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Identification, Monitoring & Replacement Regulations for Lead Service Lines

The U.S. Environmental Protection Agency's (EPA) Lead and Copper Rule Revisions (LCRR) required community water systems to provide an initial inventory of all lead service lines to their states by October 16, 2024. This inventory will be used to inform a replacement plan, due by November 1, 2027, under EPA's Lead and Copper Rule Improvements (LCRI), and to be completed in the subsequent 10 years. The inventory and replacement plan must include known lead service lines, service lines with unknown lead status and galvanized service lines that are or were ever downstream of lead service lines or service lines of unknown lead status – referred to as "galvanized requiring replacement" (GRR) by EPA.

The resources needed are immense to support the combined efforts of identifying and inventorying all service lines, updating the inventory as service lines of unknown lead status are identified, prioritizing and sequencing plans to account for community vulnerabilities, and replacing all lead lines on this expedited 10-year timeline, including those on private property, where possible.

This factsheet outlines EPA's requirements for identifying, monitoring and replacing lead service lines, and provides case studies of how two communities were able to use state and federal support to catalyze their replacement projects.

Inventorying Service Lines

By the LCRR's compliance date of October 16, 2024, all community water systems and non-transient, non-community water systems were required to complete an **initial inventory** of existing lead and GRR service lines in the distribution system, as well as service lines with unknown lead status. This latter group may add further challenges for local water systems working on replacing lead service lines. Under the LCRI, community water systems have to identify all service lines with unknown lead status within 10 years and replace them if needed. If a service line's composition cannot be determined, the line must be replaced. Thus, the burden on local water systems is more than replacing its known lead lines but also identifying and potentially replacing the unknown lines – perhaps greatly increasing the number of replacement projects and corresponding costs.

After completing the initial inventory, community water systems were required to send notification of known and potential lead service lines to affected customers and must repeat the notification on an annual basis until it is known that the service line no longer contains lead. New customers must also be notified when they initiate service. Each year by July 1, water systems must provide a report to their state confirming that they have given notice and informational materials to affected consumers for the previous calendar year.

The LCRI added in a new requirement for community water systems to complete a **baseline inventory**. The baseline inventory builds on the initial inventory, adding in two new components: connector materials will also need to be inventoried by the November 1, 2027, compliance date, and service line materials will need to be visually inspected and validated from at least two points along the line.

Waiver Eligibility:

Water systems serving populations of 3,300 or fewer may be eligible for monitoring waivers from their states if the system has very low lead and copper levels. Find out how the waiver works and whether your water system could be eligible.

Water systems that would have to replace more than 39 service lines per 1,000 connections annually may be eligible for an extension beyond the 2037 replacement deadline if their state approves one. See if your water system might qualify.

Lead Action Level Exceedance & Sampling

The Lead and Copper Rule (LCR) lowers the current **lead action level** of 15 parts per billion (ppb) to 10 ppb beginning November 1, 2027. Currently, under new requirements from the LCRR, once a water system learns of an exceedance of the 15 ppb limit, it must issue a Tier 1 public notice to customers and notify the state and EPA within 24 hours. If the water system hits the lead action level three or more times within a five-year period, it must make water filters available to the public and conduct additional public outreach. As per existing LCR requirements, the water system must also install or increase chemical **corrosion control treatment** to reduce the amount of lead leaching into drinking water and minimize lead exposure through drinking water.

Beginning in November 2027, the LCRI also updates regulations on tap water sampling protocols. Community water systems will need to collect first and fifth liter tap samples at sites with lead service lines – the higher of the two lead values must be used for compliance purposes. Lead and GRR lines must continue being monitored until the lines are replaced, and public notice must be given to affected consumers annually until then.

More information about public notice requirements under the LCRR and LCRI can be found in NLC's *Public Communication & Risk Management for Lead Service Lines Factsheet*.

