



# Frequently Asked Questions

## Lead and Copper Rule Revisions (LCRR) Initial Lead Service Line Inventory (LSLI)

*\*DISCLAIMER: This document is intended to provide answers to questions that may arise regarding developing a lead service line inventory in community and non-transient non-community water systems. This document is non-regulatory and nothing in this document supersedes any statutory or regulatory requirements or permit provisions for public water systems. All Code of Federal Regulations (CFR) citations in this document refer to the CFR that was available at [eCFR.gov](https://www.ecfr.gov) on September 30, 2024.*

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### Overview

The United States Environmental Protection Agency (US EPA) issued revisions to the federal Lead and Copper Rule (LCR) on January 15, 2021. US EPA's new Lead and Copper Rule Revisions (LCRR) strengthens every aspect of the LCR to better protect communities and children in elementary schools and childcare facilities from the impacts of lead exposure. The LCRR will help remove lead from our nation's drinking water and empower communities through information. The LCRR requires community water systems (CWS) and non-transient non-community water systems (NTNC) throughout the United States (approximately 4,000 water systems in California) to conduct an inventory of service lines and determine the material of those lines and fittings.

US EPA delayed the effective and compliance dates established in the LCRR to December 16, 2021, and October 16, 2024, respectively. The agency also engaged with local communities, states, local governments, utilities, and stakeholders for input regarding any changes that should be made to the LCRR.

In Docket No. EPA-HQ-OW-2021-0255, US EPA committed to revise the LCRR with the proposed Lead and Copper Rule Improvements (LCRI) by October 2024. The LCRI was finalized on October 8, 2024, and delayed some portions of the LCRR to the LCRI compliance date on November 1, 2027. US EPA maintained the October 16, 2024, compliance date for the initial lead service line inventory (LSLI), notification of a known or potential lead service line, Tier 1 public notification for a lead action level exceedance, and associated reporting requirements. In October 2024, US EPA issued "2021 LCRR Implementation Fact Sheet" (EPA 816-F-24-018) to provide an overview of these requirements. The fact sheet is available at [https://www.epa.gov/system/files/documents/2024-04/revised-508\\_lcr-compliance-fact-sheet\\_4.17.24.pdf](https://www.epa.gov/system/files/documents/2024-04/revised-508_lcr-compliance-fact-sheet_4.17.24.pdf).

The LCRI includes modifications to the following sections<sup>1</sup>:

- Timely replacements of lead service lines
- Revised tap sampling and lead action/trigger levels
- Small system flexibility
- School and child care center sampling
- Public education
- Corrosion control treatment

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<sup>1</sup> US EPA will also consider addressing these issues through non-regulatory actions such as the development of implementation tools, guidance, and other federal programs.

In August 2022, US EPA issued “Guidance for Developing and Maintaining a Service Line Inventory” (Office of Water (4606M) EPA 816-B-22-001) and hosted a webinar that provided an overview of the inventory guidance and funding opportunities. The guidance document and the recorded webinar are available at <https://www.epa.gov/ground-water-and-drinking-water/revised-lead-and-copper-rule>.

### 1. What are the new requirements for the Initial LSLI under the LCRR?

All CWS and NTNC public water supply systems (water systems) must comply with the LCRR. Water systems must develop an inventory to identify service line materials connected to the public water distribution systems by October 16, 2024. Though the LCRR does not define a “service line,” the US EPA defines a service line as:

*The pipe connecting the water main to the interior plumbing in a building.<sup>2</sup> The service line may be owned wholly by the water system or customer, or in some cases, ownership may be split between the water system and the customer.*

The inventory must include all service lines connected to the water system’s distribution system, regardless of ownership status. If the service line ownership is shared, the inventory should include both the portion of the service line owned by the water system and the portion of the service line owned by the customer.

The water system must identify all service lines, regardless of usage of the water (e.g., non-potable use such as fire suppression system), and active/emergency status of the service line. The service line could be repurposed in the future for a potable, active use.

All water systems must develop and submit to DDW an initial inventory **by October 16, 2024**.

