



Kentucky Lead Workgroup Recommendations

March 13, 2018

Document Compiled By
Greg Heitzman
Chair, Kentucky Lead Workgroup

Following the 2015 public health crisis in Flint Michigan, the Kentucky Environmental Protection Cabinet formed the Kentucky Lead Workgroup to evaluate the current state of lead in drinking water in Kentucky. The Workgroup has been meeting regularly since May 2016 to review current practices in managing lead in Kentucky's public drinking water systems. The 12-member Workgroup has representation from small, medium, large public water systems, regulators, the state public health department, engineering consultants, academia and industry associations. The Workgroup established seven subgroups to review and evaluate lead in the areas of public health, drinking water regulations, water treatment/corrosion control, water distribution/piping, training/education, finance/funding, and communications. The initial draft recommendations were presented at the Kentucky-Tennessee Water Professional Conference on July 11, 2017. The meetings of the Workgroup are open to the public and minutes and presentations are available online at <http://water.ky.gov/drinkingwater>.

The recommendations are organized into the following stakeholder groups: State Agency; Public Water System/Utility; Drinking Water Industry Associations; and Research Organizations. The recommendations were finalized by the Kentucky Lead Workgroup on March 7, 2018 and approved by the Kentucky Drinking Water Advisory Council on March 13, 2018. A final report of the Workgroup findings and recommendations will be compiled in the Summer 2018.

1.0 - State Agency Recommendations:

Kentucky Division of Water (KDOW), Kentucky Infrastructure Authority (KIA), Kentucky Division of Compliance Assistance (KDCA), Kentucky Department of Public Health (KDPH), Kentucky Department of Education (KDE).

The agency recommendations included herein should be evaluated by the respective state agencies and implemented where budget resources are available. The recommendations should be evaluated in partnership with water industry stakeholders (utilities, industry associations and engineering community) and presented to the Kentucky Drinking Water Advisory Council for review and comment prior to implementation. State Agencies should consider the following recommendations:

- 1.1 Develop protocol, guidance and technical assistance for evaluation of treatment process changes using the US EPA's Optimal Corrosion Control Treatment (OCCT) report published March 2016. A Corrosion Control Plan (CCP) should be developed when:
 - a. a new water source is introduced (including interconnects with utilities);
 - b. the water source is changed;
 - c. the water treatment process is changed (including chemical additives);
 - d. lead compliance sampling results are near or exceed the EPA Action Level (currently 15 ppb);
 - e. an interim supply is needed (excludes emergency supply)

A CCP is a complex analysis. To assure optimal water treatment quality is achieved and regulatory compliance is maintained, the CCP should be conducted by a qualified water quality professional. As recommended by EPA, the CCP should be developed in coordination with the Kentucky Division of Water.

Responsible Parties: KDOW, Drinking Water Utilities. KY Rural Water, KY-TN AWWA.

- 1.2 Establish protocol and reporting requirements for utilities to use for the collection and reporting of special lead samples and when customers request water sample testing for lead.

Responsible Parties: KDOW, with input from Drinking Water Utilities.

- 1.3 Update the estimated number of lead service lines (public and private) in Kentucky and the associated replacement costs.

Responsible Parties: KDOW, KY Rural Water, KY-TN AWWA, Drinking Water Utilities.

- 1.4 Revise prioritization criteria for state-wide water projects to include lead service line replacement.

Responsible Parties: KDOW, KIA with input from Drinking Water Utilities.

- 1.5 Develop funding sources that utilities can use to finance lead service line replacement (public and private) and lead abatement projects. Funding sources may include: KIA, Rural Development, SRF funding, and state/local appropriations.

Responsible Parties: KIA and Rural Development with input from KDOW and Drinking Water Utilities.

- 1.6 Develop a lead training curriculum in partnership with utilities, state and local health departments and water industry associations. The training should include corrosion control treatment methods, lead service line replacement and repair practices, flushing practices and customer communications.

Responsible Parties: KDOW, KDCA, KDPH, KY Rural Water, KY-TN AWWA, Drinking Water Utilities.

- 1.7 Consider Kentucky state legislation for requiring blood lead level testing for all children at 12 and 24 months of age.

Responsible Parties: KDPH in collaboration with KDOW, Drinking Water Utilities, KY Rural Water, KY-TN AWWA.

- 1.8 Update the Kentucky Division of Water's website to serve as a resource for information on lead in drinking water, best practices, health impacts and regulatory requirements.

