Kentucky Lead Workgroup
Finance Subgroup Presentation
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Summary of Lead Removal Options
(from Distribution/Piping Subgroup)

- Corrosion Control vs. Replacement
- Partial Service Line Replacement
- Full Service Line Replacement
- Private Property Infrastructure
Water Service Line Infrastructure

Questions:

- How many water systems in KY have lead service lines?
- How much does it cost to replace a lead service line?
- How much does it cost to replace ancillary lead components in a service line?
- What other cost issues will utilities experience in replacing lead service lines?
- What is the overall cost statewide for lead removal from drinking water systems?
Questions:

- How can water utilities finance the cost of lead service line replacement?
- What is the cost for NOT replacing lead service lines?
- Should lead service lines be replaced all at once or over some period of time?
- How have other communities handled costs for lead service line removal?

Questions:

- How much does it cost for a homeowner to replace their private lead plumbing?
- What financing methods are available to homeowners for private plumbing replacement?
- Who should pay for lead piping replacement in rental properties, schools, and daycares?
- What is the cost for a public education program regarding lead in drinking water?
Where is the lead?
How many water systems in KY have lead service lines?

- Most Kentucky utilities transitioned from lead to copper between 1935 and 1950
- Significant growth in Water Districts after 1950, typically no lead service lines
- Challenges with water system acquisitions, mergers, particularly with lack of records

How much does it cost to replace the public portion of a lead service line?

- Entire Service Line (main to meter)
- Coordination with Private Portion of Service Line
- Open Cut vs. Pulled Line
- Variables affecting Cost (length, depth, soil type, other utility conflicts, surface restoration, traffic control)
- Range of costs $1,000 to $5,000 (public portion)
How much does it cost to replace ancillary lead components in a public service line?

- Ancillary Components Only
- Ancillary Components and Line to Meter (galvanized or other non-lead)
- Coordination with Private Portion of Service Line
- Open Cut vs. Pulled Line
- Variables affecting Cost (length, depth, soil type, other utility conflicts, surface restoration, traffic control)
- Range of costs $600 to $3,000 (public portion)
- Unknown number of ancillary lead components in Kentucky

What other cost issues will utilities experience in replacing lead service lines?

- Street Repair
- Customer Disruption/ Traffic Rerouting
- Other Utility Conflicts
- Public Concern education
- Crew Time Disruption/Reprioritization
- Capital Reprioritization for Other Infrastructure Projects
What is the Estimated Cost to Replace the Private Portion of Lead Service Lines?

- Unknown number in Kentucky
- Typically from the meter or property line to the house
- May include connection through the foundation into basement or crawl space
- On rare occasions, internal plumbing is lead
- Typically installed under grass, but may include landscaping, trees, retaining walls, sidewalks, drives, irrigation systems
- Open cut vs. pulled line

US Lead Service Line Inventory

- AWWA Journal Article, June 2016 by: Cornwell, Brown, VA
- AWWA/EPRI estimates 6.1 million public and service lines (LS), in U.S. range of 4.2 to 7.1 million LS
- Includes full and partial LS (public and private)
- Lengths identified in systems serving 10,000 to 50,000 Population (not expected)
- Generally, older, transitioning to copper between 1930 and 1950 across the U.S.
- Source of data presented: AWWA/EPRI survey of utilities and extrapolation of data
- National cost estimated at $10 to $30 billion (minimum) for 6.1 million LS, assumes $3,000 to $5,000 per LS Replacement Costs
Kentucky Lead Service Inventory

- AWWA/EPA estimate 53,000 Public LSI in Kentucky
- Replacement Cost Range of $1,500 to $3,000 each
- Estimate of $79.5 to $159 million for public portion
- Estimate 8,300 Private LSI in Kentucky
- Replacement Cost Range of $1,000 to $2,000
- Estimate of $8.5 to $12.8 million for private portion
- Total Kentucky Estimate for removal of Public and Private LSI of $92.5 to $176 million
- Other plumbing fixtures in distribution system, sanitary lead components

How does Kentucky Compare?

- United States Survey Data:
  - US 2015 Population 328 million people
  - 223 million people served by Community Water Systems (92% served)
  - 97.7 million household connections (assumes 3 people per connection)
  - 0.1 million Lead Service Lines (AWWA Journal Article June 2015)
  - Estimate 6.2% of US Houses have full or partial Lead Service Lines

- Kentucky Survey Data:
  - Kentucky 2015 Population of 4.4 million
  - 4.3 million people served by Community Water System (98% served)
  - 1.4 million household connections (assumes 3 people per connection)
  - Estimate 0.3% of KY Houses have full or partial Lead Service Lines

- Kentucky Compares Favorably to National
Financing Options

- Public Service Line Replacement
  - Pay Go
  - Bonds
  - Low Interest Loans
    - SRF
    - WIFIA/Win/WrDA
    - Rural Development Grants/Loans (70/30)
    - Other State Loan Programs - RdA Funds B & C
  - Other
    - Federal/Congressional Authorization

Financing Options

- Private Service Line Replacement
  - Homeowner/Property Owner
  - Schools/Daycares
  - Utility Loan on water bill
  - Federal Programs (will SRF criteria change?)
  - State Funding
  - Foundations
  - Grants
What is the cost for NOT replacing lead service lines?
Corrosion Control vs. Replacement

- Specific Techniques
- Relative Costs
- Public Perception
- Public Acceptance
- Ability to Optimize treatment if action level < 10 ppb
- Does EPA regulate action level to comply
  - additional treatment
  - additional lead line/component removal

Should lead service lines be replaced all at once or over a period of time?

- When Uncovered
- Scheduled Replacement
- Experience at:
  - Madison, WI
  - Washington DC
  - Louisville, KY
How have other communities handled costs for lead service line replacement?

- Madison, WI
- DC Water
- Louisville Water
- BGMU Water

Who should pay for lead piping replacement in rental properties, schools and daycares?

- Socio-Economic Issues
- Out of State Landlords
- Landlords Passing Costs to Renters
- School District Budget Challenges
- Affordability for Daycares
Will Future Home Purchases Require Lead Disclosure

- Home inspections for lead piping?
- Water sampling for home purchase?
- Will FHA home loans require inspection/mitigation as condition for loan eligibility?
- Will lenders require inspection/mitigation as condition for loan eligibility?

What is the cost for a public education program regarding lead in drinking water?

- Large Communities
- Small Communities
- Louisville Water Experience
Draft Finance Subgroup Recommendations

- Kentucky utilities should consider validating and/or updating the estimate of lead service lines and refining cost estimates for replacement.
- Utilities should consider adopting a goal to replace all public lead service lines in Kentucky by 2037 (20 years).
- Develop consumer education materials on lead in drinking water in partnership with industry associations, regulators, and utilities.
- Develop a model program for financial assistance for homeowners to replace private portion of lead service lines.

Draft Finance Subgroup Recommendations

- Develop a model program for public/private schools and daycares for testing, education, and replacement of all lead plumbing within school facilities.
- Revise the state criteria for prioritization of water projects to include lead service lines.
- Develop a portfolio of funding sources for utilities to finance lead service line replacement, including KIA, Rural Development and SRF funding.