### 2. What is the LCRR definition of a lead service line, gooseneck, and galvanized line?

#### Lead service line

The LCRR defines a lead service line as a portion of pipe that is made of lead, which connects the water main to the building inlet. A lead service line may be owned by the water system, owned by the property owner, or both. If the only lead piping serving the home is a lead

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<sup>2</sup> Source: US EPA. 2021. Seventh Drinking Water Infrastructure Needs Survey and Assessment: Lead Service Line Inventory for America’s Water Infrastructure Act – State Survey Instruction. January 2021.

gooseneck, pigtail, fitting, or connector, and it is not a galvanized service line that is considered a lead service line, then the service line is not a lead service line.

A galvanized service line is considered a lead service line called “galvanized requiring replacement” (GRR) (see definition in Question 4) if it ever was or is currently downstream of any lead service line or service line of unknown material. A galvanized line that is connected downstream of a lead gooseneck, pigtail, fitting, or connector is not considered a GRR and does not require replacement.

### **Gooseneck, pigtail, fitting, or connector**

Goosenecks, pigtails, fittings, and connectors are short sections of piping, typically not exceeding two feet, which can be bent and used for connections between rigid service piping. Lead goosenecks, pigtails, fittings, and connectors are not considered to be lead service lines but must be replaced when encountered during planned or unplanned infrastructure work pursuant to [40 CFR 141.84\(c\)](#).

### **Galvanized service line**

A galvanized service line is iron or steel piping that has been dipped in zinc to prevent corrosion and rusting.

### **3. How are the general requirements in CA HSC § 116885 and the LCRR similar?**

California Health and Safety Code (CA HSC) section 116885<sup>3</sup>—Lead Service Lines in Public Water Systems— required all CWS to compile an inventory of known partial or total lead user service lines in use in their distribution systems by July 1, 2018. The submission deadline for the final user service line inventory was July 1, 2020.

The definition of “user service line” in the CA HSC <sup>4</sup> includes the service line from the water main to the meter, which is typically the water system-owned portion of the line. CA HSC 116885 requires that all lead from the water main to the meter be inventoried and replaced. The State Water Resources Control Board’s (State Water Board) Division of Drinking Water (DDW) will continue to collect data on lead goosenecks and required service line replacement plans. Water systems that reported any lead service lines or lead fittings are required to update

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<sup>3</sup> Added to the Health and Safety Code by Senate Bill No. 1398 (2015-2016 Reg. Sess., Stats. 2016, ch. 731) and amended by Senate Bill No. 427 (2017-2018 Reg. Sess., Stats. 2017, ch. 238)

<sup>4</sup> California Health and Safety Code section 116890, subdivision (a)(4) defines a “user service line” as the same definition found in California Code of Regulations, title 22, section 64551.06: “‘User service line’ means the pipe, tubing, and fittings connecting a water main to an individual water meter or service connection.”

their inventory annually. A lead gooseneck needs to be replaced according to the approved timeline under section 116885.

The data collected by community water systems can be used to complete a portion of the LCRR inventory requirements, but the LCRR inventory must also include the portion of the service line from the meter to the building inlet, or the customer-owned portion of the total service line. Also, if a lead gooseneck is connected to a galvanized pipe, that service line may need to be included in the water system's new LCRR tap sampling plan pursuant to [40 CFR 141.86\(a\)\(5\)](#).

Based on the information obtained from the CA HSC 116885 inventory requirements, the following statistics are from July 2020:

- Over 10,000,000 user service lines inventoried on community water systems
- 10,992 lead fittings identified
- 1 lead pipe identified and removed in 2021
- 59,179 unidentified user service lines as of July 2020
- 97 systems with approved timelines for replacement of water-system-owned portion of unknown and known lead user service lines
- One system has completed its replacement plan
- 12 systems with approved timelines for replacement have identified lead fittings

#### 4. How is each portion of the service line material categorized in the LCRR?

DDW will collect material data on 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). Each portion of all service lines served by all water systems must be categorized in the following manner:

- (i) **“Lead”** where the service line is made of lead.
- (ii) **“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.
- (iii) **“Non-lead”** where the service line is determined through an evidence-based record, method, or technique not to be lead or galvanized requiring replacement. Sampling for lead and copper in the LCRR in non-lead systems requires additional knowledge of service line material. DDW encourages the water system, whenever possible, to specify



the actual material of a service line (*i.e.*, plastic or copper) rather than classifying it as “Non-lead.”

