Illinois Section American Water Works Association
Keys to a Successful Lead Service Line Replacement Program

In January of 2017, the AWWA Board of Directors adopted all of the recommendations contained in the U.S. National Drinking Water Advisory Council’s (NDWAC) recommendations to reduce lead in drinking water through the complete replacement of lead service lines while ensuring optimal corrosion control measures.

AWWA continues to be committed to protecting public health through the reduced exposure to lead in drinking water. AWWA encourages communities to develop a lead reduction strategy that includes identifying and replacing all lead service lines over time.

The Center for Disease Control and Prevention (CDC) has stated, “No safe blood level in children exists”. Considering this information, regardless of specific legislation or regulations requiring lead reduction action by utilities, the Illinois Section American Water Works Association strongly supports proactive utility programs be developed to reduce customer exposure to lead in drinking water.

This document is intended to provide Illinois utilities with information to assist them with developing a lead reduction program unique to their community. It is not intended to be all inclusive of all the steps to developing a lead service line replacement program, but provide utilities with concepts and ideas to develop a program that could be implemented within their individual community.

**Lead Service Line Material Inventory**

On April 18, 2016, the Illinois Environmental Protection Agency (IEPA) began requiring all Illinois water utilities to develop and maintain a LSL material inventory. These inventories must be posted to the utility’s website and updated each year in order to provide transparency to customers. In addition, the inventory must submitted each year to the IEPA that clearly identifies the pipe materials used for every water service (this does not mean the service line must be excavated, but every effort should be made to visually determine the type of water service line material at each customer) and the progress the utility has made since the last submission.

The ISAWWA further recommends, the extent practical, the utility should distinguish the type of pipe in place on both the customer and utility side of the curb box. The notification to the IEPA should include the number of lead service lines identified since the last submission.
**Communication with Customers**

The IEPA now also requires residents be notified anytime water main repair/replacement is planned that the work could result in sediment, possibly containing lead, getting into their water. Notification should include information about flushing their lines after work is completed and advised to remove and clean faucet aerator screens. They must be provided with printed information related to the health factors associated with lead exposure and how to access the USEPA website for additional lead in drinking water information.

**New Water Main Replacement Projects**

The IEPA is now including language on all water main replacement permits to notify each service connection regarding the flushing of premise plumbing to reduce lead consumption risks. Specific language for this notification will be included on the water main construction permit.

Prior to construction, utilities should evaluate the material type of all of the water service lines within the project scope. Should lead service lines be encountered, utilities should develop a strategy as to how those pipes will be completely replaced from the water main to the building.

A recent study by U.S. EPA found that construction activity to replace water mains may loosen lead-containing particulate that ends up in water consumed by nearby resident. Similarly, the study found that disturbed lead service lines had the highest lead levels, and there is reason to believe the lead levels can be elevated for days to weeks following repair or replacement of a lead service line, particularly partial replacement. [http://www.waterrf.org/PublicReportLibrary/91229.pdf](http://www.waterrf.org/PublicReportLibrary/91229.pdf)

The Illinois EPA has indicated they will not approve water main construction permits unless lead service lines are addressed. The ISAWWA suggests communities evaluate their options for full lead service line replacement. Some options in the toolbox could be:

- Utility replaces the entire service line at their expense.
- Utility replaces its portion of the service line and the customer pays for their portion.
- Utility finances the customer portion and develops a mutually agreeable repayment plan for the customer.
- Utility obtains grant funding to pay for the customer share of the replacement.
- Utilities who have the capability might place a lien against the property for the customer portion and get repaid at the time of sale of the property.

*These are just some examples of options for utilities. Utilities should be open minded to additional options for community-specific issues.*
When developing their lead service line replacement programs, utilities must be careful to consider potential social injustice issues. Utilities should be aware, some customers may not be able to afford the cost of their share no matter the price. Social injustice can lead to negative public perception which could be more costly (in terms of public confidence and trust) than the cost to replace the service line.

Following the installation of the new water service line, utilities should provide information to customers regarding the flushing of their internal water system. Lead particles can enter the building during the construction process and all fixtures within the building used for cooking and drinking should be flushed adequately to eliminate those particles.

