

**Kentucky Lead Workgroup Meeting
December 21, 2016
1:30 – 3:00 PM ET
Kentucky Division of Water
300 Sower Blvd. – Training Room C
Frankfort, Kentucky**

1. Call Meeting to Order and Roll Call of Membership – Greg Heitzman
2. Introduce Guests – Greg Heitzman
3. Approve Minutes of October 26, 2016 – Greg Heitzman
4. Lead in Drinking Water Webpage
5. Water Infrastructure Improvements for the WIIN Act
6. Presentation of Finance/Funding Subgroup – Mike Gardiner
7. Water Sampling Protocol – Peter Goodmann
8. Discuss Future Topics and Meeting Schedule – Greg Heitzman
9. Open Discussion for Workgroup
10. Public Comment Period

**Drinking Water Advisory Council
Lead in Drinking Water (LIDW) Workgroup
Location: Kentucky Division of Water Office
300 Sower Blvd
Frankfort, KY
Draft Meeting Minutes
December 21, 2016**

In attendance: Greg Heitzman, Chair, Jennifer Burt (DPH), Obe Cox (CCW), Tom Gabbard (DOW), Mike Gardner (BGMU), Ron Lovan (NKYW), (BWK), Brad Montgomery (ACEC), Bill Robertson (PWWKY), Thomas Rockaway (UofL), Justin Sensabaugh (KYAW), Rengao Song (LWC),

Liasons: Gary Larimore (KRWA), Kay Sanborn (KYTN-AWWA),

Absent: Brian Thomas (MWD)

Division of Water (DOW): Peter Goodmann; Director, Sarah Gaddis, Samantha Kaiser, Joe Uliasz

Public Attendees: Amber Agee (DPH), Lane Boldman (KCC), S. Morgan Faulkner (KYOAG-ORI), George Haynes II (DCA), Representative Dennis Kenne (KY Rep.), Mike West (EEC/OGC),

The meeting began at 1:35 p.m. ET.

Call Meeting to Order and Membership Roll Call

Chair Greg Heitzman led the roll call, confirmed a quorum, and introduced guests. Some items have been added to the agenda since the public notice was posted. At 2:00 pm the fire alarm will sound and everyone will have to evacuate for the fire drill.

Approve Minutes of October 26, 2016

The Workgroup approved the October meeting minutes by consensus.

Lead in Drinking Water (LIDW) Webpage

Samantha Kaiser updated the Workgroup on the status of the Lead in Drinking Water webpage. All meeting documents, presentations, and approved minutes are now available on the new LIDW webpage. Since the LIDW Workgroup is a subgroup of the Drinking Water Advisory Council, both groups share a webpage. The webpage can be found under two different tabs on the Division of Water homepage: Resources -> Drinking Water Advisory Council; - or Programs -> Drinking Water (under the Quick Link on the right side of the page - Drinking Water Advisory Council). The webpage address is <http://water.ky.gov/DrinkingWater/Pages/DWAC.aspx>.

Water Infrastructure Improvements for the Nation (WIIN) Act

Peter Goodmann summarized the key provisions of interest to state drinking water programs. The Water Infrastructure Improvements for the Nation Act (WIIN Act) has been signed by President Obama. The WIIN Act authorizes Congress to grant funding, however funding has not been appropriated. Small community assistance programs are covered under the WIIN Act, which also requires public notice from a utility no later than 24 hours after a lead action level is exceeded. Mr. Goodmann is going to get

clarification for the Workgroup on whether 'special samples' are included.

Mr. Heitzman asked the Workgroup to work together on a collective response and each utility should evaluate how this will affect their systems. If any utility receives a notice that can be shared with Mr. Goodmann, they should notify him.

Water Sampling Protocol

The Workgroup discussed the importance of following the EPA guidance document on water sampling for lead. If EPA determines that "special samples" exceeding lead action levels require public notice, utilities may no longer collect "special samples". Some utilities currently collect "special sample" in order to optimize the water quality in the distribution system.

Lead Inventory

Other states have been sending letters to utilities for inventories of lead infrastructure. Kentucky has not sent letters, but is expecting pressure from EPA to gather information. Mr. Goodman asked the Workgroup to discuss how utilities would like to address lead inventory issues, knowing that eventually DOW will require this information be provided.