- (iv) **“Lead Status Unknown” (unknown)** where the service line material is not known to be lead, galvanized requiring replacement, or a non-lead service line, such as where there is no documented evidence supporting material classification. Lead Status Unknown service lines are treated as lead service lines in the LCRR until identified.

### 5. How does a water system document each service line?

Pursuant to the LCRR, each service line or portion of the service line where ownership is split must be categorized separately. Various states, agencies, and the Association of State Drinking Water Administrators (ASDWA) have developed templates to input data for lead service line inventories:

- [ASDWA inventory template with State examples \(February 2022\)](#)
- [US EPA inventory template \(August 2022\)](#)
- [CA DDW inventory template \(June 2025\)](#)

DDW’s inventory template contains the minimum amount of information required for a water system to comply with the LCRR. Water systems must make this information available upon request for each service. Each water system must maintain the inventory information and be prepared to provide it to DDW during sanitary surveys or audits of the LCRR program.

DDW will post the lead service line information publicly.

### 6. What are the public notification requirements?

Water systems are required to notify all customers served by lead service lines, GRRs, or lead status unknown service lines within 30 days of completion of the inventory and to repeat the notification annually until all service lines are classified as non-lead. [\[40 CFR 141.85\(e\).\]](#) Annually by July 1<sup>st</sup>, water systems must demonstrate to DDW that notifications were delivered for the previous calendar year. [\[40 CFR 141.90\(f\)\(4\).\]](#) Public notification templates are available at [https://www.waterboards.ca.gov/lead-copper-rule/water\\_system\\_resources.html](https://www.waterboards.ca.gov/lead-copper-rule/water_system_resources.html).

### 7. What are the public accessibility requirements?

Water systems must make their service line inventory that includes a location identifier or specific address for any lead or galvanized line requiring replacement service line publicly available. [\[40 CFR 141.84\(a\)\(8\)\(i\).\]](#) 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. When a water system has no lead, GRR, or lead status unknown service lines in its inventory, it may meet LCRR public availability

requirements by providing a written statement in lieu of publishing the inventory. The written statement should also include a general description of methods used to make the determination that the system contains only non-lead service lines and a signature by an authorized representative of the water system. Templates for non-lead written statements are available at [https://www.waterboards.ca.gov/lead-copper-rule/water\\_system\\_resources.html](https://www.waterboards.ca.gov/lead-copper-rule/water_system_resources.html).

### **8. What information does a water system need to use to develop the required inventory?**

The LCRR inventory requirement directs water systems to undergo a records review for information pertaining to service lines, both water system-owned and customer-owned portions. The LCRR requires utilities to update their inventories on a regular basis as new inventory information becomes available. The following information can be used to develop an inventory:

- All construction and plumbing codes, permits, and existing records or other documentation indicating the service line materials used to connect structures to the distribution system. (Example: Determine if there is any ordinance (City or County Building Department) that prohibits lead lines, and its effective date.)
- All water system records, including distribution system maps and drawings, historical records on each service connection, meter installation records, historical capital improvement or master plans, and standard operating procedures. (Example: System tap cards may contain helpful information, such as the diameter of the service line and the installation date of the main and user service line.)
- All inspections and records of the distribution system that indicate the material composition of the service connections that connect a structure to the distribution system.

CA HSC 116885 required a material inventory of all CWS service lines from the water main to the meter by July 1, 2018. Accordingly, most CWS have already obtained some of the information that can be used to meet the new US EPA LCRR requirements. Water systems must continue to review records, such as those listed above, to further inventory the remaining service line information.

