

Sale of Surplus Real Property

October 17, 2019



Resolution 1402

Description of Property

- Approximately 933 square feet of a two-acre tract with frontage along Fairmont Boulevard
- Transferred to KUB in 1951
- Adjacent to 3308 Barton Street
- Property not needed for KUB's electric system or any other utility system



Surplus KUB 50' wide Easement KUB Existing Property 69 KV Transmission

Resolution 1402

- Declares 933 square feet surplus real property
- Authorizes President and CEO to sell the property
 - Best interest of KUB and Electric Division
 - Consistent with Procurement Procedures and state law

KUB

Natural Gas Supply Update

October 17, 2019



Outline

- Industry trends
- Compliance update
- Winter bill projections, assistance

Natural Gas Industry News

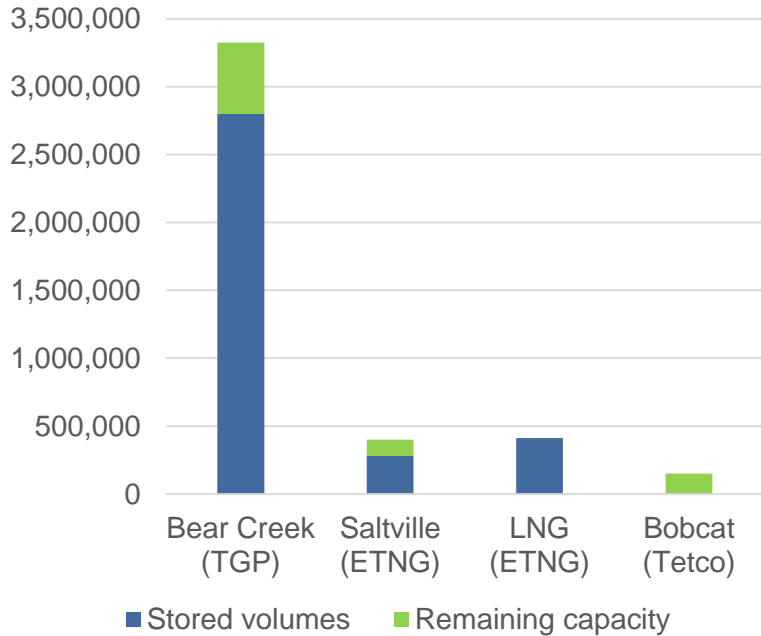
- Record setting US production, consumption, exports
- Pipeline maintenance
- Pipeline rate cases at FERC
- Regional supply pricing

KUB In Compliance With Resolution 1387

- Board authority required for
 - Contracts in excess of six years
 - Contracts in excess of volume limits
 - Purchase and transportation: 160,000 dth/day
 - Storage: 5 million dth maximum inventory
- Purchasing authority delegated to CEO/CFO for contracts
 - Two years or less
 - Two to six years for purchase and transport up to 15,000 dth/d
 - Six years [max] storage for firm withdrawal rights up to 10,000 dth/d
- Authorizes sale of excess capacity

Gas Supply Portfolio

Storage



Suppliers	Supply Region	Volume	Expiration
ConocoPhillips	Gulf of Mexico	0 - 23,000	10/31/2020
Shell Energy	Gulf of Mexico	0 - 9,000	10/31/2020
BP Energy	Gulf of Mexico	0 - 2,000	10/31/2020
BP Energy	Texas Eastern (Del)	5,000 / 7,000*	10/31/2019
CNX Energy	Appalachia	2,000	3/31/2020
Centerpoint (AMA)	TGP, Tetco	0 - 4,567*	3/31/2020
Others as needed			

Pipeline	Volume	Expiration
ETNG	157,381	10/31/2025
TGP	68,289	10/31/2025
TETCO	7,500	10/31/2025

Volumes estimated for November 1, 2019

Supply Contracts Signed This Year

- Renewed supply contract with CNX
 - 2,000 dth/day year round expiring this month
 - 2,000 dth/day winter only expiring March 2020
- Five new base agreements signed
 - Infinite Energy, Jefferson Cocke, Powell Clinch, Twin Eagle, TVA
- Two asset management agreements (AMA's)
 - Conoco Phillips on TGP for \$118,000 savings
 - Centerpoint on ETNG for \$270,000 savings

Pipeline and Storage Contract Activity

■ Pipelines

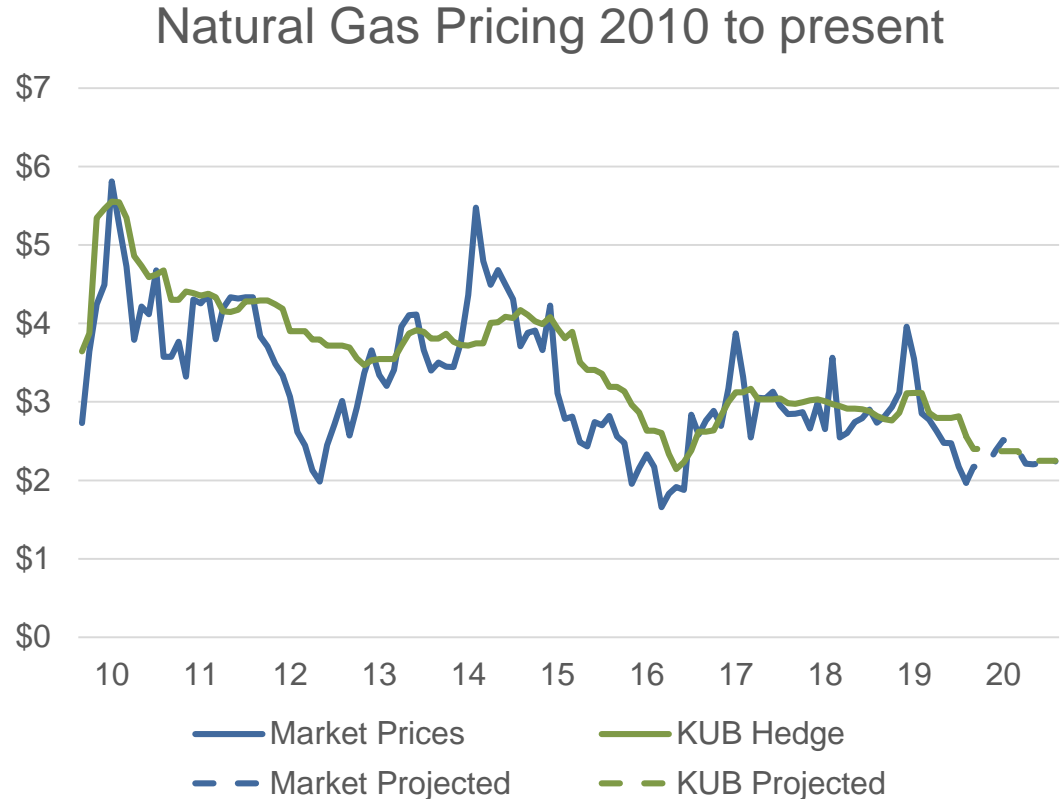
- Allowed ETNG contract to roll at existing rates
- Renewed TGP contract at discounted rates
- Entered into new contract with TETCO at discounted rates

