



**American Water Works
Association**

Dedicated to the World's Most Important Resource™

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March 8, 2018

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RE: Long-Term Lead and Copper Rule Federalism Consultation (Docket ID No. EPA-HQ-OW-2018-0007)

Dear Mr. Grevatt,

The American Water Works Association appreciates the opportunity to participate in the U.S. Environmental Protection Agency's 2018 federalism consultation on potential long-term revisions to the Lead and Copper Rule. The body of research and experience with lead has grown since the initial federalism consultation on Long-Term Lead and Copper Rule in 2011, and AWWA commends the Agency for its decision to undertake this second consultation.

The primary mission of community water systems is to protect the health of the people they serve. Revisions to the LT-LCR should advance strong customer protections today while we work for a future where lead is no longer in contact with the water we drink. Systems must provide this protection within the means provided by their communities and the constraints of what is operationally and financially feasible. AWWA recommends that the revised LT-LCR result in water systems engaging in:

1. **Development of an inventory of lead service lines:** The inventory should begin with an estimate of the number of lead service lines in each system's service area based on the information available and improve over time through ongoing water system operations, improved detection technology, and community engagement.
2. **Development of plans for the complete removal of lead service lines through a long-term, shared commitment** – Replacing remaining lead service lines is an important, societal undertaking and will require long-term commitments from many partners and a recognition of shared responsibility. Lead service line replacement strategies must consider other water and non-water improvements and customer affordability challenges. Locally developed programs, responsive to local circumstances, are essential. Communities will need to navigate numerous legal and implementation challenges that require time and resources in the face of competing demands.
3. **Application of process control to reduce corrosivity of water reaching customers' homes:** Corrosion control should be robust, and deviations from target conditions should trigger investigation and corrective steps.

4. **Public outreach on lead risk and lead risk mitigation:** Systems should actively and transparently communicate with their customers, particularly customers with lead service lines, about lead risks and steps households can take to evaluate and reduce lead in drinking water.

The proposed LT-LCR is more than a decade in preparation for at least two reasons. First, managing lead in water involves many challenging policy decisions. And second, the science is still evolving to support those decisions. Many of the issues utilities face, in particular how to control particulate lead release, remain poorly understood. Consequently, to move forward quickly, the LT-LCR revisions must focus on improvements to the current rule that provide cost-effective risk reduction with minimal risk of unintended consequences or misallocation of resources.

The LT-LCR revisions represent an opportunity for meaningful health risk reduction by further reducing lead materials in contact with drinking water, encouraging water systems to enhance current corrosion control practice, and bolstering ongoing public education on lead in drinking water. One of the significant developments since the 2011 federalism consultation was the National Drinking Water Advisory Council recommendations. The NDWAC recommendations provide a sound starting point for the LT-LCR revisions, though more recent information should also be considered. Key aspects of rule revisions that can be drawn from the NDWAC report in the near term include:

Individuals and communities need to be empowered to act – Blood lead levels in the U.S. population continue to decline. Still, communities need to better understand lead risks from all sources, including potential exposure from water. Individuals should be empowered to take effective steps to protect their households, and communities should seek to integrate lead risk reduction activities.

Fully removing all lead service lines will require a long-term, shared commitment – Neither individual homeowners nor water systems alone can remove lead service lines. Replacement is a shared responsibility among utilities, customers, government at all levels and other community partners. It will require a long-term commitment and policies to accelerate removal through opportunities such as property transfers. Communities will need to navigate numerous legal and implementation challenges that require time and resources in the face of competing demands. Customers and utilities will face affordability challenges. Locally developed programs, responsive to local circumstances, considering opportunities to reduce lead exposure from all sources, will be essential.

Corrosion control should be carefully evaluated, and if modified, changes should be based on system-specific information using sound process-control practices and system-specific studies -- Each system has specific local water quality and treatment characteristics, so the nation's water supplies are not amenable to a one-size-fits all approach to treatment selection. One thing that has become clear since the initial promulgation of the LCR is that unintended consequences of treatment changes can be catastrophic. The lesson of the successful implementation of the Long Term 2 Enhanced Surface Water Treatment Rule and revised Total Coliform Rule is that tailoring actions to the particulars of each local system yields public health protection at an appropriate cost. Ongoing process control for corrosion control should be robust and trigger investigation and corrective steps, by:

1. Integrating system-specific water quality parameter monitoring with other ongoing distribution system and water treatment process control monitoring.
2. Applying statistical process control strategies to ensure noncorrosive water reaches customers.
3. Flagging deviations from target water quality conditions for investigation and corrective actions.