Presentation of Finance/Funding Subgroup – Mike Gardner and Greg Heitzman

Mike Gardner started the presentation by reviewing topics discussed in past meetings. There are several questions associated with financing lead service lines, replacement costs for utilities and property owners, and financial responsibility for schools and apartments. Most Kentucky utilities transitioned from lead to copper between 1935 and 1950. The cost of replacing lead lines can vary and is site specific. Historical data shows that the utility cost can range between \$1,600 and \$3,000, and replacing ancillary lead components for utilities is \$800 to \$3,000. This is a wide range due to replacement of the entire line at some sites. There are an unknown number of ancillary components in Kentucky. Several ripple effects can occur when replacing lead lines that could increase the cost. Generally, utilities replace everything including the service line, meter and connections. The private side of lead service lines can contribute significantly to lead levels, and private cost will typically occur from the meter or property line to the house. This cost will vary. The Workgroup discussed the issue of utilities replacing the LSL but private property owners not replacing the private lines (defined as a partial lead service line replacement).

Mr. Heitzman discussed the newest American Water Works Association (AWWA) Journal article (June 2016) on lead service line inventory. An AWWA/EPA survey of utilities estimates that there are 6.1 million public lead service lines (LSL) in the US, and approximately 53,000 public LSL in Kentucky. The Workgroup discussed that this number appears high, however there is not a current inventory of LSL in Kentucky. Mr. Heitzman estimated that the total cost to remove public and private LSL is \$92.5 to \$185 million. Kentucky LSL inventory compares favorably to other states. Approximately 95 percent of Kentucky residents are served by community water systems and an estimated 3.8% of Kentucky houses have full or partial LSL, compared to a national average of 6.8 percent.

Mr. Gardner discussed different financing options that utilities and private individuals could utilize for replacing LSL. Some Kentucky utilities are actively replacing LSL and using corrosion control treatment, while others are using corrosion control only. Madison Water Utility in Wisconsin was the first major city in the country to launch a full Lead Service Line Replacement Program, which took nearly 11 years to complete. To finance the program they sold bonds, used monies from cell phone tower fees, and cost sharing with homeowners. Louisville Water Company initiated a formal LSL replacement program in 1985. LSL were installed in Louisville up through 1937, at which time the utility transition to copper

service lines. Louisville has replaced 90% of their 68,000 LSL, with fewer than 7,000 remaining in 2016. Current replacement costs average \$3,000 per LSL and \$6 million is budgeted annually to complete the LSL replacement program by 2020.

Soci-economic issues surround rental properties, schools, and daycares, and the responsible party for replacing LSL. In the future, lending institutions and home buyers may require lead disclosure; which may affect more industries than just utilities. Public education may not currently be an issue for large communities, but small communities lack sufficient programs regarding lead in drinking water.

Mr. Heitzman presented the Finance Subgroup's draft recommendations and suggested that the LIDW review them and come prepared to discuss recommendations at the next meeting.

Future Topics and Meeting Schedule – Greg Heitzman

Mr. Heitzman distributed an article regarding additional charges brought against government officials in the Flint Water Crisis. The Workgroup discussed future topics and the scheduling for the remaining meetings.

Open Discussion for Workgroup

There was no further discussion from the Workgroup.

Public Comment Period

There were no comments from public attendees.

Next meeting January 18, 2017 at 1:30 pm E.T.

**Drinking Water Advisory Council
Lead in Drinking Water (LIDW) Workgroup
Location: Kentucky Division of Water Office
300 Sower Blvd
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Association of State Drinking Water Administrators

**Water Infrastructure Improvements for the Nation (WIIN) Act
Summary of Key Provisions of Interest to State Drinking Water Programs
December 2016**

The WIIN Act includes both the traditional elements of the Water Resources Development Act that funds Corps of Engineer projects, harbor maintenance, and inland waterways as well as, for the first time, new SDWA provisions and funding for lead in drinking water issues. You can download the final bill at <https://congress.gov/bill/114th-congress/senate-bill/612/> and see the drinking water provisions and relevant WIFIA language in Title II, Subtitle A, (pages 219-270) and Title IV (pages 707-711), respectively. The bill, as passed by both House and Senate, was signed by the President on December 19. The information below reflects specific provisions related to drinking water and state requirements for implementation.