Responsible Parties: KDOW in collaboration with Drinking Water Utilities, KY Rural Water, KY-TN AWWA.

- 1.9 Promote the use of U.S. EPA's 3T (Training, Testing and Telling) program for reducing lead in drinking water in schools and child care centers. The program includes: Training of school officials on the potential of lead in drinking water; Testing of drinking water in schools to identify potential problems and corrective actions (as needed); and Telling staff, parents, students and the local community about the testing results, potential risks and remedial actions taken by the school.

Responsible Parties: KDE, School Officials and Child Care Centers in partnership with KDPH and local public health officials.

- 1.10 Monitor lead testing programs for schools and child care centers being used in other states and consider implementing in Kentucky following a review of benefits and costs.

Responsible Parties: KDPH, KIA and KDOW in collaboration with Drinking Water Utilities, KY Rural Water, KY-TN AWWA.

2.0 - Public Water System/Utility Recommendations:

The public water system/utility recommendations included herein should be considered on a case-by-case basis, with consideration given to: budget and resource availability; the technical expertise and knowledge of the utility; the feasibility and practicality of implementation; the impact on customer water rates and fees; and the size of the utility (population served, number of customers, water demand and size of distribution system). Public water systems/utilities should consider the following recommendations:

- 2.1 Conduct a Corrosion Control Evaluation (CCE) and develop a Corrosion Control Plan (CCP) for water treatment and distribution operations following the guidance provided in US EPA's

Optimal Corrosion Control Treatment (OCCT) report published March 2016. A CCP should be developed when:

- a. a new water source is introduced (including interconnects with utilities);
- b. the water source is changed;
- c. the water treatment process is changed (including chemical additives);
- d. lead compliance sample results are near or exceed the EPA Action Level (currently 15 ppb);
- e. an interim supply is needed (excludes emergency supply).

A CCP is a complex analysis. To assure optimal water treatment quality is achieved and regulatory compliance is maintained, the CCP should be conducted by a qualified water quality professional. As recommended by EPA, the CCP should be developed in coordination with the Kentucky Division of Water.

Responsible Parties: Drinking Water Utilities and KDOW.

- 2.2 Adopt the EPA recommended guidelines for lead compliance sampling.

Responsible Parties: Drinking Water Utilities and KDOW.

- 2.3 Prepare for a reduction in the EPA Lead Action Level from 15 parts per billion (ppb) to less than 10 ppb as part of a revised Lead and Copper Rule (LCR).

Responsible Parties: Drinking Water Utilities and KDOW.

- 2.4 Prepare for more frequent sampling cycles and more diverse sampling locations for LCR compliance.

Responsible Parties: Drinking Utilities and KDOW.

- 2.5 Adopt a policy or practice to remove public lead service lines when exposed during excavation. Communicate the discovery of any private lead service lines to the homeowner/occupant. The communication message should define the homeowner's responsibility for private plumbing, the benefits of flushing and the impacts of lead contained in plumbing fittings and fixtures.

Responsible Parties: Drinking Water Utilities with assistance from KY Rural Water and KY-TN AWWA.

- 2.6 Proactively investigate the location of public lead service lines using various methods (historical records, maps, construction plans, field surveys, home age, etc.). The service line information (public portion) should be added to the water distribution inventory, maps and records (include material type, age, condition, and other attributes where available).

Responsible Parties: Drinking Water Utilities.

- 2.7 Provide customers access to an on-line database of utility-confirmed lead service line locations (public portion).

Responsible Parties: Drinking Water Utilities.

- 2.8 Adopt a long-term goal of replacing all lead service lines. The implementation practices and the time line associated with this goal will be based on local conditions and financial capability.

Responsible Parties: Drinking Water Utilities.

- 2.9 Develop consumer education materials on lead in drinking water in collaboration with industry associations, regulators and public health officials. The education materials should: include the health risks associated with lead; include guidance on common methods to reduce lead exposure; and identify the homeowner responsibility for private service lines and plumbing fixtures. The information should be provided to consumers and stakeholders through Consumer Confidence Reports, websites, social media, door hangers and other available communication methods.

Responsible Parties: Drinking Water Utilities in partnership with KY Rural Water, KY-TN AWWA, KDOW, State and Local Health Departments.

- 2.10 Train field personnel to identify, locate, repair, and/or replace lead service lines and lead-containing fittings.

