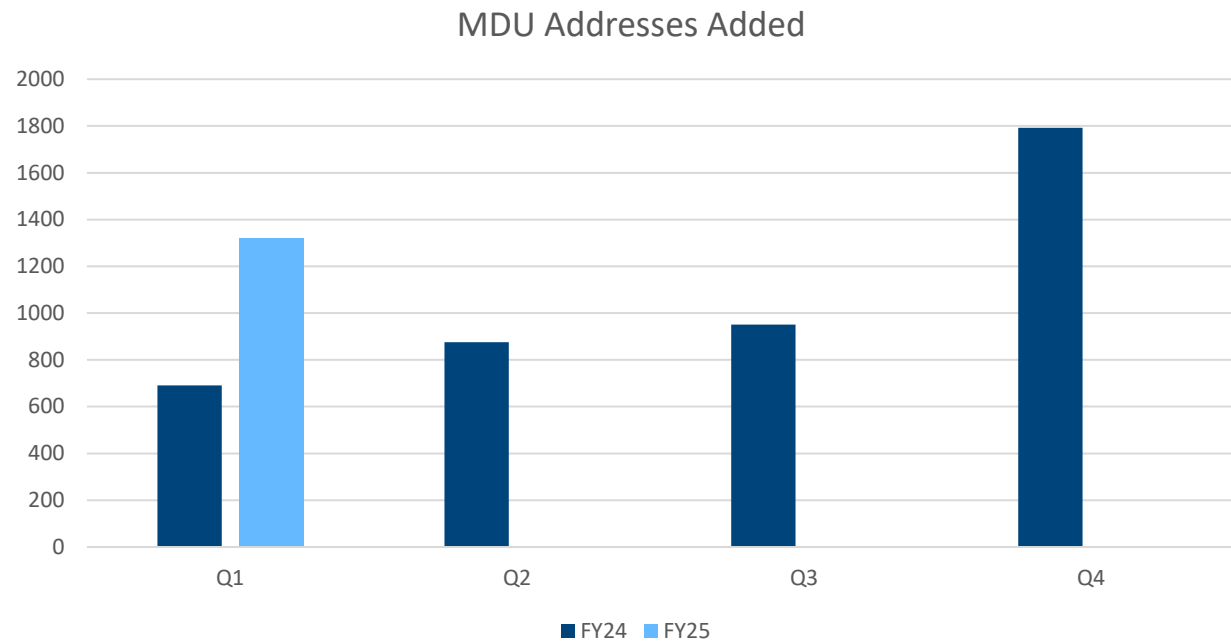
FY25 Construction on Target

- Installed 342 miles of fiber in first quarter of FY25
 - FY25 Goal: 1,400 miles
- Service available to an additional 6,021 customers
 - FY25 Goal: 65,000 additional
 - Currently available to 72,935 customers
- Construction on target and on budget