SUBTITLE A: Safe Drinking Water

§2101 Sense of Congress that Congress should provide robust funding for the DWSRF.

§2102 Preconstruction activities are now considered as eligible activities under the DWSRF.

§2103 SDWA §1452(g)(2) Set-aside language is revised to remove the overmatch for the 10% set-aside and change the 4% administrative set-aside to be "equal to the sum of any state fees collected and the greatest of \$400,000, 1/5% of the current fund value, and an amount equal to 4% of all grants awarded to the fund under this section for the fiscal year."

§2104 A new section in the SDWA (§1459) addresses assistance for small and disadvantaged communities. The section includes a new grant program for underserved communities and a separate grant program for lead reduction activities:

- **§1459A Assistance for underserved communities** – defined as any community determined by the Administrator to either have no household drinking water or wastewater services or one served by a public water system that violates or exceeds any MCL, treatment technique, or action level. Such a condition qualifies eligible entities (public water system; tribal system, a state [on behalf of an underserved community]), and a community, that under affordability criteria, is determined to be disadvantaged or may become disadvantaged and have a population <10,000) for grant assistance.
- **EPA shall establish a grant program to assist these public water systems** to meet compliance requirements. Projects eligible for assistance include those to return a system to compliance; efforts that benefit disadvantaged communities on a per household basis; and those that provide household water quality testing, including testing for unregulated contaminants. Grants, however, are to be cost shared with the recipient to be responsible for 45% of the total costs (including in-kind contributions), provide any necessary land or rights of way, and 100% of any O&M costs. There are, as well, hardship waivers that EPA can apply.
- **Authorizes \$60M** each fiscal year 2017-21.

§2105 A new section in the SDWA (§1459B) addresses lead reduction activities: CWSs, tribes, and NTNCWS, qualified nonprofits, municipalities, and states, interstate, or intermunicipal agencies can qualify for cost-shared grants dedicated to lead reduction projects – those with the primary purpose of reducing the concentration of lead in water for human consumption. Eligible projects include replacement of publicly owned lead service lines; testing or planning to identify and address conditions (including corrosion control) that contribute to increased lead concentrations in water for human consumption; and assistance to low income homeowners for lead service line replacement.

- **“Lead replacement” does not include** partial lead service line replacement if, at the end, drinking water is delivered through publicly or privately owned portion of a lead service line. “Low income” uses the individual state’s definition of the term.
- **The grant has two preconditions.** Eligible entities must identify the source of the lead and the means by which the proposed lead reduction project would meaningfully reduce the concentration of lead in the water.
- **Priority will be given to disadvantaged communities** that wants to undertake lead reduction because of lead action level exceedances within the past three years or addresses lead levels at a school, daycare, or other facility that serves children or other vulnerable subpopulations.
- **The grant has a 20% non-Federal cost share** but also has cost waiver provisions for low income individual homeowners as determined by EPA. Further, grant amounts for low income homeowners shall not exceed the standard replacement cost.

There are also special considerations for lead service line replacement grants. As part of the grant, the recipient:

- shall notify customers of the replacement of any publicly owned portion of the lead service line;
- may, for non-low income homeowners, offer to replace the privately owned portion at the cost of replacement for that homeowner’s property;
- may, in the case of a low income homeowner, offer to replace the privately owned portion at a cost that is equal to the difference between the replacement cost and the amount of assistance available to that homeowner; and
- shall notify each customer that any planned replacement for publicly owned lines funded by this grant will occur only if the customer agrees to simultaneous replacement of the privately owned portion of the lead service line

Not more than 4% of available grant funds may be used for EPA’s administrative costs.

Authorizes \$60M each fiscal year 2017-21.