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Corrosion control is a practical, effective and long-term action available to reduce exposure to lead. AWWA encourages EPA to focus on providing utilities the tools, knowledge, and flexibility to select appropriate corrosion control practices for their individual local water quality and treatment characteristics.

The NDWAC recommendations were substantial, and it is not clear if EPA can propose a rule that addresses all of them by August 2018, the anticipated date for a proposal. NDWAC recommends the Agency has not yet shown that it can complete in a timely manner include:

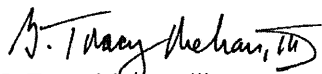
1. Identify a level of lead in drinking water of public health concern (i.e., NDWAC's proposed household action level).
2. Substantiate the benefit of revising the rule with respect to copper.
3. Identify corrosion control changes that will reduce lead levels further for systems already reliably below the action level while also not leading to undesirable unintended consequences.
4. Dramatically change the method in which tap samples are collected.

As EPA pointed out in its October 2016 white paper, the elements of the LCR are very intertwined. The information available to the public, including EPA's January 8 briefing, do not describe potential rule revision options. Consequently, it is not clear how EPA intends to maintain a balance between the rule elements.

AWWA appreciates the outreach EPA is undertaking to involve states and local government. Actual rule implementation and the burdens associated with it will fall in part on water systems, local communities and state regulators, and more importantly, on individual households. AWWA urges EPA to organize one or more stakeholder meetings that allow the experiences and concerns of advocates for impacted households to be better understood.

AWWA is fully committed to educating systems on the current and revised LCR, assisting systems with evaluating and improving their corrosion control practices, promoting public communications on lead, and advancing full lead service line replacement practice nationwide. Attached are more detailed comments addressing the questions posed by the Agency in its Federalism briefing and comments prepared by Dr. Crawford-Brown on development of a health-based lead concentration of concern. If the EPA LT-LCR team has any questions regarding these comments or would like to become more engaged in our outreach efforts, please contact me or Steve Via at 202.628.8303.

Best regards,



G. Tracy Mehan, III

Executive Director – Government Affairs

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Attachments: 1

Who is AWWA

The American Water Works Association (AWWA) is an international, nonprofit, scientific and educational society dedicated to providing total water solutions assuring the effective management of water. Founded in 1881, the Association is the largest organization of water supply professionals in the world. Our membership includes more than 4,000 utilities that supply roughly 80 percent of the nation's drinking water and treat almost half of the nation's wastewater. Our 51,000-plus total membership represents the full spectrum of the water community: public water and wastewater systems, environmental advocates, scientists, academicians, and others who hold a genuine interest in water, our most important resource. AWWA unites the diverse water community to advance public health, safety, the economy, and the environment.

Attachment 1

**Addressing Questions Posed in Federalism Consultation
Long-Term Lead and Copper Rule Federalism Consultation**
(Docket ID No. EPA-HQ-OW-2018-0007)

prepared by

American Water Works Association

for the

U.S. Environmental Protection Agency

submitted

March 8, 2018

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Addressing Questions Posed in Federalism Consultation

Introduction

Revisions to the Lead and Copper Rule should advance strong customer protections today while we work for a future where lead is no longer in contact with the water we drink.