Implementation Timelines for Lead and Copper Regulations

	Current Regulations	Beginning November 1, 2027	
Requirement	**LCR**	**LCRR**	**LCRI**
Inventory		Conduct and publish initial inventory. Continue updating annually as lead lines are identified and replaced.	Publish baseline inventory and continue updating inventory annually as lead lines are identified and replaced.
Lead Action Level	15 ppb	Unchanged from LCR	10 ppb
Public Notification		Tier 1	Unchanged from LCRR
Tap Sampling	Collect first liter tap water samples from service lines to assess action level exceedance.	Unchanged from LCR	Collect first and fifth liter tap water samples from service lines, using the higher lead value to assess action level exceedance.
Replacement Plan	NA	NA	Develop and publish service line replacement plan.

This table highlights which of the important LCR, LCRR and LCRI regulations community water systems must have in place currently and which changes and new regulations are forthcoming.

Replacement Plans

The LCRI requires community water systems to submit **lead service line replacement plans** for lead and GRR service lines by the compliance deadline of November 1, 2027. Water systems then have 10 years to complete their replacement plans. Replacement plans will therefore vary greatly, with more heavily burdened systems needing to tackle replacement at a heightened rate. Plans must also include sequencing strategies based on local needs, prioritizing sites and neighborhoods with more children, women of childbearing age, and communities with other disproportionate environmental burdens.

Replacement plans must be updated annually as more data is collected and replacements are made. They must also be publicly available, and water systems serving more than 50,000 people must make their inventories available online.

Communities can either create **partial or full line replacement programs**. In partial line replacements, the service line is only replaced on the public side; private property owners are responsible for replacing the service line on their side of the property line if and when they choose. In full line replacement, the entire service line on both sides is replaced at once. EPA advises against partial line replacement, as this can agitate and release particulate lead and increase contamination levels. If the water system has legal and physical access to complete a full line replacement, it must do so. If it does not have full access or control over the service line, it must document the reasons why it could not complete the full line replacement.

Best practices for replacement programs include fully funding replacements or minimizing costs to homeowners to encourage program participation. Financing options include low and no-interest loans, reimbursements, and income-based subsidies. Communities might also want to consider landlord incentive programs to minimize disparities in replacement rates between renter-occupied and owner-occupied homes.

Leading On Lead Removal: Rapid Replacement In North Chicago, IL

To assist in accelerating the removal of lead service lines across the U.S., the EPA announced the Get the Lead Out Initiative, a technical assistance program. In July 2024, EPA announced that North Chicago, IL (population approximately 30,416) would be one of the communities receiving this dedicated technical assistance to help the city find additional funding to remove lead service lines and share other best practices from communities across America. With this additional support, the City of North Chicago announced their Lead Water Service Line Replacement Initiative. While the city's main water line is not made of lead, and the source of the city's drinking water contains no lead, there are still lead service lines connecting homes to the main line. The first phase of the program will help reduce replacement costs for property owners, potentially saving each property owner $10,000-15,000 in replacement costs. EPA's *Get the Lead Out Initiative* was funded entirely by the Infrastructure Investments and Jobs Act.

Leading On Lead Removal: Urgent Action in Benton Harbor, MI

Thanks to a whole-of-government approach—and with the support of private partners—4,500 lead service lines in the City of Benton Harbor, MI (population approximately 8,875) were replaced six months ahead of schedule. Benton Harbor, like Flint, MI, experienced a lead water crisis. However, unlike Flint, where it took 11 months for federal and state governments to begin providing emergency health services, it took 36 months for Benton Harbor. An initial executive order from Governor Whitmer helped bring safe drinking water finally to residents. To further the impact and assist more communities than just Benton Harbor, the Michigan legislature passed a $4.7 billion plan including funding to reduce the number of lead service lines and per- and polyfluoroalkyl substances (PFAS) across the state. This package also included $45 million to specifically replace the lead lines in Benton Harbor. The city is now in the State's Get Ahead of Lead strategy to continue lead service line assessments on private properties. While emergency actions present a host of challenges, the Benton Harbor situation demonstrates the powerful impacts that can result from joint efforts.