■ Storage

- Allowed Bear Creek (on TGP) contract to roll at existing rates
- Allowed one Saltville (on ETNG) contract to roll at existing rates
- Entered into new contract with Bobcat (on TETCO)

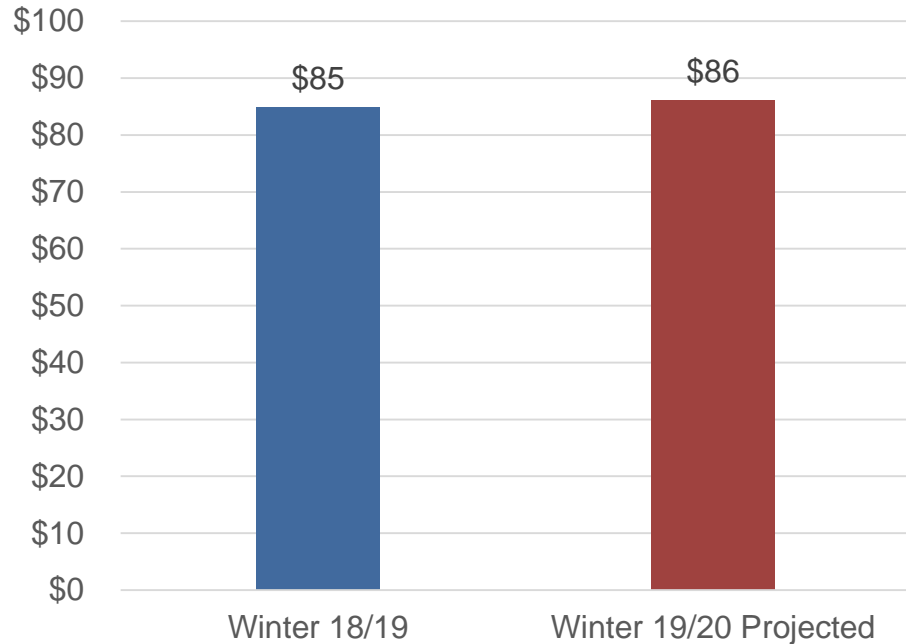
Price Risk Management

- Prices stable in recent years
- More daily purchasing
- Committee amended hedge goal

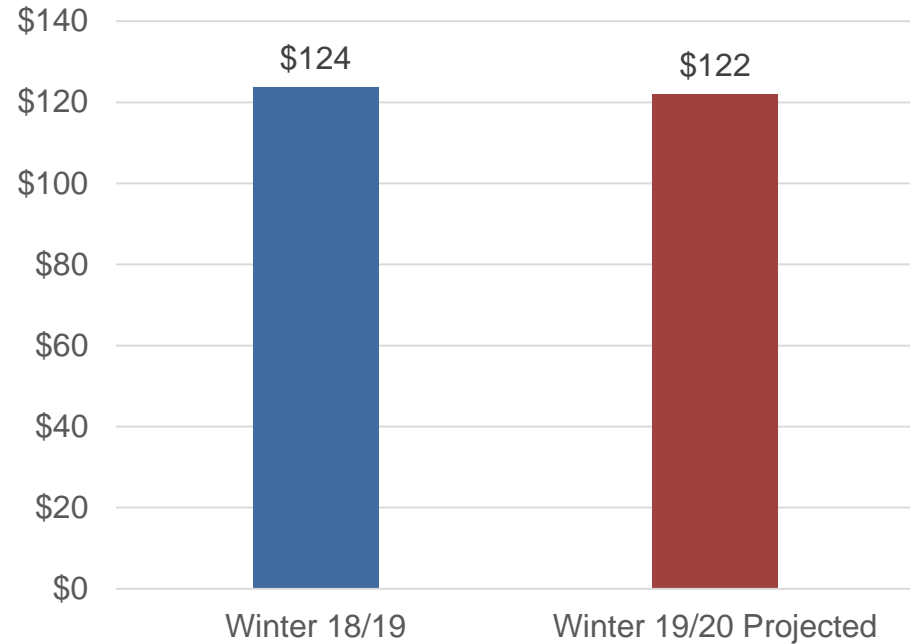


Projected Average Winter Bills Consistent with Previous Year

Residential Natural Gas



Residential Electric



Assistance Available for Customers in Managing and Paying Bills

- Energy savings information
- Levelized Billing Plan
- Customer counselors
- Project Help
- KUB gift card
- Home weatherization
 - Round It Up
 - Home Uplift



