Lead & Copper Rule Revisions (LCRR)

Jeremy Harris, P.E.

LDH/OPH – Engineering Services

11/21/2025

Presentation Overview:

I. **Sources of Lead in Drinking**

II. **Intent of EPA LCR Rule**

III. **Key LCRR Requirements**

IV. **Initial Service Line Inventory Recap**

V. **Service Line Inventory Resources**

VI. **Funding**

Common Sources of Lead Exposure:

- **House Paint** – Houses build prior to 1977 likely have lead based paint which can be inhaled or consumed through dust and paint chips.

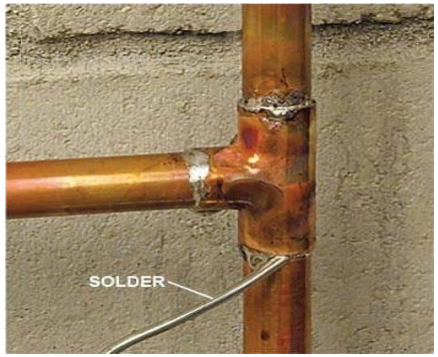
- **Soil** – Soil exposed to car exhaust and gasoline, particularly in areas near busy roads, may contain lead that can be tracked into homes.

- **Tap Water** – as water pipes corrode, lead can enter the water supply and ultimately be found in drinking water.

Sources of Lead in Drinking Water:

Leaded Brass

Lead Gooseneck Connectors



Lead Solder

Lead Service Lines

How Does Lead get in Tap Water???

Two Primary Factors:

1) **Presence of Lead plumbing** – Lead can leach into drinking water as it passes though leaded plumbing materials.

2) **Water quality** – Corrosiveness of the water (pH, Alkalinity, Chlorides, etc.).

Other Factors:

- **Stagnation** – How long the water sits in the pipes.
- **Pipe disruptions or water flow changes** – Can disrupt pipe scales.

Original EPA Lead and Copper Rule (1991):

Treatment Technique Rule: Goal is to lower lead exposure from drinking water by identifying systems where corrosion control treatment is necessary to lower lead/copper in drinking water.

- Requires systems to collect water samples a portion of homeowner's taps and analyze for lead.
- Established a Lead Action Level of 15 parts per billion (ppb).
- Systems must implement "corrosion control treatment" when more than 10 percent of the samples are above the Lead Action Level (15 ppb) or Copper Action Level (1.3 ppm) for two periods.
- Corrosion Control Treatment – Treatment that reduces corrosion and lowers lead/copper at users taps.
  - Increase pH and/or Alkalinity
  - Orthophosphate-based corrosion inhibitor

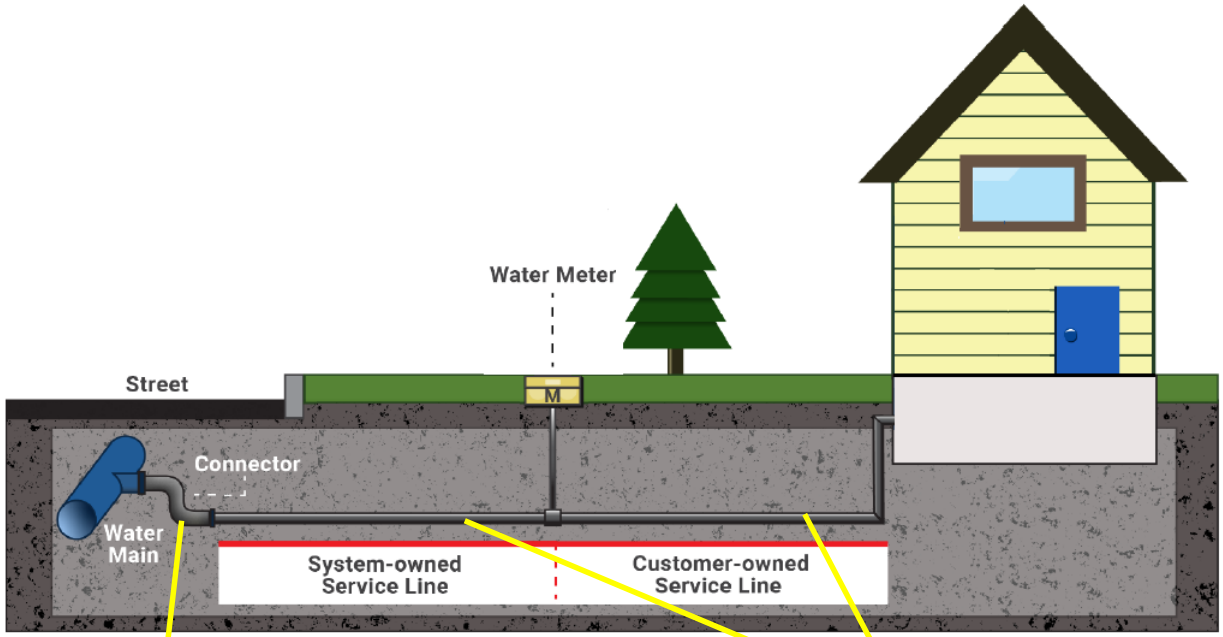
Lead and Copper Rule Revisions (LCRR):

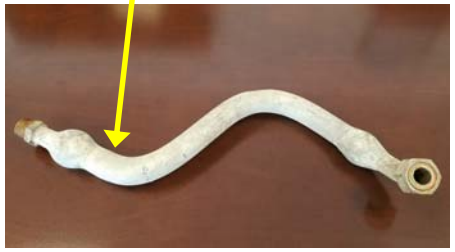
Goal is to lower lead exposure from drinking water by identifying/removing lead service lines.

