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
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
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

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

### Storage

Volumes estimated for November 1, 2019

<table>
<thead>
<tr>
<th>Pipeline</th>
<th>Volume</th>
<th>Expiration</th>
</tr>
</thead>
<tbody>
<tr>
<td>ETNG</td>
<td>157,381</td>
<td>10/31/2025</td>
</tr>
<tr>
<td>TGP</td>
<td>68,289</td>
<td>10/31/2025</td>
</tr>
<tr>
<td>TETCO</td>
<td>7,500</td>
<td>10/31/2025</td>
</tr>
</tbody>
</table>
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

Natural Gas Pricing 2010 to present

- Market Prices
- KUB Hedge
- Market Projected
- KUB Projected
Projected Average Winter Bills Consistent with Previous Year

Winter 18/19
Winter 19/20 Projected

Residential Natural Gas

$85
$86

Residential Electric

$124
$122
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
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

- **2004**: PACE 10 launched
- **2005**: Consent Decree takes effect
- **2006**: Preliminary Century II discussions begin
- **2007**: Century II launched
- **2008-09**: Recession Response Plan
- **2011**: 10-year Century II funding plans endorsed / rates adopted for Water and Electric
- **2013**: 10-year Century II funding plans endorsed / rates adopted for Gas and Wastewater
- **2014**: 3-year rates adopted for all systems
- **2017**: 3-year rates adopted for all systems
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)
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

<table>
<thead>
<tr>
<th>Year</th>
<th>Median Age (years)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2008</td>
<td>51</td>
</tr>
<tr>
<td>2019</td>
<td>15</td>
</tr>
</tbody>
</table>
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

![Graph showing hours of interruption from FY 06 to FY 19 with 25% improvement in reliability]
Vegetation Impacts Outages

FY19 Outage Causes

- Vegetation: 61%
- Equipment Failure: 13%
- Acts of Man: 12%
- Animals: 5%
- Lightning: 2%
- Unknown / Other: 7%

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)
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

“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
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
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
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**

<table>
<thead>
<tr>
<th></th>
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</tr>
</thead>
<tbody>
<tr>
<td>• Parallel High Service Main</td>
<td>• Three New Generators</td>
<td>• Raw Water Main</td>
</tr>
<tr>
<td>• Electric Upgrades - Ph I</td>
<td>• Six New Filters</td>
<td>• Distribution Box Bypass</td>
</tr>
<tr>
<td>• Intake Improvements</td>
<td>• Backwash Pump Station</td>
<td>• Electric Upgrades – Ph II</td>
</tr>
<tr>
<td></td>
<td>• Backwash Equalization Basin</td>
<td>• High Service Pump Station</td>
</tr>
<tr>
<td></td>
<td>• 4 MG Clearwell</td>
<td>• Source Water Resiliency</td>
</tr>
</tbody>
</table>
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

Number of Repairs

- FY06
- FY07
- FY08
- FY09
- FY10
- FY11
- FY12
- FY13
- FY14
- FY15
- FY16
- FY17
- FY18
- FY19

- Galvanized
- Cast Iron
- Cement
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

**New Pipe Types**
- Plastic
- CIPP/Lined
- Ductile Iron

**Old Pipe Types**
- Clay
- Concrete
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)
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