*Property Ownership Issues*

It is understood, many utilities will have significant concerns regarding their ability to work on private property. While ISAWWA agrees this is a real issue for utilities, the IDPH and IEPA both believe the issue can be resolved with some effort on the part of the utility. ISAWWA recommends prior to construction, utilities reach out to property owners (through direct mail, certified mail and/or personal contact) to receive written authorization from the property owner to work on their property. Utilities should carefully describe the risks of lead contamination in drinking water, the method of construction the utility intends to deploy, how costs will be managed and how the property will be restored.

It is further understood, not all customers will be cooperative with the process no matter the cost. In those cases, utilities should evaluate their options regarding receiving a signoff or waiver from the property owner stating they are not interested or willing to allow work to be performed on their property. For those customers who fail to provide the sign-off or waiver, consideration should be given to terminating water service until such sign-off/waiver is received or a replacement agreement is reached. This is considered a last resort.

*Emergency or Unplanned Water Main and Service Line Work*

Not all water main or water service line work is planned. When unexpected water main breaks or water service leaks occur, the IEPA already requires customers be notified of the potential for sediment possibly containing lead could get into the water.

ISAWWA strongly recommends utilities develop proactive policies or programs in advance to manage the replacement of lead service lines during those times when unplanned or emergency conditions arise. Similar to what was stated previously, there is much research and technical
understanding that anytime a lead service line is touched, it can cause increased lead exposure to customers for weeks if not months afterward.

It’s understood when unexpected water service leaks occur, it is sometimes not possible to replace the lead service line at the time of repair. However, utilities should consider as part of their LSL replacement program, a policy to coordinate with the affected property owner a complete replacement of that LSL as soon as possible to avoid increased lead exposure to the customer due to construction activities.

Following any work on a lead service line, utilities should provide education to affected customers on proper flushing techniques and risks of exposure to lead in drinking water. In cases where only a portion of the LSL is replaced due to circumstances, utilities should consider providing some type of approved temporary filtration device for the customer until such time as the remaining LSL can be replaced. In addition, within 72 hours of the completion of the work, the utility should collect a water sample consistent with the requirements of the Lead and Copper Rule to determine the level of lead in the home/building and report those results to the property owner and/or occupant within 3 business days of receiving the results.

**Community Lead Service Line Replacement Programs**

The ISAWWA recommends utilities with lead service lines work diligently to develop a lead service line replacement program regardless of routine water main replacement projects or emergency / unplanned work. Obviously, it is more efficient to include this replacement work within the scope of routine water main replacement projects, however the time-frame of such replacement may not be conducive to the timely completion of a fully implemented lead service line replacement program.

ISAWWA suggests utilities evaluate their lead service line inventory and their capital improvement/replacement programs to identify those lead service lines that are not included. In those cases, utilities should develop a program to replace the remaining lead service lines. Utilities can develop financing mechanisms, establish necessary adjustments to rate structures and efficiently perform construction in advance of implementation of the program utilizing many of the ideas and suggestions contained within this document.

**Conclusion**

ISAWWA understands, utilities may argue that currently there is no legislation or regulation dictating the need for a lead service line replacement program so why should they spend potentially millions of dollars without a regulatory hammer requiring the action.
ISAWWA firmly believes, even in the absence of that regulatory hammer, significant technical evidence and research exists to demonstrate lead service lines have the potential for negatively impacting the health and well-being of our customers, especially young children. Water professionals and municipal/utility officials have a responsibility to protect the health of their customers, and implementing a lead service line replacement program in your community will go a long way to reducing lead exposure.

Considering this fact, water professionals and municipal/utility officials must acknowledge their responsibility to protect the public health of their communities and begin reasonable programs to reduce the exposure to lead in drinking water as soon as practicable.

Additional information related to the development and implementation of lead service line replacement programs are available through AWWA’s Lead Resource Community (https://www.awwa.org/resources-tools/water-knowledge/lead.aspx) and AWWA’s partner organization the Lead Service Line Replacement Collaborative (https://www.lslr-collaborative.org/).