§2106 Notice to persons served – revises SDWA §1414(c) to require that **public notice** be distributed by the utility ***not later than 24 hours after a lead action level exceedance***. This includes the existing action level or another health level that may be established by EPA in the future (such as the Health Action Level recommended by NDWAC for the LCR Long Term Revisions). Should that not occur, states have 24 hours to act and if the state fails to act, EPA shall make public notice within 24 hours of learning of the failure. This section also includes:

- **New language stating that if any regulated contaminant is detected in the water provided by a PWS, a new statement in the utility's Consumer Confidence Report must describe the MCL, MCLG, the level of contaminant detected, the action level for the contaminant, and if there has been a violation of the MCL during the past year, and a brief statement regarding the health concerns that resulted in regulation of the contaminant.**
- **Further, EPA, in consultation with PWS owners/operators and states, will establish a strategic plan for how EPA, state primacy agencies, and owners/operators of public water systems shall provide targeted outreach, education, technical assistance, and risk communication to populations affected by lead concentrations.**
- **Should EPA learn, via means, other than a state or PWS, that a household exceeds a lead action level, an Office of Water employee shall forward the data and information on sampling techniques used to collect the data, to the PWS owner/operator and the state where the affected household is located within a timeframe to be specified. The owner/operator then shall disseminate the information to the affected household within a specified time period if they have not already done so. Should the owner/operator fail to act within the specified time period, EPA shall consult with the Governor within 24 hours to develop a plan to disseminate information to the affected households within 24 hours. If EPA and the Governor disagree on a plan or the information is not disseminated within 24 hours, then EPA shall act.**
- **Information for all such notices shall include:**
 - a clear explanation of the potential adverse health effects when a lead action level is exceeded,
 - steps that the owner/operator is taking to mitigate the concentration, and
 - the necessity of seeking alternative water supplies until the concentration level is mitigated.
- **Amends SDWA §1417 to make information publicly available on lead in drinking water risks, contributing factors within a residence, steps that can be taken to reduce risks, and availability of additional resources that consumers can use to minimize lead exposure.**
- **Should funding be available, EPA shall carry out targeted outreach strategies that focus on populations at risk of adverse health effects from exposure to lead in drinking water.**

§2107 Amends SDWA §1464 to replace subsection (d) with language related to voluntary school and childcare lead testing programs. Establishes a grant program for states to assist local educational agencies in voluntary testing for lead in drinking water. EPA may also provide grants for this testing to local education agencies (including child care facility owners) in states that do not have a state program.

- Not more than 4% of any award may be used for administrative costs.
- Awardees must also ensure that grant funds are expended in accordance with the 3Ts guidance, applicable state regulations or guidance on lead reduction in schools and child care programs, and make a copy of the results of any voluntary testing available to the

public and notify parents, teachers, and employee organizations of the availability of this information.

- If resources are available, the state or local educational agency shall demonstrate that the funds provided will not displace other available resources for lead testing.
- SDWA §1465 on the same subject is repealed.
- **Authorizes \$20M each fiscal year 2017-21.**

§2108 Speaks to establishing a drinking water technology clearinghouse on alternative drinking water delivery systems (including wells), considering wells as an alternate water source for small systems (<500 population) and a report to Congress in 3 years on the use of these alternative delivery systems.

§2109 Innovations in Drinking Water adds technologies to identify and mitigate sources of drinking water contamination, including lead contamination, to existing language on technical assistance.

- Amends SDWA §1442 to include the availability of technical assistance for innovative technologies to small public water systems.
- Requires a report to Congress every five years on the amount of funding used to provide small system technical assistance, barriers to greater use of innovative technologies, and cost-saving potential from such technologies.
- Authorizes \$10M for technical assistance to small systems each fiscal year 2017-21.

§2110 Extends small system technical assistance authorization in SDWA §1452(q) (2% technical assistance set aside) through 2021.

§2111 & §2112 Defines Indian Tribe and speaks to technical assistance for Tribes, intertribal consortia, and tribal organizations.

§2113 American Iron & Steel (AIS) – Provisions apply to all DWSRF loans but **only during FY 17.**

SUBTITLE B: Drinking Water Disaster Relief and Infrastructure Investments

§2201 Drinking Water Infrastructure – for this section...

