Contaminants

Lead and Copper Rule Improvements Frequently Asked Questions

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These FAQs, along with *Lead Service Line Inventory Guidance* 331-711 (PDF), help water systems comply with the U.S. Environmental Protection Agency's (EPA) Lead and Copper Rule Improvements (LCRI) baseline lead service line inventory requirements.

What requirements in EPA's Lead and Copper Rule Improvements (LCRI) do water systems need to comply with?

All community and non-transient non-community (NTNC) water systems must develop a baseline inventory of service lines that meets LCRI requirements. This includes service line materials classification, connector materials, location identifiers, and information sources, **for both the public and private portions** of every service line. You must submit your lead service line inventories to us by November 1, 2027. You must make all LSLIs publicly accessible by this compliance date.

On December 17, 2021, EPA published Docket No. EPA-HQ-OW-2021-0255 in the federal register. They committed to propose and revise the Lead and Copper Rule Revisions (LCRR) by October 2024, with the LCRI. On October 30, 2024, EPA finalized the LCRI (Docket No. EPA-HQ-OW-2022-0801). They retained some elements of the replaced LCRR, including:

- Submittal of the initial LSLI by October 16, 2024.
- Tier 1 24-hour public notification for lead action level exceedances.
- Revised consumer and public notice requirements.

The LCRI is a comprehensive revision to the Lead and Copper Rule and expands the lead service line inventory requirements, with a baseline LSLI compliance date of November 1, 2027.

Water systems are to keep their current tap sampling plans until January 1, 2028. You will be notified if your monitoring frequency changes. For updates on the LCRI, visit EPA's Lead and Copper webpage.

Are consecutive systems required to do a lead service line inventory?

Yes. Each community and NTNC water system is responsible for the completion of the baseline lead service line inventory.

What is the LCRI definition of a lead service line, connector, and galvanized line?

Lead service line means a *service line* that is made of lead or where a portion of the *service line* is made of lead. A lead-lined galvanized service line is defined as a *lead service line*. A lead service line may be owned by the water system, owned by the property owner, or both. In some cases, galvanized service lines are specifically classified as a galvanized requiring replacement (GRR) service line if it ever was or is

currently downstream of any lead service line or service line of unknown material. GRR service lines are considered lead service lines for the purposes of mandatory lead service line replacement. If the only lead piping serving the home is a lead connector and it is not a GRR service line, then the service line is not a lead service line.

Connector, also referred to as a gooseneck or pigtail, means a short segment of piping not exceeding three feet that you can bend and use for connections between service piping, typically connecting the *service line* to the main. Lead connectors are not considered to be part of the service line. The LCRI requires that you identify, classify, and inventory connectors as part of the baseline LSLI due November 1, 2027. You must replace lead connectors as they are identified and encountered during normal water system operations.

Galvanized service line means iron or steel piping that was dipped in zinc to prevent corrosion and rusting. A galvanized line that is connected downstream of a lead connector but is not or never downstream of a lead service line is not considered a GRR and you should classify it as a non-lead service line.

How is each portion of the service line and connector material categorized in the LCRI?

The rule requires you to collect material data on all connectors and both the water-system-owned portion of the service line (water main to the meter) and the customer-owned portion of the service line (meter to the building inlet).

You must identify all service lines and connectors, regardless of usage. You must inventory all irrigation services, fire services, and currently dormant services. A currently dormant service line could be repurposed in the future for potable, active use. Many sections of the LCRI use the baseline inventory, including the Lead Service Line Replacement (LSLR) plan, customer notification, and selecting appropriate compliance sample tap sites.

All water systems must develop and submit to us a baseline inventory by November 1, 2027.

Each portion of all service lines served by all water systems must be categorized in the following manner.

- **Lead** where the service line is made of lead.
- **Galvanized Requiring Replacement (GRR)** where a galvanized service line is or was at any time downstream of a lead service line or is currently downstream of a "Lead Status Unknown" service line. If the water system is unable to demonstrate that the galvanized service line was never downstream of a lead service line, it must presume there was an upstream lead service line.
- **Non-lead** where the service line is determined through an evidence-based record, method, or technique not to be lead or galvanized requiring replacement. We encourage you to classify the actual material of the service line (i.e., plastic or copper) as often as possible. We also encourage you to classify the connection for its cross-connection control program.
- **Lead Status Unknown or Unknown service line** where the service line material is not known to be lead, GRR, or a non-lead service line, such as where there is no documented evidence supporting material classification.

You must identify and include connectors in the inventory and categorize them in the following manner.

- "Lead" where the connector is made of lead.
- "Non-Lead" where the connector is determined through and evidence-based record, method, or technique not to be made of lead. You are not required to identify the specific material of a non-lead connector; however, you may use the material (e.g. copper or galvanized) as an alternative to categorizing it as "Non-Lead."
- "Unknown" where the material of the connector is not known.
- "No connector present" where there is no connector at the location (e.g., where a service line directly connects a water main to a building inlet).