Systems must provide this protection within the means of the communities they serve and within the practical limitations of what is operationally feasible. AWWA suggests that the revised LT-LCR include the following elements:

1. Development of an inventory of lead service lines.
 - Be based initially on available information.
 - Improve over time through ongoing water system operations and community engagement.
2. Development of a strategy for lead service line removal.
 - Develop and initiate in a timely fashion and proceed at a community-specific pace.
 - Recognize that shared responsibility is necessary for successful, sustainable lead service line replacement initiatives.
 - Follow ANSI/AWWA C810-17, Replacement and Flushing of Lead Service Lines.
3. Application of process control to reduce corrosivity of water reaching customers' homes.
 - Implementing changes in corrosion control based on system-specific information using sound process-control practices and system-specific studies.
 - Integrating system-specific water quality parameter monitoring with other ongoing distribution system and water treatment process control monitoring.
 - Applying statistical process control strategies to ensure noncorrosive water reaches customers' services.
 - Flagging deviations from target water quality conditions for investigation and corrective actions.
4. Public outreach on lead risk and lead risk mitigation.
 - Actively and transparently communicating with their customers, particularly customers with lead service lines, about lead risks and steps they can take to evaluate and reduce lead in drinking water in their home.

The Safe Drinking Water Act provides a sound decision-making framework. Revision of the Lead and Copper Rule is challenging, and the selected solution will have implications for community water systems of all sizes in every state. Which and how many sources of lead are present in the plumbing of a home depend on historical development patterns in that community, not whether the community today is large or small, urban or rural, poor or affluent. Moreover, as we seek to further reduce lead exposures, this rulemaking encounters larger societal questions such as who has a duty to pay for achieving lead risk reduction and when does a public entity like a water system have the right to intrude on private property. The Safe Drinking Water Act allows the Agency to make tough policy decisions, but it also sets the expectations that such decisions will be based on sound science and reflect opportunities for achieving meaningful risk reduction in a cost-effective manner.

Community Water Systems efforts already substantially control lead exposure through drinking water. The next step in additional risk reduction must be financially prudent and not create unintended consequences. In its most recent Six-Year Review data call in, EPA compiled more than 808,000 sample values from 42

states for the period 1998 to 2005.¹ AWWA's initial analysis of that data reflects data from approximately 23,100 CWSs serving a combined population of 167 million with LCR data in the database for 2003 to 2005 (for CWSs serving populations >500 using surface or groundwater sources). We found that there were 4,100 systems serving an estimated 23.2 million people where all observed values were less than 1 µg/L, and 90% of systems serving more than 10,000 persons have median lead levels below 5 µg/L.

Compliance data is a limited sample and the sampling protocol and sample pool are not representative of community wide exposure, but the Six-Year Review dataset illustrates that nationwide the water supply community is providing water with low lead concentrations. The question at hand is what is the prudent next step to take to further advance lead risk reduction.

Lead is a multi-exposure pathway challenge. Drinking water is one of many potential sources of exposure to lead. The multi-media nature of lead exposure reduction complicates public education and communication. It also involves numerous responsible parties, many of which are not engaged through the LCR. While the burden of lead health risk should not fall disproportionately on any one group, neither should the burden for achieving lead risk reduction. There is a shared responsibility which is both essential to success and complicates finding timely and affordable solutions.

Reasonable action now is needed. It is desirable but unrealistic to achieve zero exposure to lead in a short period of time. Thus, significant reduction in risk are the appropriate goal. By continuing to debate instead of acting on reasonable rule strategies, as outlined by the National Drinking Water Advisory Council, we continue to delay achieving these risk reductions.

Technical capacity must be built. Nationally, after an initial surge in capacity following promulgation of the LCR, the expert capacity in corrosion control treatment selection has not been adequately developed through academia, maintained in the water system or consulting engineering community, or retained in the regulatory community. EPA and AWWA have roles in supporting the rebuilding of this expertise in the sector. The public health community must also be engaged and educated about lead in water.

Research is needed to support major changes in corrosion control practice aimed at small incremental improvements without causing unwanted unintended consequences. To move forward quickly the LT-LCR revisions must focus on improvements to the current rule that provide cost-effective risk reduction with minimal risk of unintended consequences or significant misallocation of scarce resources for individual homeowners, water systems, or the communities water systems serve.

Lead Service Lines

The most significant barriers to full lead service line replacement are (1) divided ownership / responsibility and (2) the cost of replacement. In drafting the rule revisions, EPA must recognize the limitations these two factors have on (1) the quality of data available to guide action, (2) allocation of the cost of replacement, and (3) the time required for all lead service lines to be fully removed. AWWA is actively engaging its members to foster advancing full lead service line replacement. EPA should avoid setting unrealistic regulatory expectations or creating bureaucratic obstacles to community-specific solutions.