Tuesday, October 29th at 5:45 pm
City of Knoxville Public Works Service Center

KUB

Century II Update

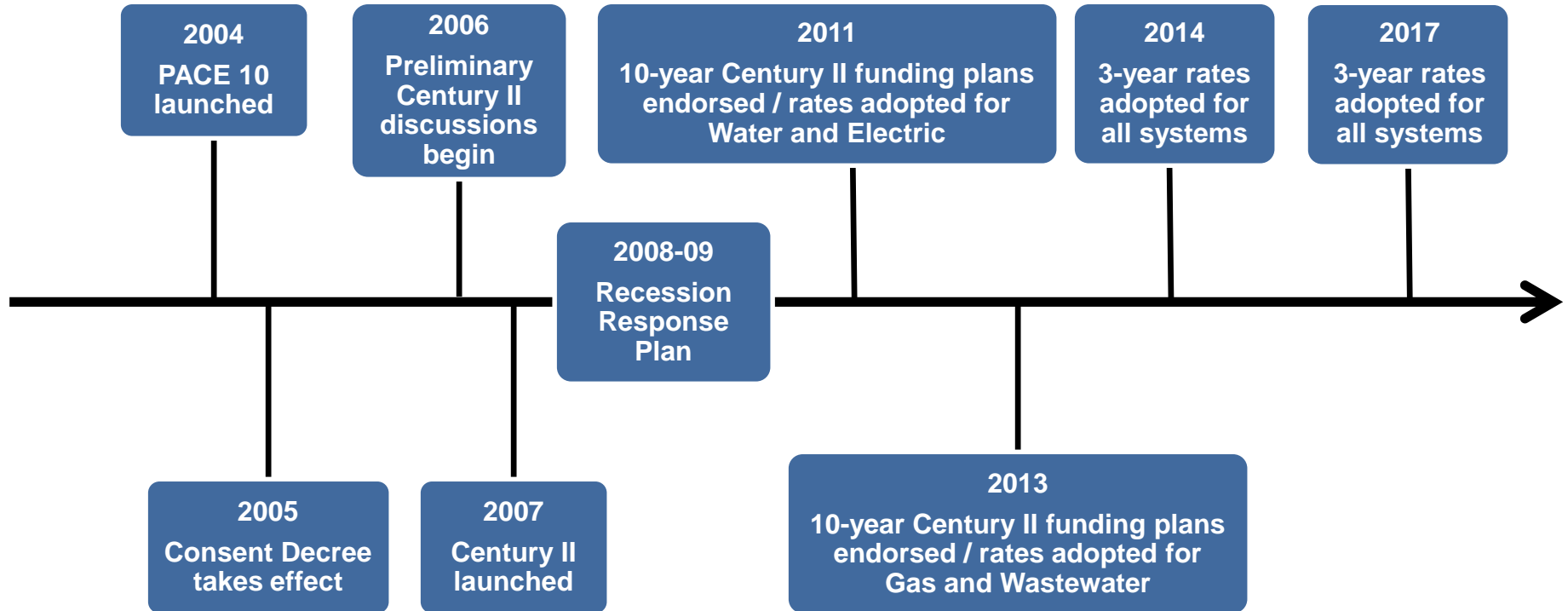
October 17, 2019



Century II Goals

- Renew/replace aging infrastructure
- Maximize life of assets through proper maintenance
- Ensure regulatory compliance
- Increase reliability and resiliency
- Improve customer service and satisfaction
- Increase productivity with new technology
- Priorities are data driven

Century II – Where We've Been



Electric System

Customers: 207,228

Service Territory:
688 square miles

Electric Lines: 5,368 miles
Distribution Overhead: 4,039 miles
Distribution Underground: 1,069 miles
Transmission: 260 miles

Infeed Substations: 9

Substations: 63

System Capacity: 3,030 MW

Peak Hourly Demands:
Winter: 1,332 MW (Feb. 2015)
Summer: 1,235 MW (Aug. 2007)



County Lines

City Limits

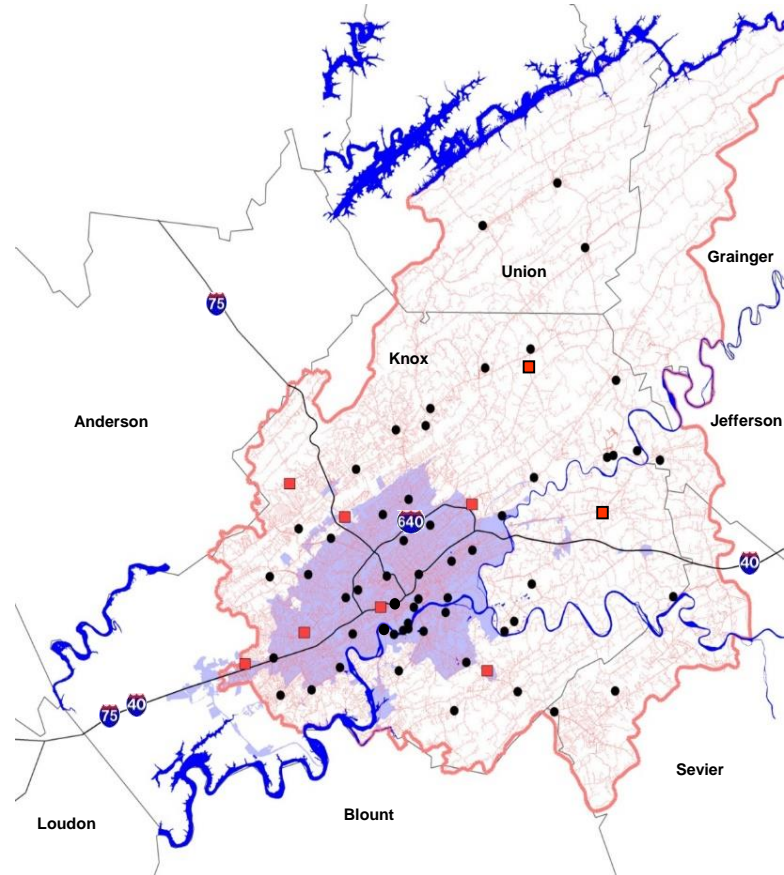
Service Area

Existing Lines

Infeed Stations

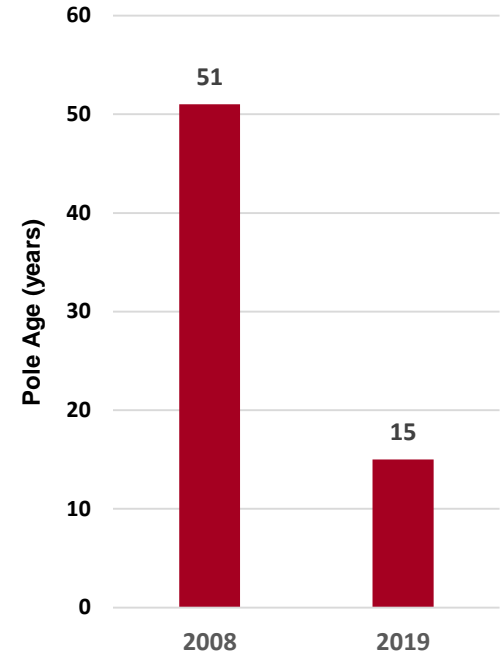
Distribution

Stations



Electric System

- KUB's largest system
- Overall 2% pole replacement rate per year under Century II
- Greater focus on transmission poles (69kV)
 - Older than other pole types
 - More important to system reliability
 - Significant reduction in median age



Median Age of Transmission Poles

Investment in Century II Electric

■ Substations

- 2 new infeeds
- 2 new distribution
- 42 of 63 (67%) modernized

■ Transmission Lines

- 117 miles (45%) replaced
- Remainder to be replaced in Long Range Plan (LRP)
- Coordinated with fiber along route



