1. Call Meeting to Order and Roll Call of Membership – Greg Heitzman

2. Introduce Guests

3. Approve Minutes of June 15, 2016

4. Presentation by Distribution Piping Sub-group – Bill Robertson


6. Review Sub-groups Assignments and Schedule

7. Discuss Report Template

8. Open Discussion for Workgroup

9. Public Comment Period

Drinking Water Advisory Council  
Lead in Drinking Water (LIDW) Work Group  
Draft Meeting Minutes  
August 17, 2016

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

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

Absent: Obe Cox (CCW), Rengao Song (LWC), Brian Thomas (MWD)  

Division of Water (DOW): Sarah Gaddis, Samantha Kaiser, Todd Ritter  

Public Attendees: Amber Agee (DPH), Lane Boldman (KCC), Samantha Morgan Faulkner (KYOAG-ORI), George Haynes II (DCA), Representative Dennis Horlander (LRC), Melissa A. Melton (RCAP), Jim Smith (CCW)  

The meeting was held at the Kentucky Division of Water office, 300 Sower Blvd, Frankfort, KY and began at 1:35 p.m. EDT.  

Call Meeting to Order and Roll Call of Membership  

Chair Greg Heitzman led the roll call and noted the absent members.  

Introduction of Guests  

Guests introduced themselves.  

Approve Minutes of June 15, 2016  

Changes were made to June Meeting Minutes and the Workgroup approved the June Meeting Minutes by consensus.  

Presentation by Distribution Piping Sub-group  

Bill Robertson gave a Power Point presentation regarding water distribution and piping materials. Lead joints in cast iron piping (generally used prior to 1960) should not be a major area of focus for a source of lead contamination in drinking water. The primary source of lead in drinking water in distribution systems will be from lead service lines/piping, pipe fittings that contain lead, such as meters, brass/bronze fittings and valves and from lead based solder.  

There is currently no easy method to inventory buried lead service lines. There are methods that require significant amounts of effort and are costly for utilities. He suggested that the first step in inventorying lead service lines is a detailed review of local plumbing codes, customer files, old system maps, old field books, purchasing records, board meeting minutes, etc. to try to determine the location of lead service lines, or the date that utilities phased out the use lead for service lines and replaced with newer materials, such as copper. Several cities, such as Paducah and Louisville report the use of copper as a substitute for lead, beginning in the 1930’s. Some major US cities (i.e. Chicago) installed lead services into the 1980’s.
The next step for inventory of lead service lines is using GIS systems to identify areas that have the greatest potential for lead service lines based on the age of the water main, age of homes, or other historical data, such as service line installation records. Utilities can then excavate adjacent to the water main and look at the service line material. This can be performed by conventional excavation with backhoe, or by using vacuum excavation or hand digging. Another suggested approach is testing the water for lead at each meter and also testing water at the tap inside the home, which is an indirect method but quicker and costs less. The data collected can be analyzed to determine if lead is detected between the water main and meter and between the meter and the customers tap. This method has been used with inconsistent results at best.

The workgroup discussed how utilities deal with lead service lines when they are found. Utilities are not required to, but most do, replace lead service lines once they are exposed during excavation in the field. There is a concern that during a partial lead service line replacement, disrupting the service line could cause elevated lead levels. Once the excavation process begins to find lead service lines, generalizing where they are located can be inaccurate. Lead service lines have been found in close proximity to excavated locations where no lead service line was found, often due to previous repairs on the service line or materials used by plumbers on premise plumbing. Every community is different and every location is different.

Each utility is responsible for their lead service line inventory; some utilities have acquired other water systems which makes it difficult to establish an inventory for those lines. Some utilities are waiting until regulators reach a decision regarding lead service line replacement. Other utilities (i.e. Louisville) have an active lead service line replacement program, replacing up to 1,500 per year. There is not a ‘one size fits all’ solution for eliminating lead service lines. Each utility should review its history of lead service lines, it’s lead compliance record, and treatment methods to determine if a lead service line replacement program should be implemented.

Other issues that need to be addressed are how best to communicate to the public, elected officials, and regulators; how operators need be trained to identify lead service lines; and how to integrate these concepts into standard practice. The group also acknowledged the importance of public education and operator training.

National Drinking Water Advisory Council (NDWAC) Report of Lead

The NDWAC Report on Lead (hard copy provided to Workgroup members) is a good resource for the subgroups to use when preparing subgroup reports. Water industry leaders published this report in August 2015, prior to the Flint Michigan lead crisis and this allows a pre-Flint viewpoint on the lead service line issue.

Review Subgroups Assignments and Schedule

The Workgroup discussed the subgroup assignments and schedule. There will be no meeting in September. The Training subgroup will present at the meeting in October, and the Finance subgroup will present in November.

Discuss Report Template

The Workgroup was reminded to convert each presentation into a text document for its report. Mr. Heitzman will email the report template to the Workgroup members.
Open Discussion for Workgroup

The Workgroup discussed the U.S. EPA Drinking Water Workshop that will take place in Cincinnati, Ohio on August 23 – 25 and Kentucky Rural Water Association’s Annual Conference August 22 – 24.

Public Comment Period

No public comments were made.

Next Workgroup Meeting

The Workgroup reached a consensus that there will be no meeting in September. The Workgroup decided the next meeting will be held on October 26, 2016 at 1:30 p.m. EDT at 300 Sower Boulevard, Frankfort, KY. All future meeting presentations will be pushed back by one month. Mr. Heitzman will update the Workgroup membership and schedule spreadsheet and forward to Workgroup members.