- Defines 'eligible state' as one with a declared Stafford Act emergency related to public health threats from the presence of lead or other contaminants in water provided by a PWS.
- Defines 'eligible system' as a PWS that has been the subject of an emergency declaration.
- Defines 'lead service line' as a pipe and its fittings which are not lead free, that connect the drinking water main to the building inlet.
- Defines public water system using the definition in SDWA §101(4).
- Allows states to use §1452(d) provisions for disadvantaged communities to address lead or other contaminants, including repair and replacement of lead service lines and public water system infrastructure.
- 30% upper limit of funds reserved for DWSRF disadvantaged community loans shall not apply to funds made available in this section or to matching requirements.

- **Authorizes \$100M in additional capitalization grants to be available for 18 months to support this effort related to lead as well as other contaminants in drinking water.**
- EPA must respond within 30 days of receipt of a state's supplemental IUP.
- The state's supplemental IUP should include preapplication information on projects that contain a description of the project; an explanation of how the project will address the declared emergency; estimated project cost; and project construction start date.
- After 18 months, any unobligated funds shall be made available to states as additional capitalization grants for the DWSRF.
- Upon request from a state or local health official, ATSDR shall, in coordination with other agencies, conduct voluntary surveillance to evaluate any adverse health effects on individuals exposed to lead from drinking water in affected communities and provide consultation regarding health issues in the community.

§2202 WIFIA (per the sense of Congress) will receive \$20M in an initial appropriation and be used for projects, including those that address lead and other contaminants in drinking water systems.

§2203 \$17.5M is authorized to create a lead exposure registry as part of either the ATSDR or CDC and \$2.5M is authorized to stand up a 15 member advisory committee under the Secretary of Health and Human Services in collaboration with CDC and other relevant agencies to review Federal programs and services available to affected entities that have been exposed to lead; review current research and best practices; and conduct other reviews as needed. Annually for 5 years the committee shall report to Congress on the effectiveness of federal programs for services to those exposed to lead, research needs and recommendations for improved access to services.

§2204 Authorizes \$15M for fiscal years 2017-18 to carry out Public Health Service grants for preventive health service programs and \$15M for fiscal years 2017-18 for the Public Health Service Healthy Start Program.


TITLE IV – OTHER MATTERS

§5008 Amends the 2014 WIFIA to:

- Add chloride control as eligible under a desalination project
- Add alternative water supplies to reduce aquifer depletion as part of a water recycling project
- Add projects to prevent, reduce, or mitigate the effects of drought, including those to enhance resilience in drought stricken watersheds
- Allow application fees to be financed as part of the loan.
- Apply any eligible project costs incurred and the value of any integral in-kind contributions made before receipt of assistance shall be credited toward the 51% nonfederal cost share.
- ***Sense of Congress that any funds appropriated for this Act should be in addition to robust funding for the state water pollution control revolving funds and state drinking water treatment revolving loans and that funds for these loans should not decrease in any fiscal year.***