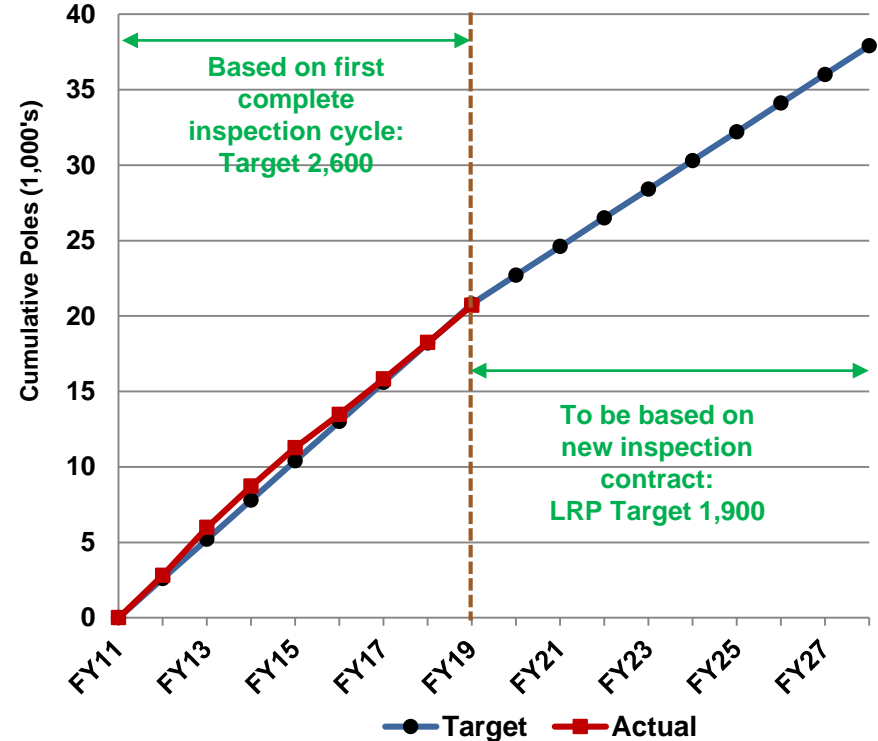
Investment in Century II Electric

■ Poles

- Over 20,000 replaced
- Reduced from 2,600 to 1,900 per year

■ Underground cable

- 129 miles (82%) XLP replaced
- Remainder to be replaced by 2023

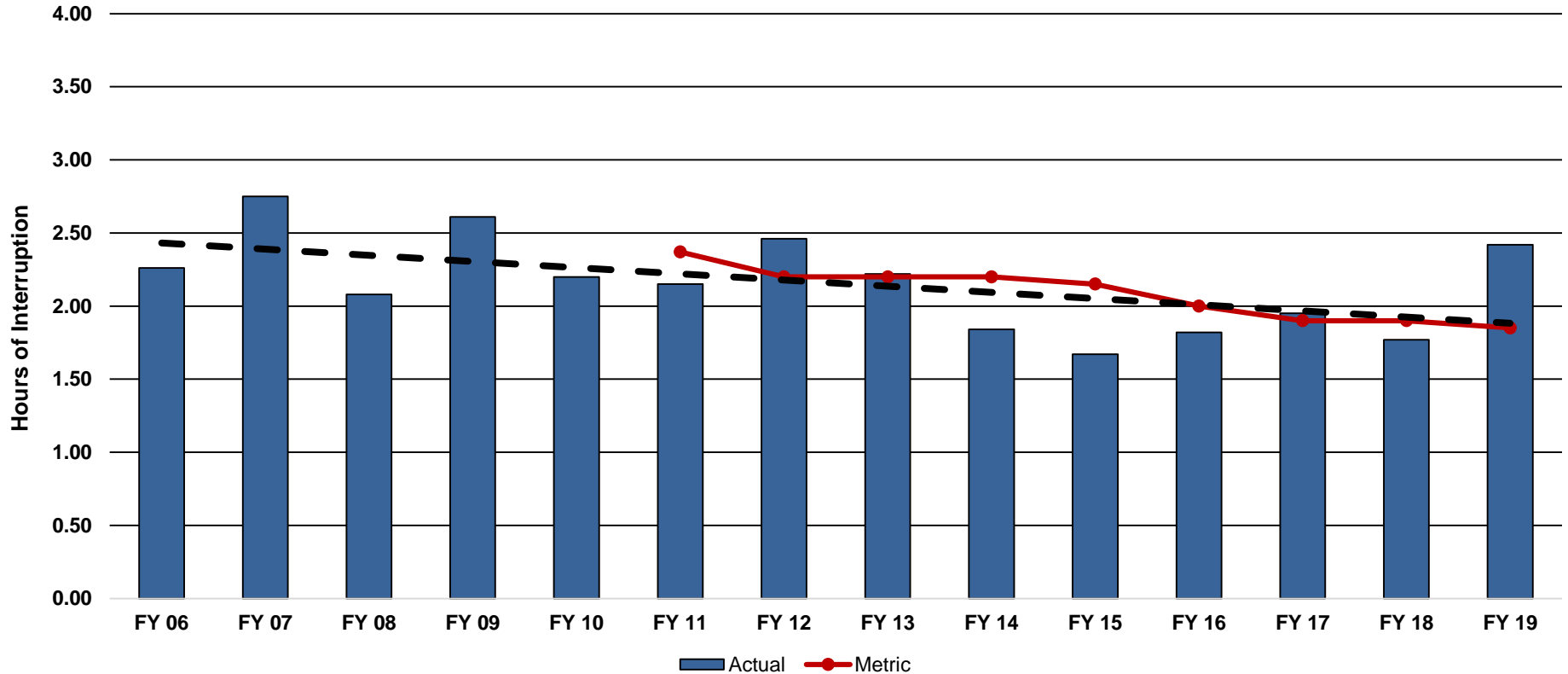


Investment in Century II Electric

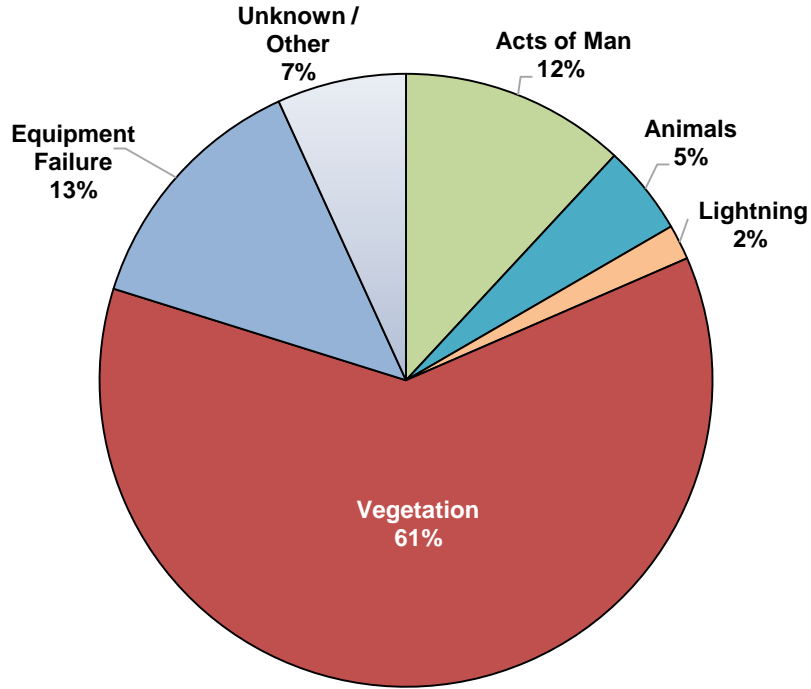
- Downtown Network
 - Upgraded all 107 vaults
 - Added 5 new vaults
 - Replaced 50% switchgear
 - Replaced 15% primary conductor
- \$402M invested in system since FY12



25% Improvement in Reliability



Vegetation Impacts Outages



FY19 Outage Causes



85% of KUB customers rated vegetation management as “Very Important” in our most recent survey

Industry Recognition for Electric System

- Reliable Public Power Provider (RP3) Diamond Level Designation
- Tree Line USA



In a recent survey, over 90% of customers were pleased with KUB's electric reliability.