Responsible Parties: Drinking Water Utilities.

- 2.11 Monitor state and national best practices on managing lead in drinking water. Best Practices should be implemented where feasible and practical.

Responsible Parties: Drinking Water Utilities.

- 2.12 Review the ANSI/AWWA Standard C810-17 on Replacement and Flushing of Lead Service Lines (published November 1, 2017). The standard should be adopted where feasible and practical.

Responsible Parties: Drinking Water Utilities.

- 2.13 Develop a program to partner with the health department, public/private schools and childcare centers for testing, education and coordination of replacement of lead piping and plumbing fixtures within school and childcare facilities. The program should include a protocol for reporting results of lead testing to the utility, schools and child care centers, local health department and Kentucky Division of Water.

Responsible Parties: Drinking Water Utilities, local Health Departments, Public/Private Schools, and Childcare Centers.

3.0 - Drinking Water Association Recommendations:

Kentucky Rural Water (KY Rural Water), Kentucky-Tennessee AWWA (KY-TN AWWA), Kentucky Water/Wastewater Operators Association (KWWOA) and other industry associations.

The drinking water association recommendations included herein should be evaluated by the respective associations and implemented where feasible and practical, using a collaborative process with utilities, drinking water regulators and key stakeholders. Drinking water associations should consider the following recommendations:

- 3.1 Develop a utility training curriculum on lead in drinking water, including: lead treatment (corrosion control); water sampling protocol; system assessment for lead; lead inventory; lead service line repair; lead service line replacement (public and private); the potential source of lead from homeowner plumbing fixtures; and communication materials for consumers.

Responsible Parties: KY Rural Water, KY-TN AWWA, KWWOA, Drinking Water Utilities.

- 3.2 Identify key stakeholders and develop lead communication tools, including web site links and templates, for utilities to use in communicating with customers. Utilize existing resources from national and local partners. The materials should include information on the homeowner responsibility for private lead service lines and plumbing fixtures that may be sources of lead.

Responsible Parties: KY Rural Water, KY-TN AWWA, Drinking Water Utilities.

- 3.3 Engage and educate key stakeholders on lead in drinking water. Key stakeholders include health departments, medical professionals, regulatory agencies, education officials, engineering professionals, building trades, homeowners and other organizations that are impacted by or establish policy or regulations regarding lead in drinking water.

Responsible Parties: KY Rural Water, KY-TN AWWA, KWWOA, Drinking Water Utilities

- 3.4 Pursue financial assistance from local, state and federal agencies for public and private lead service line replacement, utilizing the State Revolving Loan Fund Program and other financial assistance programs for home lead abatement.

Responsible Parties: KDOW, KIA, KY Rural Water, KY-TN AWWA, KWWOA, Drinking Water Utilities, local government agencies.

4.0 - Research and Development Recommendations:

Water Research Foundation, U.S. EPA Office of Research and Development, Universities, and other research groups.

The Research and Development recommendations are provided for consideration by organizations that conduct applied research in areas of public health, water treatment and water delivery. The following recommendations will be forwarded to the Water Research Foundation and US EPA Office of Research and Development for consideration in their future research planning and budgets.

- 4.1 Develop technology to identify buried lead service lines (non-destructive).

Responsible Parties: Water Research Foundation, Universities, private sector market.

- 4.2 Advance utility best practices for full (public and private) and partial (public portion only) replacement of lead service lines.

Responsible Parties: Water Research Foundation, Universities, private sector market.

- 4.3 Conduct research on the impact of lead in drinking water on human health. This work will assist in identifying an appropriate action level for lead in drinking water.

Responsible Parties: US EPA, Centers for Disease Control and Prevention (CDC), National Science Foundation, National Institute of Health, Health Foundations Universities, Water Research Foundation, Drinking Water Utilities.

- 4.4 Evaluate the cost effectiveness of point of use (POU) and point of entry (POE) treatment devices for lead removal as an alternative to treatment changes or lead service line replacement to achieve compliance with the Lead and Copper Rule lead action level (currently 15 ppb).

Responsible Parties: EPA, Water Research Foundation, Drinking Water Utilities, private sector market.

- 4.5 Conduct research to determine the best sampling methods to obtain a representative sample of lead in drinking water for purposes of Lead and Copper Rule compliance monitoring.

Responsible Parties: EPA, Water Research Foundation, Drinking Water Utilities, private sector market.

END OF DOCUMENT