How do I document each service line?

The LCRI requires that each connector and each service line or portion of the service line where ownership is split must be categorized separately. We require the data to be submitted using EPA's example lead inventory Excel template. Group A water systems classified as NTNC typically connect directly to the source and do not contain service lines. Examples are schools, churches, and private businesses. NTNC water systems will need to inventory all piping from the source to the building inlet.

How do I access information regarding the private or customer owned service line?

If your review of historic records results in classifying a private service line as unknown, you will need to communicate with the property owners to determine the material type.

You may request customers self-report their service line material. See Section 5.1.1 and Appendix C of EPA's Guidance for Developing and Maintaining a Service Line Inventory (epa.gov) for information on customer self-identification and examples of customer service line material instructions, or you may opt to use our *Water Service Line Inventory Customer Survey Form* 331-746 (Word). It is available in Marshallese, Russian, Spanish, Ukrainian, and Vietnamese. You may also communicate with the customer and request permission to access a portion of their service line to conduct potholing or another method to determine the service line material. Additionally, it is suggested that you educate customers about the importance of service line inventories and work with them to obtain permission for your staff to access the home for service line material investigation.

How do I determine if there is a local lead ban prior to 1986?

You will need to search historic plumbing codes to determine if lead service lines and/or lead connectors were not allowed by an earlier municipal/local code, prior to the SDWA lead ban date of 1986. If you find code language that does not explicitly specify lead as an approved material, you may assume that lead is not approved. However, if you know of or find lead pipe installed during the time of the ban, you may not use the earlier date to classify service lines as non-lead. Some counties, cities, or other local entities may have passed lead bans or excluded lead as an approved construction material for service lines earlier than the SDWA lead ban in 1986. If you believe an earlier local ordinance applies to your service line materials, you may use the dates these took effect, but you must independently verify this information with your county, city, or other local authority. If you have already learned about an earlier lead ban date, please consider sharing that date and evidence with LCRRassistance@doh.wa.gov along with your neighboring water systems to help inform about the use of lead pipe in your region.

How do I identify the service line and connector materials?

The rule requires you to review existing records and data to learn about the materials used when the service line was constructed. The following are examples of records to review.

- Construction and plumbing codes or ordinances.
- County permitting records to obtain construction dates of structures.
- Water system distribution maps, engineering drawings, or capital improvement plans.
- Water system standard operating procedures.
- Historical records on each service connection and meter installation, such as maintenance records or work orders.
- Inspections and records of distribution system.
- Customer Service Inspection records.

If my review of historic records results in classifying a private service line as unknown, what alternative methods are approved to identify material type?

After using historic records, pipe dating, pipe diameter, and visual inspection as discussed in the *Lead Service Line Inventory Guidance* 331-711 (PDF), we approved the following methods to help you identify service line materials.

Water System Employee Knowledge Certification—Long time staff members, plumbers, operators, contractors, and other water system staff may have anecdotal information about connector and service line materials throughout various parts of your distribution system. We approve of employee knowledge as an alternative method of material classification for applicable service lines or ranges of service lines only if you complete and submit the *Employee Knowledge of Service Line Material Certification Form* 331-803 (Word) as part of your baseline LSLI submittal. You must include service lines identified with this method in the Non-Lead Service Line Material Validation Study pool. They are subject to re-identification using other approved methods if physical findings during validation do not match up to material classifications reported in the certification.

Physical visual inspection—Physical inspection of the piping is an acceptable method to determine the material of a service line. You may visually inspect the service line at the meter or valve box. We require a minimum of one point of inspection to confirm material at a location that you feel captures accurate information. You must make a record of the physical visual verification. Customers may also assist with a visual inspection (e.g., by using scratch or magnet tests or lead paint test kits) to help identify the material of the customer-owned portion of the service line. You should develop a check list and instructions for customers and obtain a written record and photograph for verification. You will need to ensure the customer verification is appropriate prior to creating a record of the service line. Examples of cities using customers' verification are included in EPA's inventory guideline section 5.1.1.

Statistical Approach—You must demonstrate a minimum of 95 percent level of statistical confidence. Using a statistical approach requires identifying how many unknown service lines must be physically inspected and then randomly selecting service lines for physical inspection. Please refer to *Statistical Guidance for Group A PWS Evaluation of Unknown Service Lines* 331-723 (PDF). You must include service lines identified with this method in the Non-Lead Service Line Material Validation Study pool. These lines

are subject to re-identification using other approved methods if physical findings during validation do not match up to material classifications reported in the certification.