Natural Gas System

Customers: 102,874



Service Territory:
288 square miles

Mains: 2,444 miles
Distribution
Steel: 174 miles
Plastic: 2,199 miles
Higher pressure: 71 miles

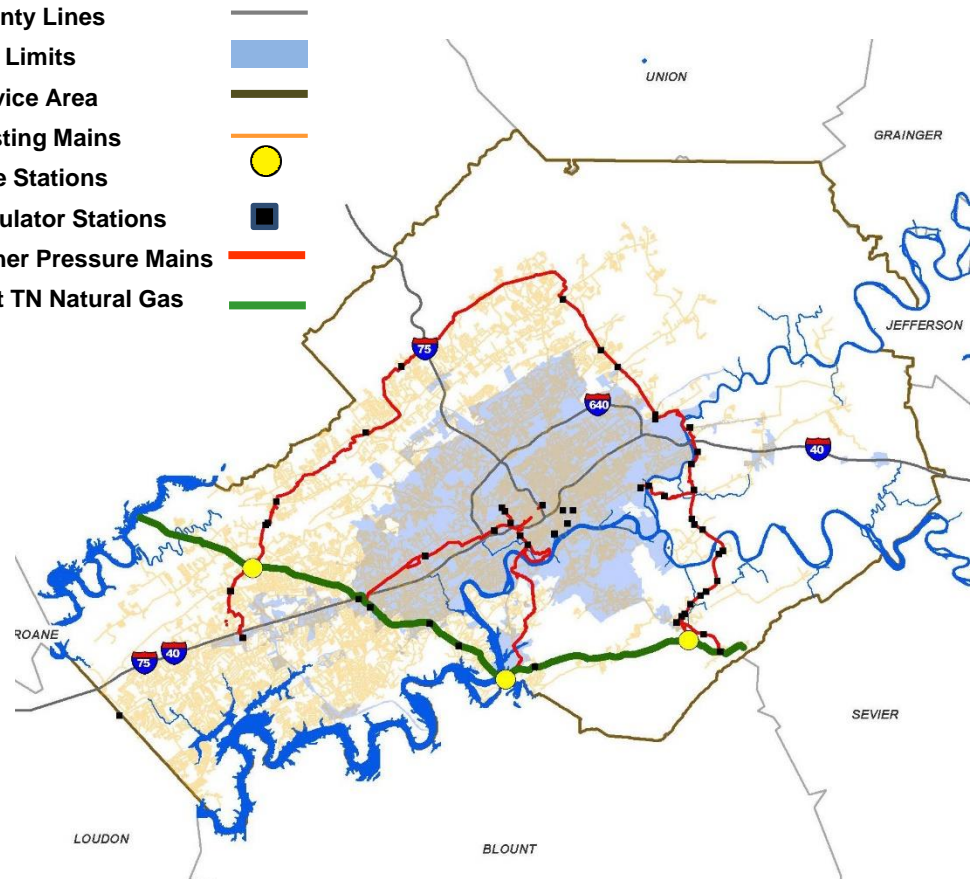
Gate Stations: 3

Regulator Stations: 49

System Capacity: 157,381 dth

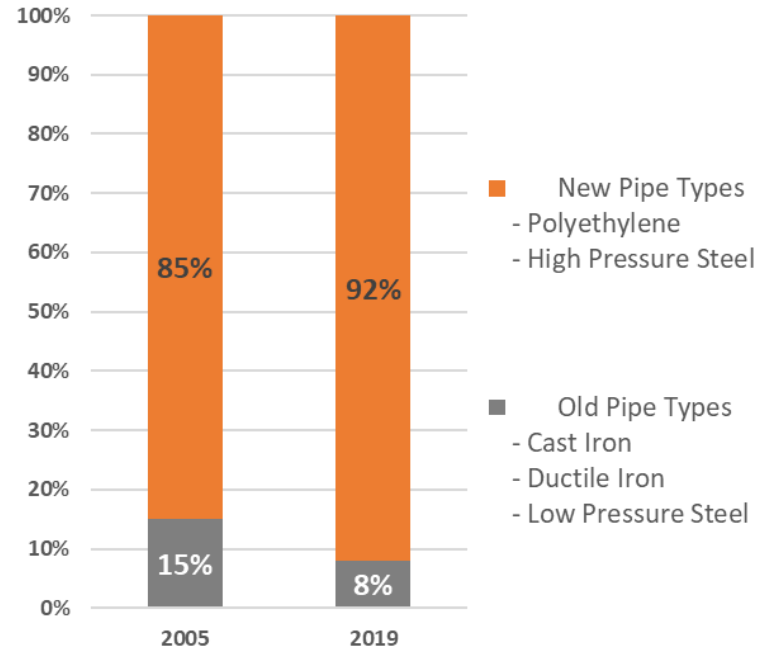
Peak Demand
140,204 dth (Jan. 2018)

- County Lines
- City Limits
- Service Area
- Existing Mains
- Gate Stations
- Regulator Stations
- Higher Pressure Mains
- East TN Natural Gas



Natural Gas System

- KUB's newest system
- Highly regulated industry for decades
 - Federal Department of Transportation
 - Tennessee Public Utility Commission