Kentucky Lead Workgroup
Sub-Group Members
Updated 12-21-16

Workgroup Members	Organization	Representing	E-mail	Phone	
Greg Heitzman - Chair	BlueWater Kentucky	Water Industry	Gheitzman@bluewaterky.com	502-533-5073	
Jennifer Burt	KY Public Health	Public Health	JenniferA.Burt@ky.gov	502-564-4537	
Obe Cox	Carroll County Water	Medium Systems	ocox@carrollcountyywater.com	502-347-9470	
Tom Gabbard	KY EEC	KY DOW	Tom.Gabbard@ky.gov	502-782-6952	
Mike Gardiner	Bowling Green Municipal Utilities	KMUA/Medium Systems	mgardiner@bmuu.com	270-535-4366	
Ron Lovan	Northern KY Water District	Large Systems	Rlovan@nkwwater.org	859-441-5087	
Brad Montgomery	GNW Engineers	ACEC/Engineering	bradmontgomery@gnwinc.com	859-223-3999	
Bill Robertson	Paducah Water	Large Systems	brobertson@pwwky.com	270-444-5550	
Tom Rockaway	U of L Engineering	Academic	rockaway@louisville.edu	502-852-3272	
Justin Sensabaugh	Kentucky American	Private Systems	Justin.Sensabaugh@kamwater.com	859-268-6342	
Rengao Song	Louisville Water	Large Systems	rsong@lwky.com	502-569-0880	
Brian Thomas	City of Marion Water Department	Small Systems	bthomas@marionky.gov	270-965-2266	
Liaisons:					
Gary Larimore	Ky Rural Water		glarimore@krwa.org		
Key Sanborn	KY AWWA		executive.director@kyawwa.org		
Peter Goodmann	KY EEC		Peter.Goodmann@ky.gov		
Bruce Scott	KY EEC		Bruce.Scott@ky.gov		
Recorder:					
Samantha Kaiser	KY EEC		Samantha.Kaiser@ky.gov		
Sub-Group (up to 5 members)	Report Out	Sub-Group Lead	Member 3	Member 4	Resource 1 Resource 2
Public Health	Wednesday, April 20, 2016	Jennifer Burt	Greg Heitzman		Matt Rhodes (JC Health Dept)
Regulatory/Legislative	Wednesday, May 18, 2016	Tom Gabbard	Justin Sensabaugh	Obe Cox	Key Sanborn (KYAWWA)
Treatment/Corrosion Control	Wednesday, June 15, 2016	Rengao Song	Bill Robertson	Justin Sensabaugh	Tom Fitzgerald
	July	No Meeting			
Distribution/Piping	Wednesday, August 17, 2016	Bill Robertson	Mike Gardiner	Rengao Song	
	September	No Meeting			
Training	Wednesday, October 26, 2016	Gary Larimore	Tom Gabbard	Brian Thomas	Gary Larimore (KRW)
Finance	Wednesday, December 21, 2016	Mike Gardiner	Greg Heitzman		Keiley Dearing Smith (LWC)
	January	No Meeting			
Early Warning/Monitoring	Wednesday, February 15, 2017	Rengao Song	Greg Heitzman		Matt Rhodes (JC Health Dept)
Communication/Education	Wednesday, March 15, 2017	Greg Heitzman	Brad Montgomery	Obe Cox	Keiley Dearing Smith (LWC)
Open Topics	Wednesday, April 19, 2017				Susan Lancho (KAWC)
Recommendations	Wednesday, May 17, 2017	Greg Heitzman	Mike Gardiner	Bill Robertson	Pete Goodman (KDOW)
Recommendations	Wednesday, June 21, 2017	Greg Heitzman	Mike Gardiner	Bill Robertson	Pete Goodman (KDOW)
Final Report	July 2017				



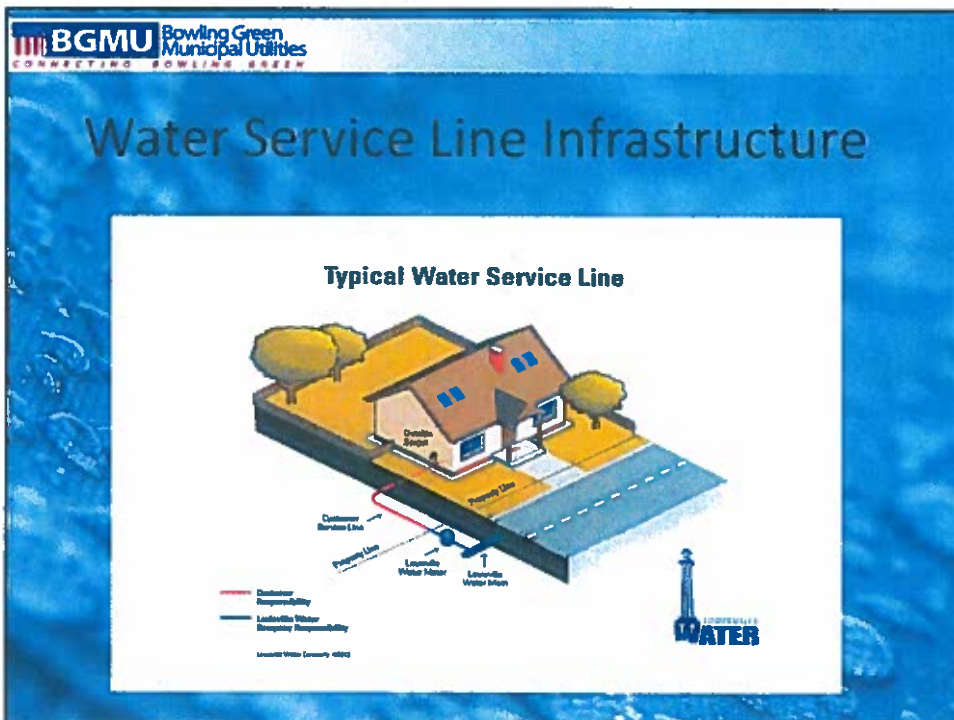
**Kentucky Lead Workgroup
Finance Subgroup Presentation
December 21, 2016**