¹ Note, the Six-Year lead concentration data reflects first-draw samples following at least a 6-hour period of stagnation. Samples are taken from homes that are prone to higher levels of lead, e.g., lead service line, older brass, and copper with lead solder plumbing.

Create an Inventory

An important step in creating a future without lead in contact with drinking water rests on developing a sound understanding of the locations of lead service lines in communities. Having an inventory aids in developing a strategy for removing those lines during ongoing main replacement, service line repairs, home remodeling and sale, home rentals and focused outreach and engagement of households with lead services.

An exact inventory describing the use of lead pipes under both water utility and customer ownership is not feasible. At present, estimates of the number of lead service lines in community water systems in the United States range between 6.1 and 10 million. These lead service lines exist within a larger universe of service lines totaling 96.7 million. These estimates are imperfect, and there are anecdotal reports of underestimates and overestimates from individual systems. Where systems are excavating to identify lead service lines (currently being tested as a tool of last resort for confirming the presence of a lead service line), systems are noting that fewer than expected numbers of lead lines are found.

While research is ongoing, at present there is not an accepted field procedure for identifying if a service line is made of lead without physically seeing the whole line. This is important in several respects. These lines are very old and have been repaired; such repairs may have removed portions of an existing lead line. Also, if EPA includes lead goosenecks within the definition of lead service lines for purposes of an inventory, visual inspection requires digging down to the water main, which is often in the street. An exact inventory would necessitate certain knowledge about all 96.7 million service connections in the United States, not simply the 6.1–10 million that are more likely to be lead. Moreover, while lead service lines are typically measured in tens of feet in length, goosenecks are, by definition, typically less than 3 feet long (both Mueller and Hayes goosenecks were manufactured at lengths of 18, 24, 30 and 36 inches in length).^{2, 3, 4}

An exact inventory is not, however, needed for the tasks at hand (i.e., guiding sampling efforts, targeting communication initiatives, preparation for construction activities, and tracking elimination of lead services). Therefore, it is important that inventory development move forward with the tools at hand, recognizing their weaknesses. Moreover, use of ongoing activities to improve the lead service line inventory can be framed as a win-win opportunity for such activities as automated meter reading installations, identification of gutter – stormwater connections, backflow prevention device inspection and other initiatives.

If EPA were to craft regulatory language requiring utilities to prepare lead service line inventories, the Agency would need to recognize several challenges:

1. Lead service lines were installed during the 1800s and early – mid 1900s. Consequently, the primary record of installed material selection, tap cards, are decades if not a century or more old. In subsequent years, there have been changes in practice that impact the fidelity of the data, loss of records, and unrecorded changes in installed materials as repairs and other construction have occurred.
2. Service lines are owned in part by the water system and in part by the customer in most communities. Customers do not always advise the water system of improvements to the portion of the service line the customer owns. In many communities, plumbers have not been an active

² Mueller Company. Catalog, November 1, 1961, p. 4-3.

³ Hayes Water Service Products Catalog, p. 18.

⁴ Lead Industries Association, Lead in Modern Plumbing, p. 8.

stakeholder in lead service line identification, homeowner awareness or updating utility service line material records.

3. Not all community water systems are villages, towns, or cities where the water system service area is the same as a municipal subdivision. "Municipal" records used to compile an inventory (e.g., building and plumbing permits, tax records, mapping, etc.) will be harder to compile in rural areas served through public service authorities and areas served by investor-owned water companies). Even where the water system and municipal government are the same, there are often extra-territorial service areas where the water system is not able to rely on other municipal departments within the same government entity.
4. Absent the threat of loss of water service, water systems do not have the authority to require customers to cooperate in acquiring data about the service line material on the customer's property. Turning off water presents a health and public safety concern. There are also concerns about social inequity where water shutoffs disproportionately impact segments of a community's households.
5. While water system staff sometimes enter customer premises (e.g., to set or repair meters, respond to water quality complaints, etc.), such contact is minimized for the convenience of customers and for the safety of water system staff (e.g., need for a two-person crew and customer scheduling).
6. Systems are transitioning to new asset management platforms that will, over time, facilitate infrastructure renewal, including lead service line replacement. As EPA is aware from its own software platform transitions, these transitions can complicate data acquisition and present unanticipated challenges that effect timely delivery of expected products.
7. Current technologies used to examine service lines that are buried under yards, sidewalks, and streets requires excavation. Excavation only allows inspection of the exposed pipe length, is costly, and has its own associated risks including the integrity of service lines that are not lead and unnecessarily disturbed.