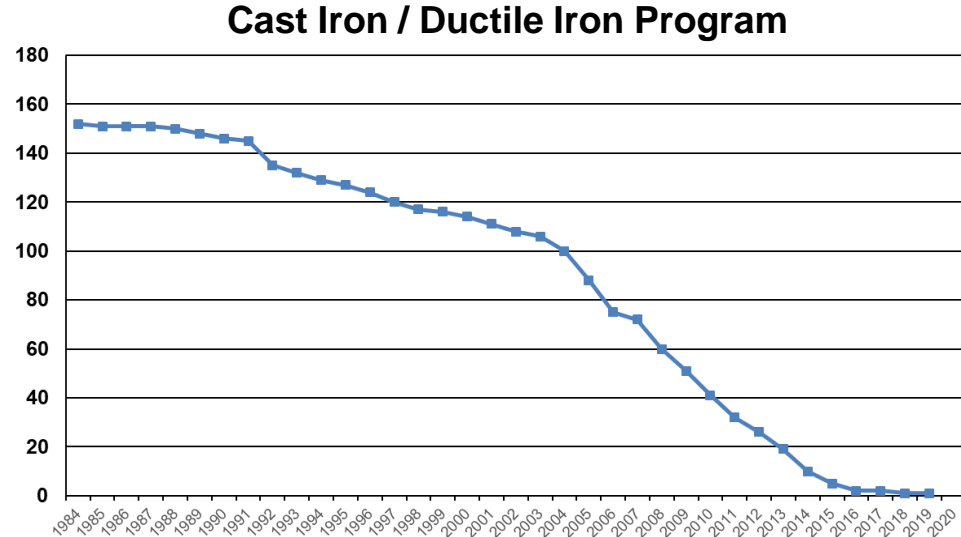
Investment in Century II Gas

■ Cast iron/ductile iron

- 40-year program
- Replaced 160 miles with plastic pipe

■ Lower pressure steel pipe

- Started in 2015
- Replacing 170 miles with plastic pipe



Investment in Century II Gas

- System resiliency and growth
 - South Loop higher-pressure steel pipe
 - Extensions for new customers
- \$149M invested in system since FY12



System Maintenance

- Leak detection
- Corrosion mitigation
- Valve program
- Aerial surveys
- Bridge inspections



Industry Recognition for Gas System

■ SOAR

- System integrity
- System improvement
- Employee safety
- Workforce development



**American Public
Gas Association**

“KUB is recognized as a leader in Operational Achievement through APGA’s SOAR program. Their participation in APGA Committees is valued for system integrity and safety.”

– **Erin Kurilla**, APGA VP,
Operations and Pipeline Safety

Water System

Customers: 79,908

Service Territory:
188 square miles

Treatment Plant: 1

Pump Stations: 24

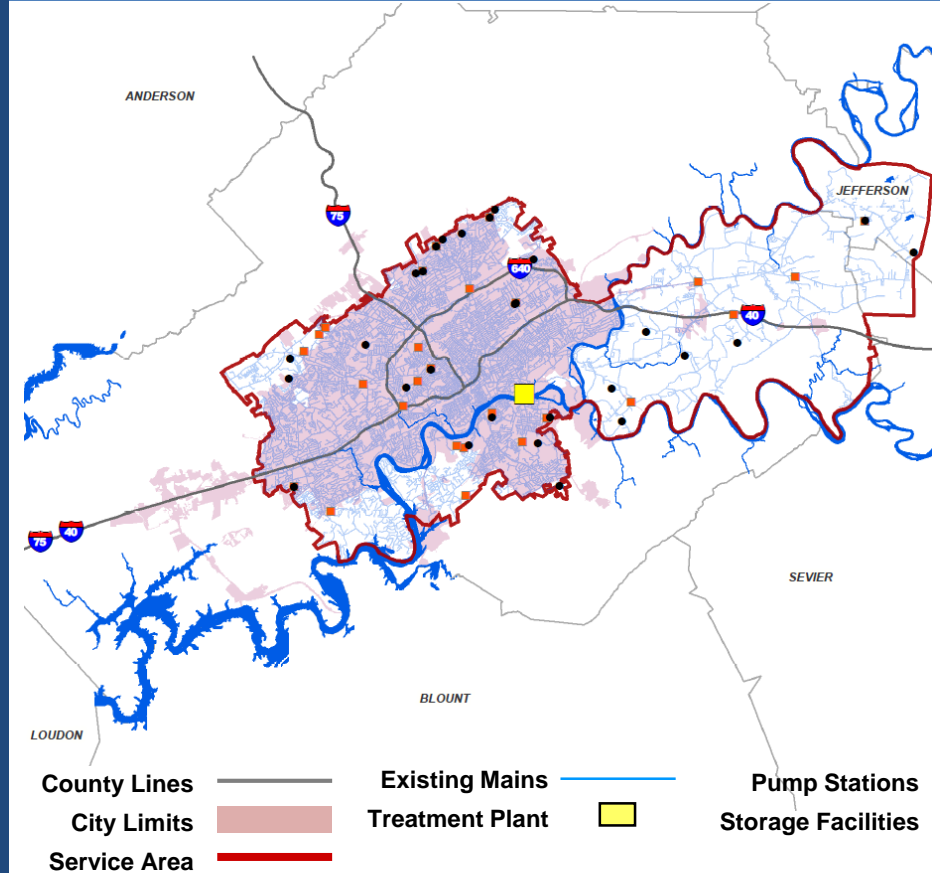
Storage Facilities: 28

Distribution Mains: 1,409 miles

Plant Capacity:
61.2 million gallons/day (MGD)