Predictive models—Predictive models look for patterns in a known dataset to develop algorithms to determine what material may be in an area with unknown material service lines. The predictive models are not 100 percent accurate, but they are a useful tool to find areas that need more attention or additional verification. You need to identify as many service lines as possible using the means described above and in EPA Guidance Section 6 and 7 before using the model to predict the remaining unknown lines. Using representative known data on service line material improves the accuracy and reliability of the model. You will need more accurate identification methods for older service lines. You must include service lines identified with this method in the Non-Lead Service Line Material Validation Study pool. These lines are subject to re-identification using other approved methods if physical findings during validation do not match up to material classifications reported in the certification.

Emerging methods—Researchers are developing new service line material identification methods. You will need to pilot any emerging method of identification on known lead service lines and non-lead service lines to determine the effectiveness of the product prior to engaging with us to receive approval for the method.

If you have questions regarding any of these methods, please contact our Engineering and Technical Services (ETS) staff at doh-odwets@doh.wa.gov or talk to the engineer assigned to your county.

What information about the LSLI do I need to share with my customers?

You must make the inventory information available to your customers. You are required to notify all customers served by lead service lines, GRRs, or lead status unknown service lines within thirty days of inventory completion. You must provide these notifications annually, by December 1, so long as each customer is served by a lead, GRR, or unknown service line. You must submit certification of consumer notice activities to us annually. *(Consumer Notice Certification Form* LSLI 331-776 [Word])

You must make your service line inventory publicly available. It must include a location identifier or specific address for all service lines and connectors, per 40 CFR, §141.84 (a)(5)(i-ii). Water systems serving more than 50,000 people must post their inventory online. CWSs and NTNCs must include instructions in their Consumer Confidence Reports on how to access the inventory.

What if my LSLI has no lead, GRR, or Unknown service lines? Do I still need to notify my customers?

When a water system has no lead, GRR, or lead status unknown service lines, and no lead connectors or connectors of unknown material in its inventory, it may meet LCRI public accessibility requirements by providing a written statement in lieu of publishing the inventory, per 40 CFR, §141.84(a)(6). Your written statement must also include a general description of methods used to make the determination that your system contains only non-lead service lines.

Each water system must maintain the inventory information and be prepared to discuss it with us if we request additional information such as part of an investigation aligned with lead monitoring.

What information about service line disturbances do I need to share with my customers?

Water systems that cause disturbance to a lead, GRR, or unknown service line are required to deliver notification and public education materials to customers and persons served by the water system at the service connection. Public education materials contain mandatory language and methods to mitigate risk because of a disturbance. The LCRI describes a disturbance as any act that causes the individual service line water to be shut off, a bypass of water to an individual service line or group of service lines, replacement of an inline meter, meter setter or connector that is attached to a lead, GRR, or lead status unknown replacement service line, or from the replacement of a water main whereby a lead, GRR, or unknown service line pipe is physically cut. Requirements for notification and education are:

- You must inform people served by the water system at the service connection before you return a service line to service (if it has been shut off or bypassed) or within 24 hours following disturbance.
- You must inform customers associated with the service connection who are not served by the water system at the service connection, such as a property owner renting to tenants, within 30 days following the disturbance.

Your notification following a service line disturbance must include instructions for a flushing procedure to remove particulate lead as well as mandatory public education language found in CFR §141.85(a), which includes:

- An explanation of the health effects of lead.
- Sources of lead.
- Steps the consumer can take to reduce exposure to lead in drinking water.
- Information on lead, GRR, and unknown service lines.
- Contact information for your water system.

For disturbances where the lead, GRR, or unknown service line, is physically cut **and** following full and partial lead and GRR service line replacements, you must provide the persons served at the service connection with the following:

- The notification information presented above for a service line disturbance.
- A pitcher filter or POU device certified by an ANSI accredited certifier to reduce lead along with six months of filter replacement cartridges and instructions to use the filter.
- If the affected service line serves more than one residence or is a non-residential unit, you must provide these items and information to every residential and non-residential unit in the building.
- An offer to conduct a follow-up tap sample between three and six months after the completion of the replacement and test for lead following requirements in CFR §141.84(h) for full- and partial-lead service line replacements. Results must be delivered to the persons served by the service line within three business days of learning of the results.

Do I need to replace the service line on the portion owned by my customer?

LCRI mandates replacement of all identified lead and GRR service lines under control of the water system. If a property owner's consent is required to obtain access for a full lead service line replacement, you

must make and document a "reasonable effort" to obtain consent. Reasonable effort includes four attempts to engage the property owner using at least two different communication methods. Within six months of change of ownership of the property, you must offer a full replacement of the service line and make reasonable efforts as described above within twelve months of the change of property ownership. If water systems are unable to gain access to a lead or GRR service line for a full service-line replacement, you are not required to replace any portion of the service line; however, you must submit documentation to us describing the reason(s) you don't have access.