Given these limitations, it is important that EPA rule requirements and associated guidance set reasonable expectations that:

1. Allow the development of the initial inventory based on existing records, historical practice and utility field experience.
2. Provide sufficient time to allow the initial inventory to be developed, recognizing that in many communities, utilities will be supplementing in-house records with data from other departments and oftentimes other entities.
3. Expect that the inventory will be improved over time as additional information can be incorporated through ongoing water system activities (e.g., meter replacement, water quality visits, etc.) and community outreach (e.g., home inspections when buildings are sold, instructions to homeowners, plumbing permits).⁵
4. Expect that water systems will have practices in place to appropriately address previously unrecognized lead service lines when they are discovered.
5. Improve public information and education so that homeowners can be active stakeholders.
6. Utilize opportunities like the sanitary survey for the primacy agency to review the system's practices to maintain and improve the inventory.

⁵ Example customer outreach, "Help us update our records," DC Water, Available 1/25/2018 at <https://www.dewater.com/servicemap>.

Public access to information, including the presence / absence of lead service lines, is important to advancing replacement and a natural part of public outreach. Rule requirements for public access should assist property owners without creating unintended harm. EPA may be contemplating a requirement that water systems make inventories publicly available (e.g., on the water utility website, through a database query, or other means). Data compiled by municipal water systems, including information on service lines on private property, may be subject to freedom of information requests. Investor-owned water systems are not necessarily subject to FOIA. Some systems have encountered legal concerns when considering releasing what can be viewed as private information.⁶

Since water systems do not typically own the whole service line and since it may be impossible to determine the material of the whole length of the line, water systems cannot make absolute, always-current statements about the status of a home's service line. Systems that provide a map or database that allows public searches of this data typically use a strong disclaimer statement to users.⁷ Some have posed the idea of a state-based or national repository of service line material inventory. The above described data quality and liability considerations are similarly challenges to building such a repository. The burden on EPA, states, and water systems to develop and keep such a data system current warrants careful consideration. On first reflection, managing this data at the local level appears to be the more immediate opportunity for advancing lead service line replacement and educating customers.

FULL LEAD SERVICE LINE REPLACEMENT

Fully removing lead service lines will require a long-term, shared commitment. Water systems and their customers will not be able to replace lead service lines overnight. It will take time to complete a robust inventory, prioritize lead service line replacement among other water system improvements (and other non-water system needs in the community), and identify funding mechanisms to assist in payment for the work. Communities will need to navigate numerous legal and implementation challenges that require time and resources in the face of competing demands. Customers will face affordability challenges. Locally developed programs, responsive to local circumstances, will be essential, and shared federal and state support also will be necessary to facilitate fully removing lead services.

Reducing environmental exposures is a long-term, challenge that must address multiple paths of exposure. EPA has no means at present to understand if a community would benefit most by expanding its lead paint abatement program, targeting lead sources in rental housing, removing lead service lines, or pursuing other sources of lead. This point is best described by other participants in the federalism consultation. From the viewpoint of a water system, this balance must be struck locally so that the water system receives the support and coordination needed from all the partners it needs to effectively engage customers in full lead service line replacement.

⁶ Association of Metropolitan Water Agencies, State FOIA Laws: A Guide to Protecting Sensitive Water Security Information, July 2002, Available 1/25/2018 at <https://deq.utah.gov/Permits/drinkingwater/docs/2014/07Jul/StateFOIA.pdf>.

⁷ Example disclaimer, "DISCLAIMER: The maps provided by the Boston Water and Sewer Commission (BWSC) are based on property surveys conducted during the installation of the Automated Meter Reading system, as well as information directly provided by customers and acquired during physical inspections. BWSC does not guarantee the accuracy of these records and maps, which shall be used for the sole purpose of providing property owners and residents with information regarding their private water services, and not for any commercial, legal or other use. These records will be updated on a monthly basis, or at such alternate times as BWSC designates. BWSC reserves the right to alter, amend or terminate at any time the display of these maps and records." Boston Water and Sewer Commission, Available 1/26/2018 at http://www.bwsc.org/COMMUNITY/lead/leadmaps.asp#TOP_PAGE.