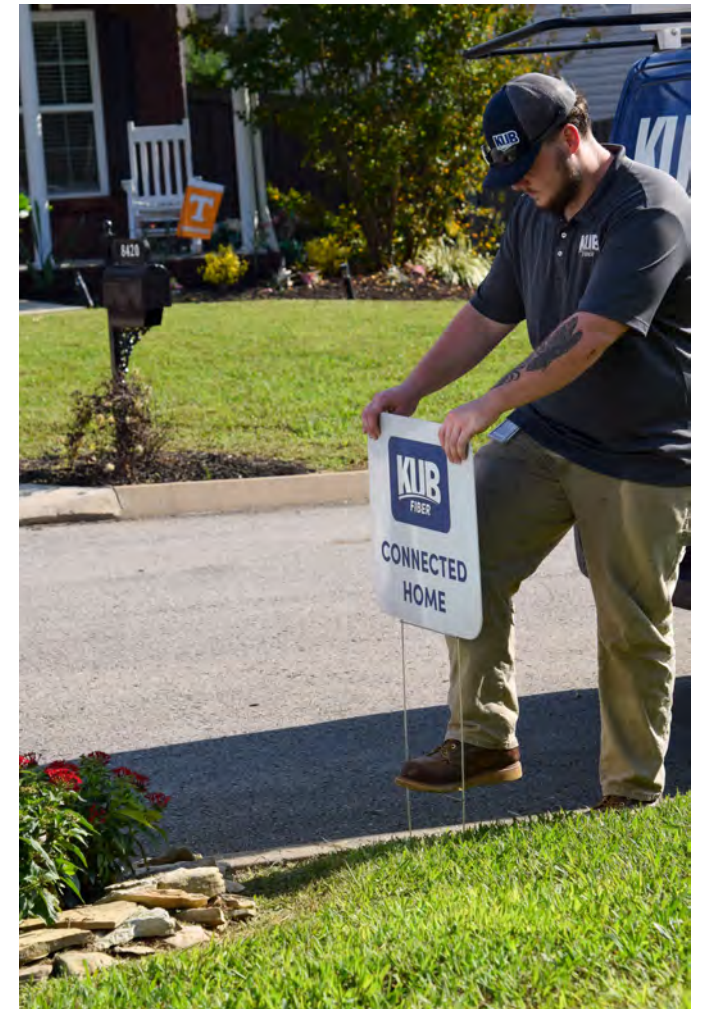
MDU Construction Progress Improves

- Making progress in the multi-dwelling construction
- Added resources in sales, design, and construction
- MDU construction will trail main construction efforts
- Evaluating appropriate timing of making a larger push in this area



First Quarter Growth Exceeds Projections

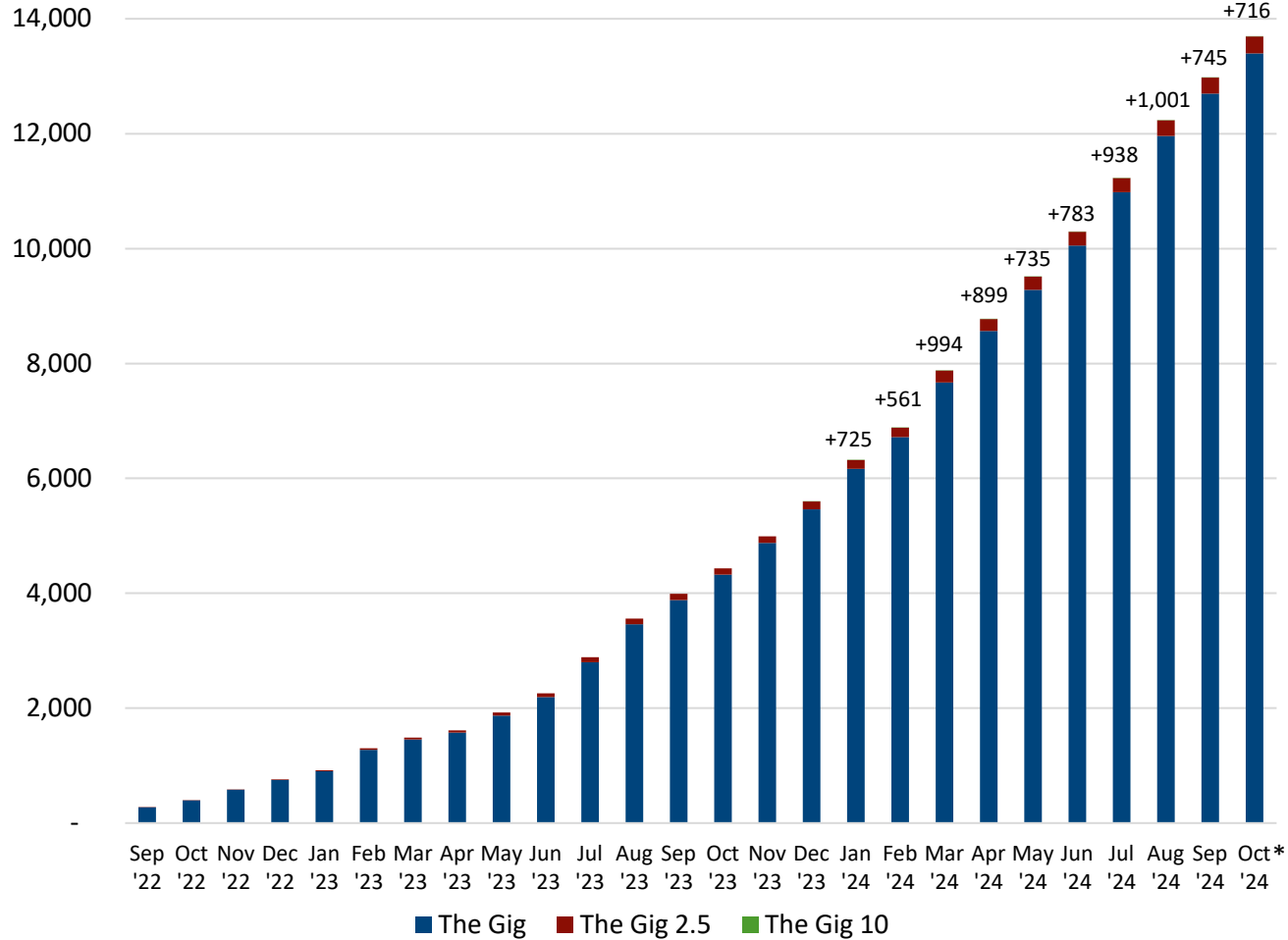
- Exceeded sales goals for first quarter
 - Goal: 2,291 new residential customers
 - 2,762 new residential customers
- 13,584 internet customers total
 - 12,978 residential, 606 business
- Customer retention at 99%