For example, California Health and Safety Code section 300.6 banned the use of lead solder and lead pipe in public water systems after 1985:

Section 300.6. Lead solder or pipe; use in private or public potable water supply systems



- (a) Solders containing more than 0.20 percent lead shall not be used in making joints and fittings in any private or public potable water supply system or any water user's pipelines.
- (b) No solder containing more than 0.20 percent lead shall be sold in California on and after July 1, 1986, unless it contains a warning label which states: "Contains lead. California law prohibits the use of this solder in making joints and fittings in any private or public potable water supply system or any water user's pipelines."
- (c) On and after January 1, 1986, lead pipe shall not be used in the construction of private or public potable water supply systems.

Any construction occurring in 1986 to present is assumed to not contain lead pipes or goosenecks. Physical verification will not be needed, but dates of construction need to be verified by a record. In these cases, service lines can be classified as non-lead.

### **9. What identification methods are pre-approved by DDW for use in the inventory?**

#### **Field Inspection**

Physical or visual inspection of the piping is an acceptable method to determine the material of a service line. The service line can be visually inspected at the meter or valve box. If inspecting near the meter, ensure the observed material is the actual service line and not part of the metering components or a second point of verification will be needed for that portion of the service line. A record of physical or visual verification must be made by the water system. 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. The water system should develop a check list and instructions for customers and obtain a written record and photograph for verification. The water system 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 the US EPA's inventory guideline section 5.1.1.

NOTE: When physically identifying the material of a service line that has a split ownership (i.e., water system-owned and customer-owned), a water system may verify the following locations or points: the connection at the main, the pipe from the main to the meter, the connection at the meter, the pipe to the building inlet, and the connection at the building. A water system needs to have a plan on how to verify the material of the pipe and connectors, if connectors exist, such as tails on meters, and determine if a second point of verification is needed for that portion of the service line. Not all service lines need to be inspected at all points. The water system must verify enough locations on the service line as needed to ensure the inventory is accurate. The number of verifications will be determined on a case-by-case basis by the water

system. Verification of service line material on each side of the meter is usually adequate to determine the pipe material.

### Pipe Dating

The initial or most recent construction date of the service line can be used in conjunction with a state or municipal code banning lead to determine non-lead status if the initial or most recent construction occurred after a lead ban. Any pipes constructed after January 1, 1986, are assumed not to contain lead pipes or goosenecks. Physical verification will not be needed but dates of construction need to be verified by a record. All installations after January 1, 1986, can be labeled “Non-lead.” Use of an earlier local lead ban needs to be discussed with DDW.

### Pipe Diameter $\geq$ 4 Inches

Records of the service line diameter can be used to determine whether a pipe can be classified as “Non-lead.” Most lead pipes and lead goosenecks are 2 inches in diameter or less. Some 3-inch diameter lead pipes have been identified. DDW will allow the water system to use a non-lead designation for any pipe 4 inches in diameter or greater.

### 10. What methods require approval by DDW for use on a case-by-case basis to complete the inventory?

#### Water Quality Sampling

In some cases, water sampling may be used by a water system to detect the presence of a lead service line. Water systems may use the sampling protocols discussed under Section 5.2 of US EPA’s inventory guideline to develop a sampling strategy. A water system using water quality sampling to identify lead service lines will need to establish a community-specific threshold lead concentration above which would indicate possible presence of a lead service line. The water system will also need to pilot the sampling protocol on a known lead service line and a known non-lead service line prior to conducting sampling and identifying unknown material service lines. The proposed sampling protocol and pilot sampling results need to be reviewed and approved by DDW.

#### Statistical Analysis / Predictive Models

These approaches can be used to identify patterns in a known dataset to develop algorithms to determine what material may be located 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. Any water system that finds it necessary to use a predictive model will need to develop a plan and provide it to DDW for review and approval. The water system will need to identify as many service lines as possible using 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 will improve the accuracy and reliability of the model. Most lead service lines were installed prior to 1950. More accurate identification methods will be needed for older service lines.

### Interpolation

Interpolation is a method of using known service lines in one area and assuming other service lines in that area are the same based on date of installation, contractor used, or some other method. Any interpolation in a water system inventory and the associated data or documentation used will need to be approved by DDW.