ANSI/AWWA C810-17, Replacement and Flushing of Lead Service Lines should be incorporated by reference as the protocol for lead service line replacement. AWWA developed a management standard for when a water system anticipates or incidentally encounters lead service lines in the course of construction.⁸ This standard addresses identification of lead services, notification of impacted customers, and protective measures to reduce the potential for exposure to lead due to the replacement. As with all ANSI standards, C810-17 was developed by a committee selected with a balance of perspectives in mind and was made available for public comment. This standard will be reviewed periodically and improved based on system experience and new research. It is worthwhile to note, that *“The National Technology Transfer and Advancement Act of 1995 directs [federal] agencies to use voluntary consensus standards in lieu of government-unique standards except where inconsistent with law or otherwise impractical.”*⁹ EPA Region 5 has recommended the City of Flint, Michigan follow C810-17 when replacing lead service lines.

EPA should not make replacing all lead service lines in a specific timeframe a rule requirement. AWWA is actively urging its members to integrate lead service line replacement into their current distribution system operations and capital programs now, because it is going to take a substantial, long-term effort to replace the 6.1 – 10 million installed lead services. The NDWAC recommendation, which AWWA endorsed, recognized the challenges associated with setting a fixed deadline and focused on establishing strategies to move forward with available authorities and funding. AWWA is urging systems to start as soon as possible to work with the communities they serve to develop a local strategy and begin to fully remove lead service lines. These community-specific strategies consider local circumstances, particularly locally-appropriate approaches to shared responsibility for accomplishing full replacements. There are numerous potential strategies for funding full service line replacement; developing state and local policies to address this challenge of paying for full replacement will take time and solutions will need to be locally appropriate.¹⁰

In contemplating a timeframe for completing all lead service line replacements, it is important to look at the housing sector for the frequency with which opportunities to engage homeowners arise. Nationwide, approximately 5.4 million existing homes were sold in 2016, and a similar level of sales occurred in 2017.¹¹ In 2013 the National Association of Home Builders estimated that the typical buyer of a single-family home can be expected to stay in a home approximately 13 years.¹² It is also worth noting that 35% of households in the U.S. rent rather than own their home.¹³ The U.S. Census tracks how frequently people move in the U.S. Looking at data from 2013 and 2014, 24.5% of all people living in renter-occupied housing units lived elsewhere one-year prior.¹⁴ As expected, the Census data illustrates that renters move much more frequently than people in owner-occupied housing (roughly 5 times as often).

⁸ AWWA, ANSI/AWWA C810-17, Replacement and Flushing of Lead Service Lines, Available 1/26/2018 at <https://www.awwa.org/store/productdetail.aspx?productid=65634922>.

⁹ EPA Website, Available 1/26/2018 at <https://19january2017snapshot.epa.gov/data-standards/federal-national-and-international-data-standards.html>.

¹⁰ Environmental Financial Advisory Board, Financing Lead Risk Reduction, October, 2017, Available 02/22/2018 at .

¹¹ Lawrence Yun, Residential Real Estate Economic Issues and Trends Forum at the REALTORS® Conference & Expo in Chicago, IL, November 3, 2017, Available 1/26/2018 at <https://www.nar.realtor/presentations/november-2017-economic-housing-outlook-lawrence-yuns-presentation-slides>.

¹² National Association of Home Builders, Latest Calculations Show Average Buyer Expected to Stay in a Home 13 Years, 2013.

¹³ U.S. Census, 2016 American Community Survey, 1-Year Estimates, US Census Bureau. Updated 9/2017 (Note, 53% of households that live in rental housing rent structures with 4 or fewer units).

¹⁴ U.S. Census, Press Release. U.S. Mover Rate Remains Stable at About 12 Percent Since 2008, Census Bureau Reports, January 2015. Available 02/21/2018 at <https://www.census.gov/newsroom/press-releases/2015/cb15-47.html>.