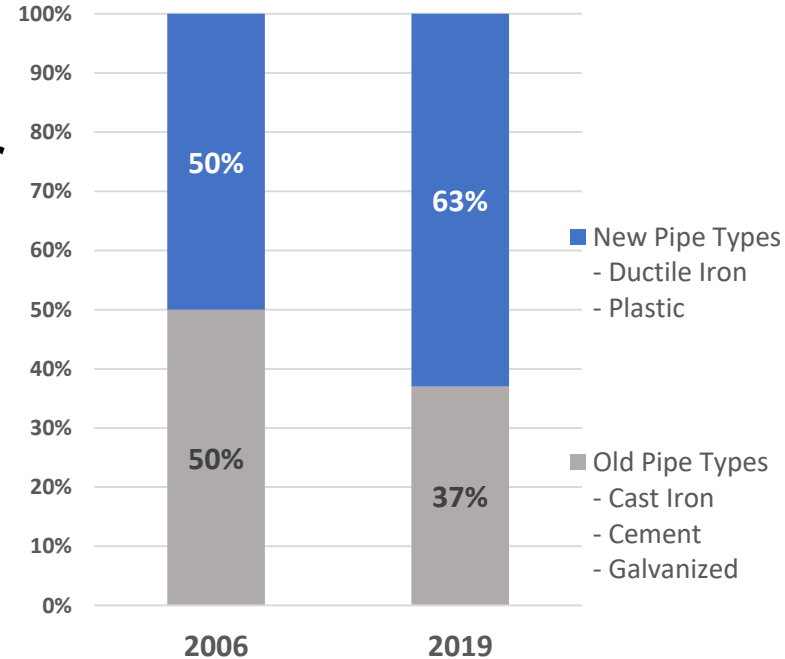
Reservoir Capacity: 37 million gallons

Treated Water: 12.2 billion gallons annually



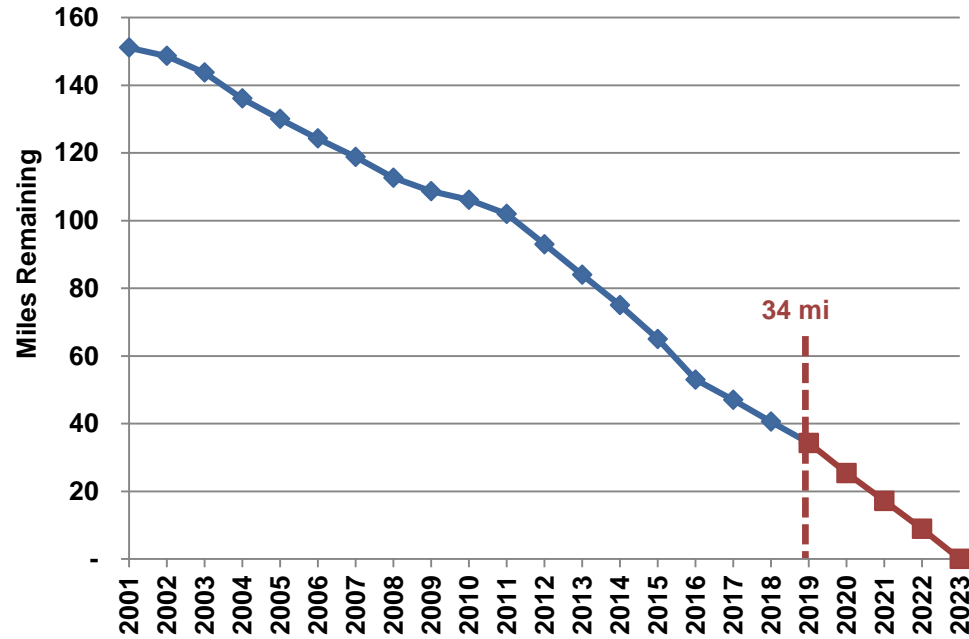
Water Distribution System

- Replacement on track at 1% per year
- Focused on pipes with higher break history
- Maintenance programs extending useful life
 - Fire hydrants 3-year cycle
 - Valve program 5-year cycle




Investment in Century II Water

- Galvanized pipe
 - Highest rate of leaks and repairs
 - Complete by 2023
- Cast iron/cement
 - Replaced 90 miles since 2006
 - Remaining 490 miles over decades



Investment in Century II Water

- Low Service Pump Station
- Water Plant Resiliency 15-year program

Ph I Complete: 2015 - 2018	Ph II Underway: 2019 - 2022	Ph III Planning: 2023 - 2029
<ul style="list-style-type: none">• Parallel High Service Main• Electric Upgrades - Ph I• Intake Improvements 	<ul style="list-style-type: none">• Three New Generators• Six New Filters• Backwash Pump Station• Backwash Equalization Basin• 4 MG Clearwell	<ul style="list-style-type: none">• Raw Water Main• Distribution Box Bypass• Electric Upgrades – Ph II• High Service Pump Station• Source Water Resiliency

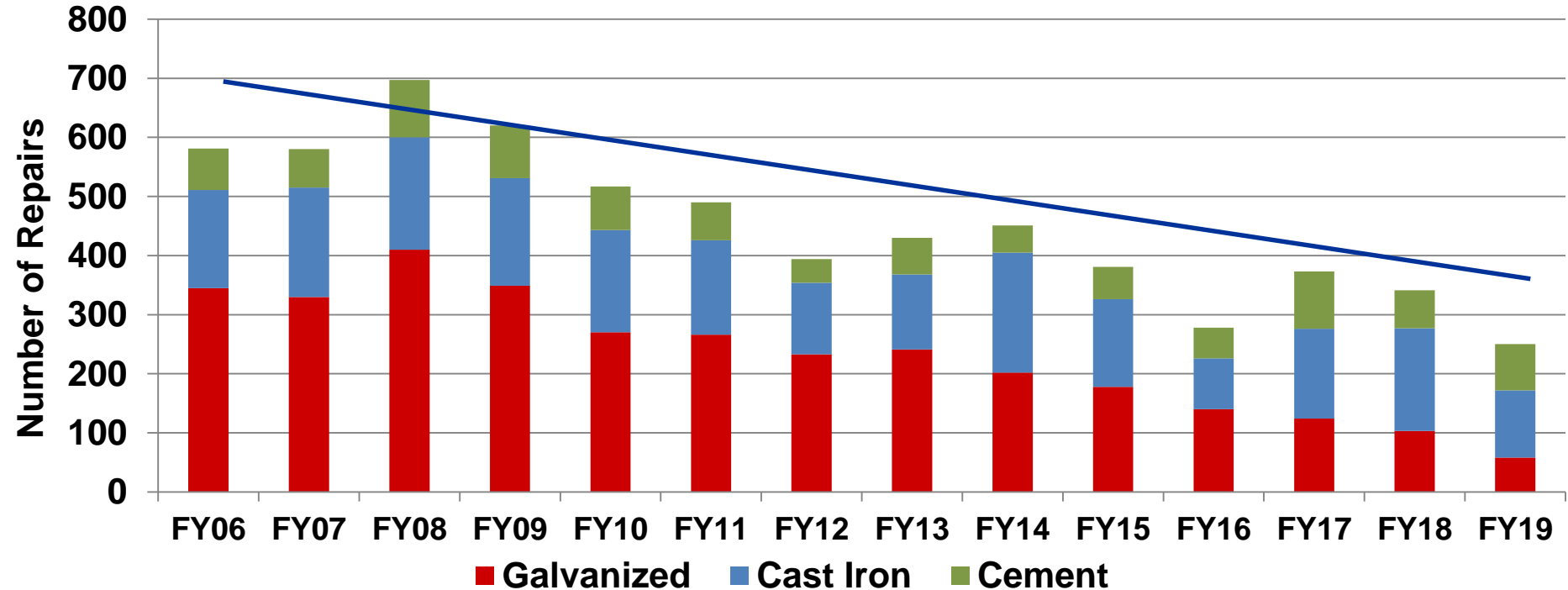
Investment in Century II Water

- 30 storage tanks
 - Capacity of 37 MG
 - 3 new tanks
- 25 pump stations
 - Serve higher elevations
 - 35% replaced or upgraded
- \$171M invested in system since FY12



Water Main Replacement Reduces Repairs

Water Main Repairs on Older Pipe Types



Industry Recognition for Water System

- TDEC Inspection score for 2019 is 99.8%
- Water Quality Lab
 - Perfect scores on past 2 inspections (every 3 years)
 - Certified for more tests than any other public water system in Tennessee