### Interviews

Interviews with experienced system staff and plumbers can be used to focus the inventory effort and verify utility practices. Classifications of service line materials based on interviews, however, should not be used as a sole source of information for the initial inventory. Systems may also consider interviewing their neighboring water systems to inquire about regional practices. A significant number of field verifications is needed to validate staff interviews.

### Emerging Methods

New service line material identification technologies are being developed by researchers. Any emerging method of identification will need to be piloted by the water system on known lead service lines and non-lead service lines to determine the effectiveness of the product prior to engaging with DDW for an approval process. All emerging methods will need to be approved by DDW at each water system.

### **11. How does the inventory differ for non-transient non-community (NTNC) water systems?**

NTNC water systems traditionally are connected directly to the source and do not contain service lines. Examples are schools and private businesses. The NTNC water systems must inventory all piping from the source to the building inlet. In June 2023, US EPA issued "Developing and Maintaining a Service Line Inventory: Small Entity Compliance Guide" (Office of Water (4606M) EPA 815-B-23-005) which is available at <https://www.epa.gov/ground-water-and-drinking-water/revised-lead-and-copper-rule>.

### **12. Is funding available to develop the inventory and replace lead service lines?**

Yes, the US EPA will provide funding to states to help pay for utility service line inventory development and replacement of lead service lines. US EPA funding will go to the State Water

Board. The State Water Board Division of Financial Assistance (DFA) administers the implementation of the State Water Board's financial assistance programs, including loan and grant funding.

### General Inquiries

Telephone: (916) 327-9978

### Drinking Water State Revolving Fund

Email: [DrinkingWaterSRF@waterboards.ca.gov](mailto:DrinkingWaterSRF@waterboards.ca.gov)

Webpage: [https://www.waterboards.ca.gov/water\\_issues/programs/grants\\_loans/](https://www.waterboards.ca.gov/water_issues/programs/grants_loans/)

### **13. How will a water system with an approved timeline for replacement, required by CA HSC 116885, be incorporated into these new requirements?**

A water system with an approved Lead User Service Line Replacement Plan must continue to replace lead user service lines per the required timeline. Timeline approval letters came with instructions for precautions water systems should take during replacements to protect their customers and requirements for annual reporting. Permit amendments reiterating and elaborating on these precautions were also issued to water systems replacing lead pipes or lead goosenecks. Replacements must continue in accordance with the approved timelines and permit amendments regardless of tap sample results.

### **14. If a water system is replacing lead pipe, GRR or lead goosenecks, connectors or fittings, what procedures should be followed to prevent lead exposure to customers?**

The LCRR requires water systems with approved replacement plans to follow procedures to prevent lead exposure to customer during construction. DDW recommends a water system conducting construction on any lead pipe, GRR, gooseneck, connector or fitting:

- Determine the service line material on the landowner/customer property.
  - If the landowner/customer is unwilling to allow the water system to determine the service line material, the water system should document interactions with the landowner/customer.
  - If the landowner/customer-owned service line is also lead, the water system needs to inform the customer of the lead service line and work with the landowner/customer to remove all lead materials at the same time.
  - The water system is not required to bear the cost of the replacement of the portion of the affected service line not owned by the water system.

- If the landowner/customer-owned service line is lead and the landowner/customer is unwilling to replace the service line, the water system may continue the water system-owned user service line replacement.
- Provide the person served by the water system at the service connection with educational information about the potential for elevated lead levels in drinking water as a result of the disturbance.
- Provide the person served at the service connection with flushing instructions for the building following the replacement.
- Provide a pitcher filter certified by an American National Standards Institute (ANSI) accredited certifier to reduce lead, instructions to use the filter, and six months of filter replacement cartridges or an equivalent certified ANSI point of use device registered with DDW.
- Offer the consumer follow-up tap sampling after completion of the service line replacement.

### Resources

Many strategies, webpages, and resources have been developed by water systems and states over the past few years. Some are provided below:

- Example of road map to LSLR - how to identify service line material and prepare an inventory: <https://www.lslr-collaborative.org/>
- Example of a map and how to identify service line material: Greater Cincinnati (OH) Water Works webpage: <https://la.mygcww.org/do-i-have-a-lead-service-line/>

*(These FAQs were last updated in July 2025)*