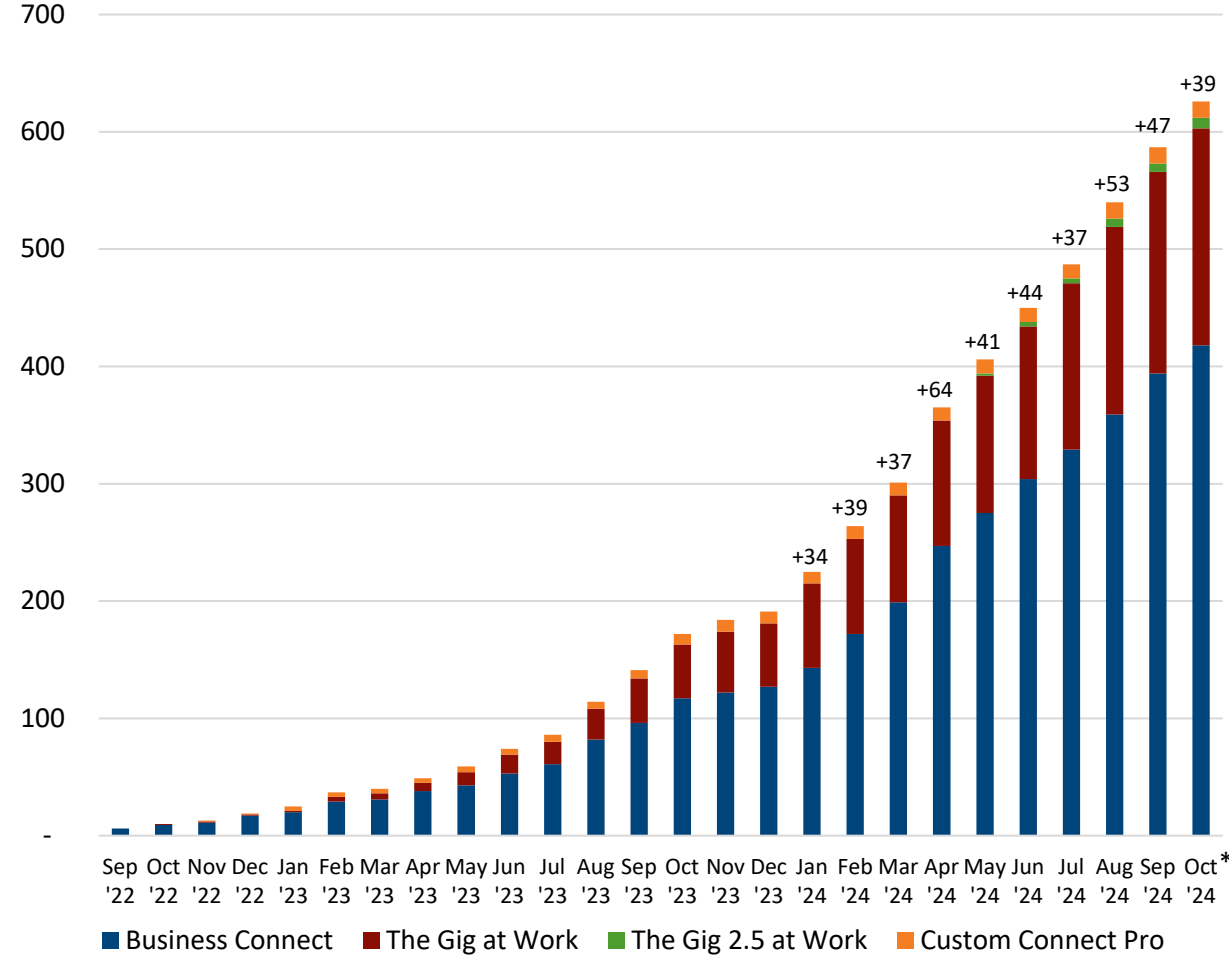
Fiber Customer Count

Residential & Business Internet

Residential Customers



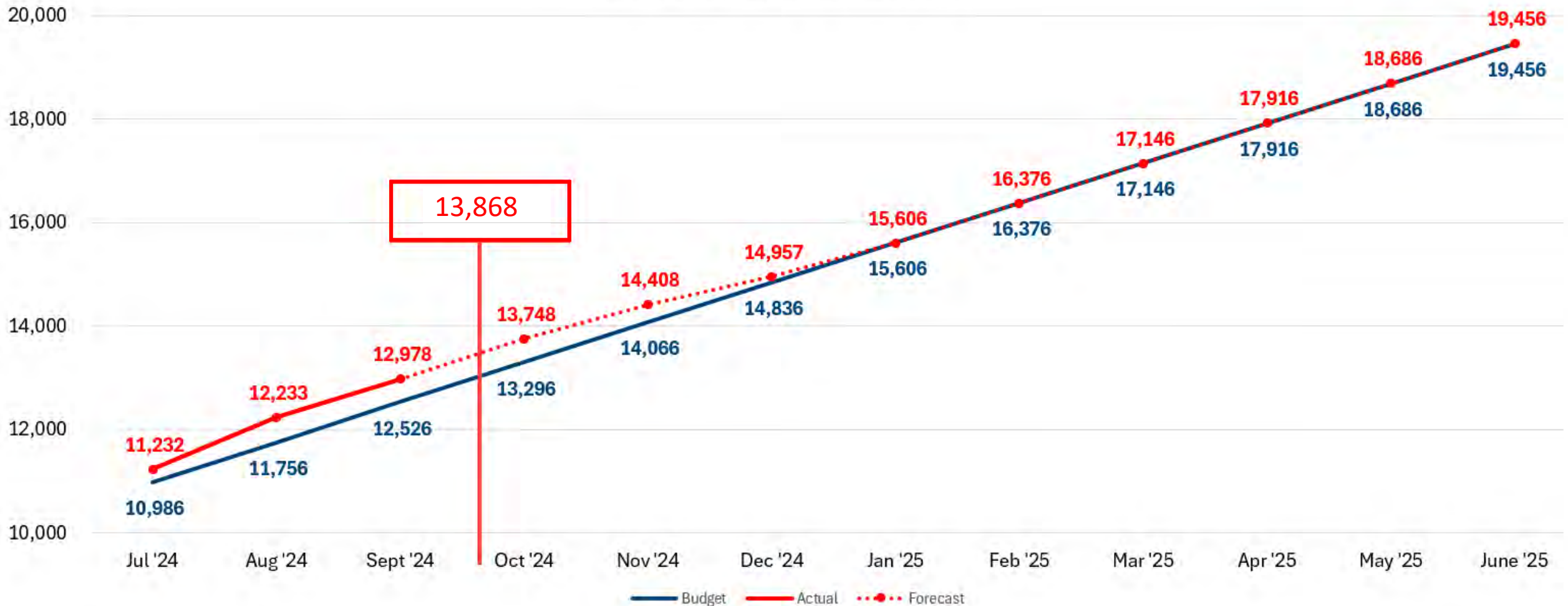
Business Customers



*As of October 21, 2024

Fiber Residential Internet Customer Count

Residential Internet Services Gained



Marketing Efforts Support Growth

- Awareness remains very high, focus is on conversion
- Key messages around “fast, friendly, and local”
 - Featuring real customers in testimonials
 - Highlighting KUB not dealing with challenges other providers are facing
- Local outreach expanding this quarter
 - 28 onsite events at MDUs and neighborhoods
 - 34 popcorn delivery days visiting 52 neighborhoods
- Targeted efforts to grow ConnectED customer base
 - Over 100 ConnectED families



Hurricane Helene Storm Response

- Helene wasn't just for the electric, water, and wastewater systems
- At peak, 66 fiber customers out of service
 - Average outage 17 hours
- Seven line crews and six splicers in the field worked through two days restoring customers
- Regional impacts felt during this storm as well



Hurricane Helene Storm Response

- Two internet feeds to KUB impacted
- Image on slide is from Hartford, Tenn.
 - “Missing” 15,000 feet of cable
 - KUB aided in response
 - Restoration took 24 hours
- KUB customers felt no impact





October 28, 2024

Governor's Environmental Stewardship Award



KUB Community Solar Receives Governor's Environmental Stewardship Award

- Honors significant contributions to the protection and improvement of natural resources and wildlife
- Awarded for excellence in the Energy and Renewable Resources category
- Recognized for launching Knoxville's first community solar project and setting a precedent for future clean energy projects
- KUB is only utility to receive three Governor's awards!





October 17, 2024

Employee Recognition: 50+ Years of Dedicated Service



Brenda Wright

Corporate Network & Cybersecurity

- Hired in 1973 as Key Punch Operator in Customer Accounting
- Transitioned to Data Processing in 1982
- Served in various roles with Information Services for over 35 years
- Now serving in Network Operations and Cybersecurity as an IT Technician
- Celebrating 51 years of service!



Ray Cochran

Electric Systems Engineering

- Hired in 1974 as Draftsman Student
- Has dedicated his career to electric engineering
- Supports storm restoration work by serving as a lead damage assessor
- Long-term member of KUB Cares
- Celebrated 50 years of service in September!



KUUB

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