Subgroup Members:
Greg Heitzman
Ron Lovan
Mike Gardner



Summary of Lead Removal Options
(from Distribution/Piping Subgroup)

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



BGMU Bowling Green Municipal Utilities
CONNECTING BOWLING GREEN

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?

BGMU Bowling Green Municipal Utilities
CONNECTING BOWLING GREEN


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?

BGMU Bowling Green Municipal Utilities
CONNECTING BOWLING GREEN


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?

 **BGMU** Bowling Green Municipal Utilities
CONNECTING BOWLING GREEN

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

 **BGMU** Bowling Green Municipal Utilities
CONNECTING BOWLING GREEN

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 \$1,600 to \$8,000 (public portion)

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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 \$800 to \$3,000 (public portion)
- Unknown number of ancillary lead components in Kentucky

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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

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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

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US Lead Service Line Inventory

- AWWA Journal Article, June 2016 by Cornwell, Brown, Via
- AWWA/EPA estimates 6.1 million public Lead Service Lines (LSL) in U.S. (range of 5.5 to 7.1 million LSL)
- Includes full and partial LSL (public and private)
- Largest density in in systems serving 10,000 to 50,000 Population. (not expected)
- Generally utilities transitioned from lead to copper between 1930 and 1960 across the US.
- Source of data analysis of AWWA/EPA survey of utilities and extrapolation of data.
- National cost estimate of \$18 to \$36 billion (Heitzman) for 6.1 million LSL, assumes \$3,000 to \$5,000 per LSL replacement costs



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Kentucky Lead Service Inventory




- AWWA/EPA estimate 53,000 Public LSL in Kentucky
- Replacement Cost Range of \$1,500 to \$3,000 each
- Estimate of \$79.5 to \$159 million for public portion
- Estimate 13,000 Private LSL in Kentucky
- Replacement Cost Range of \$1,000 to \$2,000
- Estimate of \$19.5 to \$26 million for private portion
- Total Kentucky Estimate for removal of Public and Private LSL of \$92.5 to \$185 million
- Other plumbing fixtures in distribution system: auxiliary lead components

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How does Kentucky Compare?

- United States Survey Data:
 - US 2015 Population 320 million people
 - 293 million people served by Community Water Systems (92% served)
 - 97.7 million household connections (assumes 3 people per connection)
 - 6.1 million Lead Service Lines (AWWA Journal Article June 2016)
 - Estimate that 6.2% of US Houses have full or partial Lead Service Lines
- Kentucky Survey Data:
 - Kentucky 2015 Population of 4.4 million
 - 4.2 million people served by Community Water System (95% served)
 - 1.4 million household connections (assumes 3 people per connection)
 - 53,000 Lead Service Lines (AWWA Journal Article June 2016)
 - Estimate 3.8% 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
 - » WIFIAWIN/WRDA
 - » Rural Development Grants/Loans (70/30)
 - » Other State Loan Programs – RIA 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

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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 $\times 10$ ppb
- Does EPA regulate action level to comply
 - additional treatment
 - additional lead line/component removal

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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



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How have other communities handled costs for lead service line replacement?


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



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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



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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?



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

- Large Communities
- Small Communities
- Louisville Water Experience

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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

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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.

LEAD IN DRINKING WATER WORK GROUP
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 December 21, 2016
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