Adjournment

The meeting adjourned at 3:00 p.m. EDT.
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Adjournment

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KENTUCKY LEAD WORKING GROUP

DISTRIBUTION / PIPING SUBGROUP PRESENTATION OVERVIEW

- DISTRIBUTION SYSTEM PIPING MATERIALS
- LEAD IN PIPING MATERIALS
- SOLDER LEAD AND COPPER BLEED IMPACT ON PIPING MATERIALS
- SYSTEM INVENTION
- GETTING THE LEAD OUT

DISTRIBUTION SYSTEM MATERIALS IN USE THROUGHOUT MODERN HISTORY

- HOGG
- LEAD
- CAST IRON - DRAIN, SEWER
- DUCTILE IRON - DRAIN, SEWER
- PVC - DRAIN, SEWER
- COPPER
- BRASS
- CONCRETE

LEAD JOINT CAST IRON PIPE

WHY WAS LEAD PIPE USED?

- FLEXIBLE
- DURABLE
- EASY TO WORK WITH
- NOT SUBJECT TO MINOR LEAKS
- PLUMBERS PROTECTING THEIR JOBS

REGULATION OF LEAD IN PLUMBING

- 1986 - CONGRESS ADOPTED THE SAFE DRINKING WATER ACT - PROHIBITED THE USE OF PIPE, SOLDER, OR FLUX THAT WAS NOT "LEAD FREE" IN PLUMBING OF FACILITIES FOR HUMAN CONSUMPTION; LEAD FREE WAS NO MORE THAN 8% LEAD IN PIPE AND 0.2% IN SOLDER OR FLUX
- 1996 - CONGRESS ADOPTED THE SAFE DRINKING WATER ACT - REQUIRED PLUMBING FITTINGS AND FIXTURES TO BE IN COMPLIANCE WITH VOLUNTARY LEAD LEACHING STANDARDS. ALSO PROHIBITED SELLING ANY PIPE, FITTING, OR FIXTURE THAT WAS NOT LEAD FREE.
REGULATION OF LEAD IN PLUMBING

- 2004: Congress passed the Reduction of Lead in Drinking Water Act - revised the definition of "lead free" by lowering the maximum content of lead in pipe to 0.2% and eliminated the requirement for lead-free products to be in compliance with voluntarily lead-bearing standards.
- 2011: 2013: Amendments to be "lead free" for plumbing fixtures used for non-potable use, i.e., irrigation, distribution system valves, service saddles, etc.

REGULATION OF LEAD IN WATER LEAD AND COPPER RULE

- Prior to 1999: Lead limit was set at 30 ppm at the distribution system entry point.
- 1991: Set action level for lead of 15 ppm. Requires that utilities identify and replace lead service lines.
- 2000: Minor corrections to the lead and copper rule - address implementation issues arising from legal challenges.

REGULATION OF LEAD IN WATER LEAD AND COPPER RULE

- 2004: Minor revisions to earlier revisions - clarified language and dropped text from previous revision.
- 2007: Revisions to rule (short-term revision) - these revisions address adverse health effects, treatment, customer awareness, and lead service line euphemisms. The revision includes customer education materials, training, and legal information.

THE BIG QUESTION

LEAD SERVICE LINE INVENTORY

- Right now is the easy method to inventory lead service lines.
- One possible approach is a walk-through approach with each subsequent step reducing the effort and cost from the others.
- We can start with a detailed review of local, plumbing codes, customer files, old system maps, old field books, purchase records, service meter inquiries, etc., to try and determine the location of lead service lines or the last place that lead service lines were installed in the distribution system.
- We can then use our GIS system to identify areas that have the greatest potential for lead service lines based on the age of the water main.
- Finally, we can excavate adjacent to the meter or at the connection stop and look at the service line materials.
2 THE BIG QUESTION 2
LEAD SERVICE LINE INVENTORY

- Another possible approach is to test the water at each meter for LEAD. This would be an indirect method but cheaper and at less cost.
- The Water Research Foundation has an app for projects that will investigate service line material identification techniques.
Typical Water Service Line

Service Line Replacement

How do we address lead service lines?

- Do nothing
- Control corrosion / test and monitor
- Add phosphate / test and monitor
- Replace all lead "pig tails" and services
CORROSION CONTROL
IS THIS THE ANSWER?

- Corrosion control was reviewed by retrofit so far at our last meeting.
- If we implement corrosion control, we must evaluate the distribution system to determine the best approach for each system. Corrosion control without phosphates usually results in high pH water leaving the water treatment plant.
- Once implemented, we must monitor the distribution system to make sure the selected approach is effective. If not effective, we can modify our approach.

PHOSPHATE ADDITION
IS THIS THE MIRACLE CHEMICAL?

- Phosphates will not prevent corrosion. It will help with cleaning up the distribution system.
- Phosphates will help prevent corrosion in the distribution system by coating the interior of pipes.
- Phosphate addition works best at a moderate pH of 7 to 7.5.
- Typical doses of phosphate range from 5 mg/L to 50 mg/L.

CORROSION CONTROL

- Every system is unique, and what will work for one system may or may not work for another. Each system will have to be evaluated to determine the best approach for corrosion control.
- Distribution system monitoring is essential for success. Implementation is not as simple as hooking up a chemical feed pump. Having the chemical sales person set the dose and you're done.
- Upper management must be involved and committed to success. Corrosion control can be expensive and at times frustrating.

QUESTIONS?
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