If I am replacing lead or GRR service lines, what procedures should I follow to prevent lead exposure to my customers?

Where you have access to conduct a full-service line replacement, requirements include:

- Notification that includes the following.
  - Explanation that the consumer may experience a temporary increase of lead levels in their water due to replacement.
  - Explanation of the health effects of lead per CFR §141.85(a)(1)(ii) and sources of lead per CFR §141.85(a)(1)(iii).
  - Steps the consumer at the service connection can take to reduce exposure to lead in drinking water, including those outlined in §141.85(a)(1)(iv).
- Written information about a procedure for the consumer to flush service lines and premise plumbing of particulate lead following replacement.
- A pitcher filter or POU device that is certified by an ANSI accredited certifier to reduce lead along with six months' worth of replacement cartridges and instructions for use.

What is happening with schools and childcare centers relating to LSLI and monitoring?

Schools, licensed child daycare, and early learning facilities that serve customers of a regulated Group A or B water system are required to monitor for lead in drinking water. Schools are required to monitor per Chapter 43.70.830 RCW. Chapter 28A.210.410 RCW requires drinking water outlets in school buildings built, or with all plumbing replaced, before 2016 to be tested for the presence and level of lead contamination by June 30, 2026, and every five years thereafter. Childcare programs in Washington are required to test their drinking water for lead per Chapter 110-300-0235 WAC.

Water systems serving schools and childcare facilities must inventory the service lines as part of their baseline LSLI.

By November 1, 2027, all Group A Community and NTNC water systems must develop and maintain a list of all schools and licensed childcare facilities they serve that were constructed and did not have full plumbing replacement before January 1, 2014, or are served by a lead, GRR, or unknown service line. You must submit this list to us. PWS must certify after five years that there have been no changes to the list of schools and childcare facilities served by the system or must submit a revised list to us.

You must contact all schools and childcare facilities on your list and provide information about health risks from lead in drinking water and steps consumers can take to reduce their exposure.

You must sample eligible schools at a rate of 20 percent of eligible schools per year over a five-year period beginning January 1, 2028. Sampling must be conducted as follows:

- Five samples total must be collected at each school, unless the school has fewer than the required number of outlets, in which case all outlets used for human consumption must be tested.
- Two samples at drinking water fountains.
- One sample at kitchen faucet used for food or drink preparation.
- One classroom faucet or another outlet used for drinking, and
- One nurse's office faucet, as available.

You must provide sample results regardless of lead sample concentration as soon as practicable but no later than 30 days after receipt of the results. You must provide results to the sampled school along with information about potential remediation options (e.g. EPA's 3Ts Guidance). Local health jurisdictions and we must also receive sample results.

- Lead in School Drinking Water
- Lead in Childcare Drinking Water
- Lead Test Results from Drinking Water in Schools
- EPA's Final Lead and Copper Rule Improvements Technical Fact Sheet: Lead in Schools and Child Care Facilities

Is there funding available to develop inventories, lead service line replacement plans, and to replace lead service lines?

There are funding opportunities for the required inventory work and replacement of lead lines. Please visit our Drinking Water State Revolving Fund program webpage.

What is changing with my lead and copper monitoring schedule?

There will be changes to the tiering criteria in EPA's upcoming LCRI effective November 1, 2027. You should continue to use your current lead and copper sampling plans based on the tiering criteria listed in our publication *Lead and Copper Monitoring* 331-111 (PDF). We will provide information on new sample site tiering criteria, developing mandatory sample plans, and which systems will remain on reduced monitoring in forthcoming guidance.

What if I don't complete the baseline inventory?

Not completing the baseline LSLI by November 1, 2027, is considered a treatment technique violation (health based). A Tier 2 public notice is required.

What if I don't submit an inventory to the state?

Not submitting the baseline LSLI to the state by November 1, 2027, is considered a reporting violation. A Tier 3 public notice is required.

What if I fail to make the inventory publicly accessible or if the system has no lead, GRR, or unknown and I fail to issue a statement declaring the distribution system has no lead?

This is a treatment technique violation. A Tier 2 public notice is required.

If my water system has no lead, GRR or unknown service lines do I still need to complete and submit a baseline LSLI?

Yes, water systems with all non-lead service lines must still complete and submit a baseline inventory by November 1, 2027, using EPA's example lead inventory template. The inventory must include the minimum mandatory requirements; unique location identifier for each service line, service line materials classification, and method for classification for both system and customer owned portions.

For More Information

Find more resources on our Publications and Forms webpage.

Go to our Contacts and Office Location page where you'll find program email addresses, and an interactive map with county assignments. Our Staff Directory page groups staff by program.

Washington State Department of HEALTH

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