Wastewater System

Customers: 71,281

Service Territory:
243 square miles

Treatment Plants: 4

Pump Stations: 70

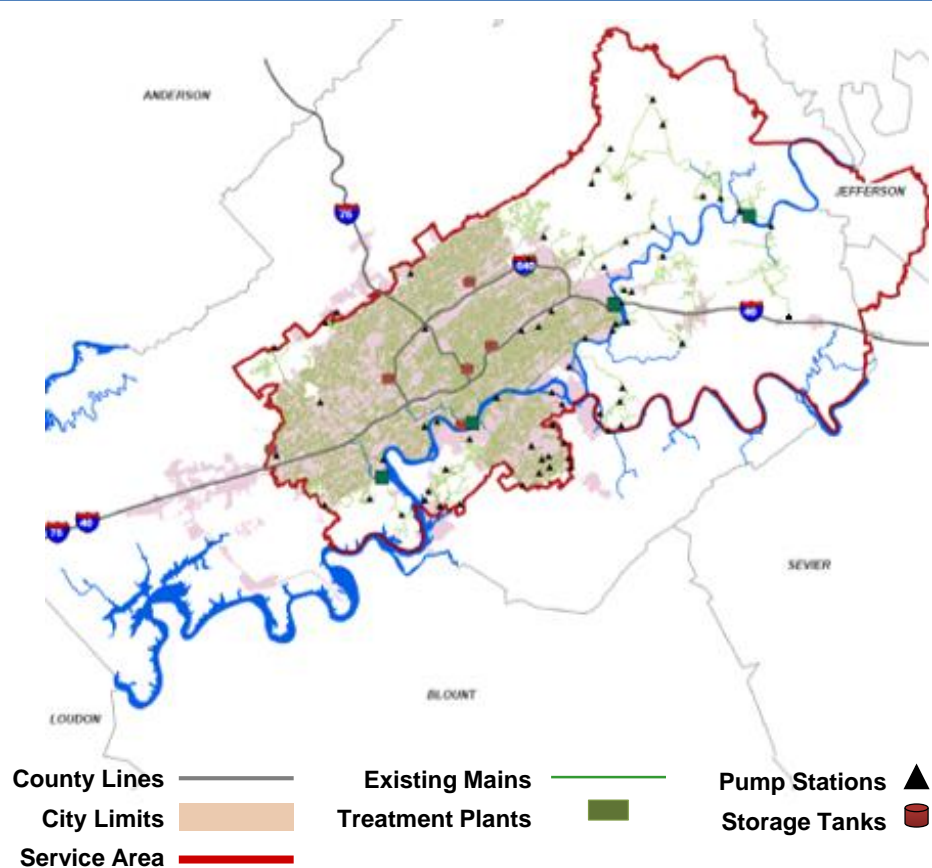
Collection Mains: 1,318 miles

Storage Capacity: 34 MG

Plant Capacity: 178 MGD

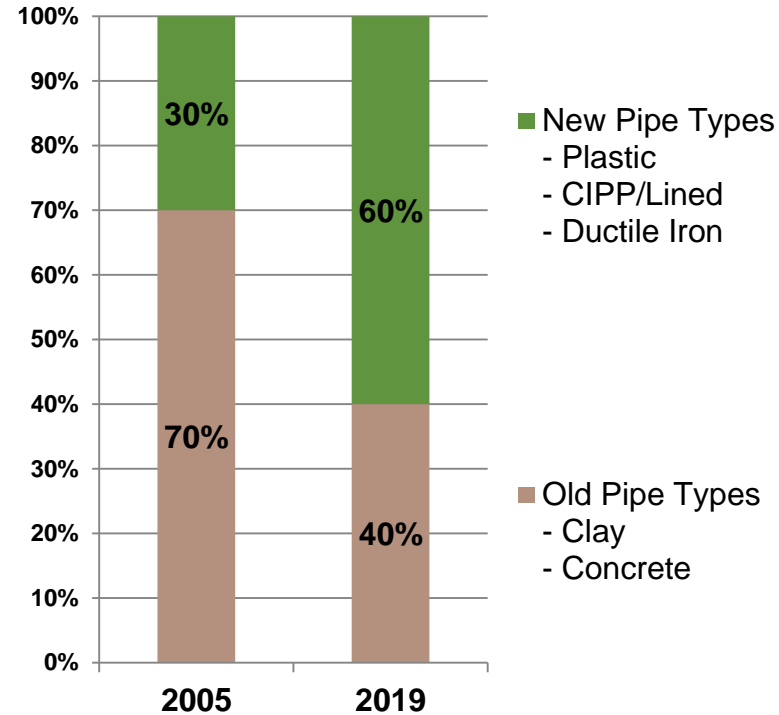
Average Flow: 36.5 MGD

Consent Decree: 2005 – 2021



Wastewater Collection System

- Sewer rehabilitation on track
- Upgraded 384 miles (30%) since 2005
- Maintenance programs extend useful life
 - Inspection and cleaning
 - 12-year cycle



Investment in Century II Wastewater

- Pipe replacement and rehabilitation
 - On track at 2% replacement per year
 - 490 miles of clay & concrete remain
- Storage tanks
 - Six tanks (34 MG total)
- Pump stations
 - 75% upgraded
 - Remainder in LRP



Investment in Century II Wastewater

- Fourth Creek Plant
 - \$28M BEHRC project
 - Complete in May 2018
- Kuwahee BEHRC
 - Final Consent Decree (CD) project
 - \$50M by June 2021
- \$ 708M invested in system since FY04



Positive Relationship with Regulators

- All CD deadlines met to date
 - Budget of \$650M on track
 - Final project on schedule
- 54 plant operational awards from National Association of Clean Water Agencies in past 15 years
- Maintained certified biosolids program



“KUB has shown tremendous progress in controlling unpermitted discharges since entering into the Consent Decree.”

- **Dennis Sayre**, EPA
Acting Chief Municipal and
Industrial Enforcement
Branch, 2018

Century II Serves Current and Future Needs

- Continued solid performance
- Long-term, data-driven view
- Plans support growth
- Sound financial plan
- Industry recognition for our achievements
- Board's commitment to Century II



Century II Benefits are Recognized

“Your ongoing and strategic long-term plan for infrastructure upgrades is commendable and a major asset for our City. It is great to have a partner that is committed to sustainability and understands its importance to our long-term prosperity and quality of life.” ...**Mayor Madeline Rogero, July 2019**

“The Knoxville Utilities Board has a long-standing history of well-managed operations, sound fiscal planning, and a well-developed asset management plan that spans a period of 10 years.” ...**Moody’s Rating Report, July 2019**

Century II Discussion Timeline

August 2019	Three-Year Rates Forecast	✓
October 2019	Century II Update	✓
November 2019	Financial Workshop	
January 2020	Rate Structure Discussion	
February 2020	Rate Structure Discussion	
April 2020	Financial Workshop	
May 2020	FY 21 Budget, Rates, and Debt Considerations	
June 2020	Rates (Second Reading)	

KUB

E Source Customer Satisfaction Award

October 17, 2019



E Source Recognizes KUB as Top Utility in Large Business Customer Satisfaction

- KUB's overall rating was 9.3 out of 10; highest rating in survey history
- Key Account Representatives rated 9.6 in satisfaction
- 14 utilities participated including Nashville Electric Service and Memphis Light, Gas & Water



KUB