- Established a compliance deadline of October 16, 2024 for all systems to complete their initial service line inventories.
- Requires annual customer notices to homes served by a “Lead”, “GRR” or “Unknown”. Includes steps these customers can do to reduce lead exposure from their water.
- Subsequent Rule making requires systems to replace lead lines by 2037.

Lead Service Lines:

- Big focus of the LCRR!
- Biggest source of lead in drinking water where they exist.
- Not officially banned in Louisiana until 1988 although most common in 1800's and early 1900's.
- NOTE: Lead Goosenecks are not considered LSL's under the LCRR.





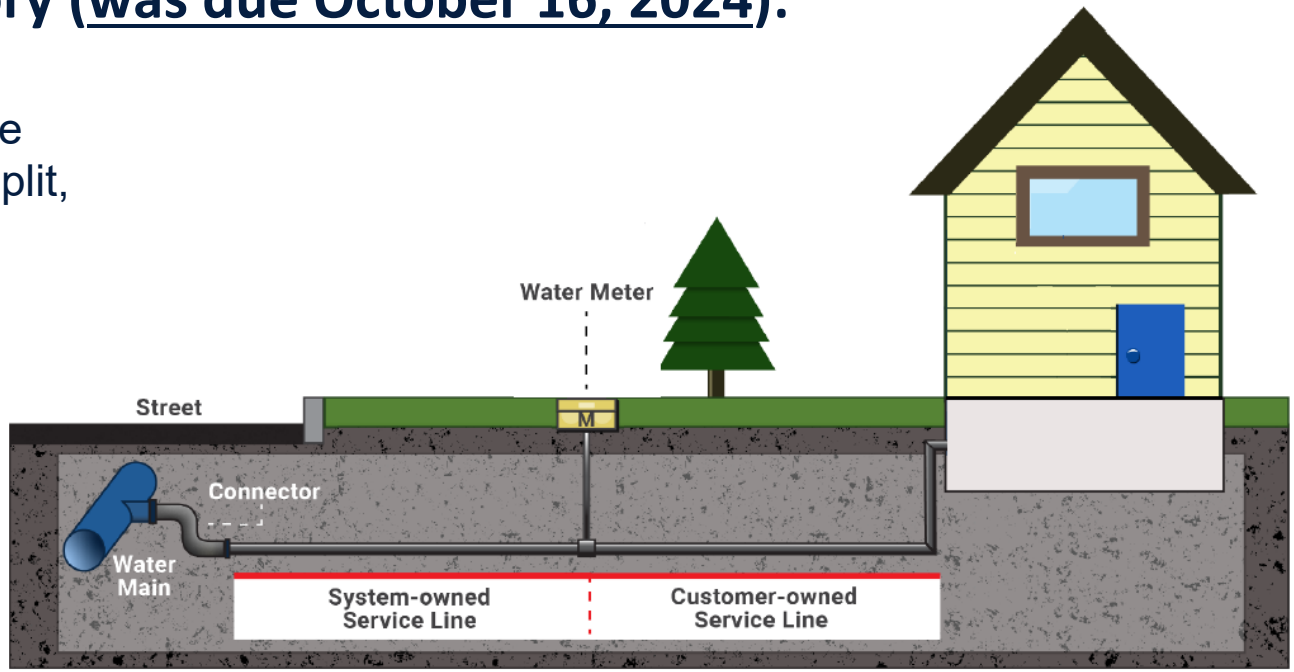
Lead Gooseneck

Lead Service Line

Initial Service Line Inventory (was due October 16, 2024):

Each service line, or portion of the service line where ownership is split, required to be categorized in the following manner:

1. Lead
2. Galvanized Requiring Replacement
3. Non-Lead
4. Unknown



Systems were required to upload their LSLI templates to the LDH LSLI Portal. The portal remains open so systems can access and submit updated inventory templates as needed!

Making the Inventory Publicly Available:

- All systems must make their service line inventory publicly available:
- Systems serving greater than 50,000 persons must make the publicly accessible inventory available **online**.
- Systems serving fewer than 50,000 people are not required to post their inventories online, but must make it available by mail or in-person at the water system's office.
- NOTE: Some systems failed to properly answer the LDH LSLI Portal questions properly which resulted in a "Rejected" submittal.

Customer Notification – LSL, GRR, Unknown:

- Within 30 days of completion of the initial lead service line inventory, all water systems were required to notify all persons served by the water system at the service connection with a *Lead*, *GRR*, or *Unknown* service line.
- The notification must be repeated on an annual basis until the entire service connection is no longer a *Lead*, *GRR*, or *Unknown* service line.
- Systems with *Lead*, *GRR*, or *Unknowns* remaining in their inventory must notify these customers by November 15, 2025.
- Systems required to certify to LDH by July 1 2026 that it delivered the required consumer notifications for 2025.

Customer Notification – LSL, GRR, Unknown:

- **Method of Notification:** You must provide the notification by **mail** or other method approved by LDH. For example, small NTNC systems may post the notice on a bulletin board to allow for customers to review the information.

- **Customer Notification Templates are available on our LDH Website:** https://www.ldh.la.gov/bureau-of-engineering-services/lcrrlcri-rulemaking-overview

Tier 1 Public Notice Following a 90th Percentile Lead Exceedance:

Within the 24 hours after you learn about the lead ALE, you must:

- Issue the PN to customers within 24 hours after you learn of the lead ALE.
- Send a copy of Tier 1 PN to your State, as well as to the EPA via email at: LeadALE@epa.gov. We will coordinate reporting to EPA.

Required Content:

- What happened
- When the ALE occurred
- Mandatory Health Effects Language
- Actions customers can take to reduce lead exposure
- Actions the system is taking
- Contact information

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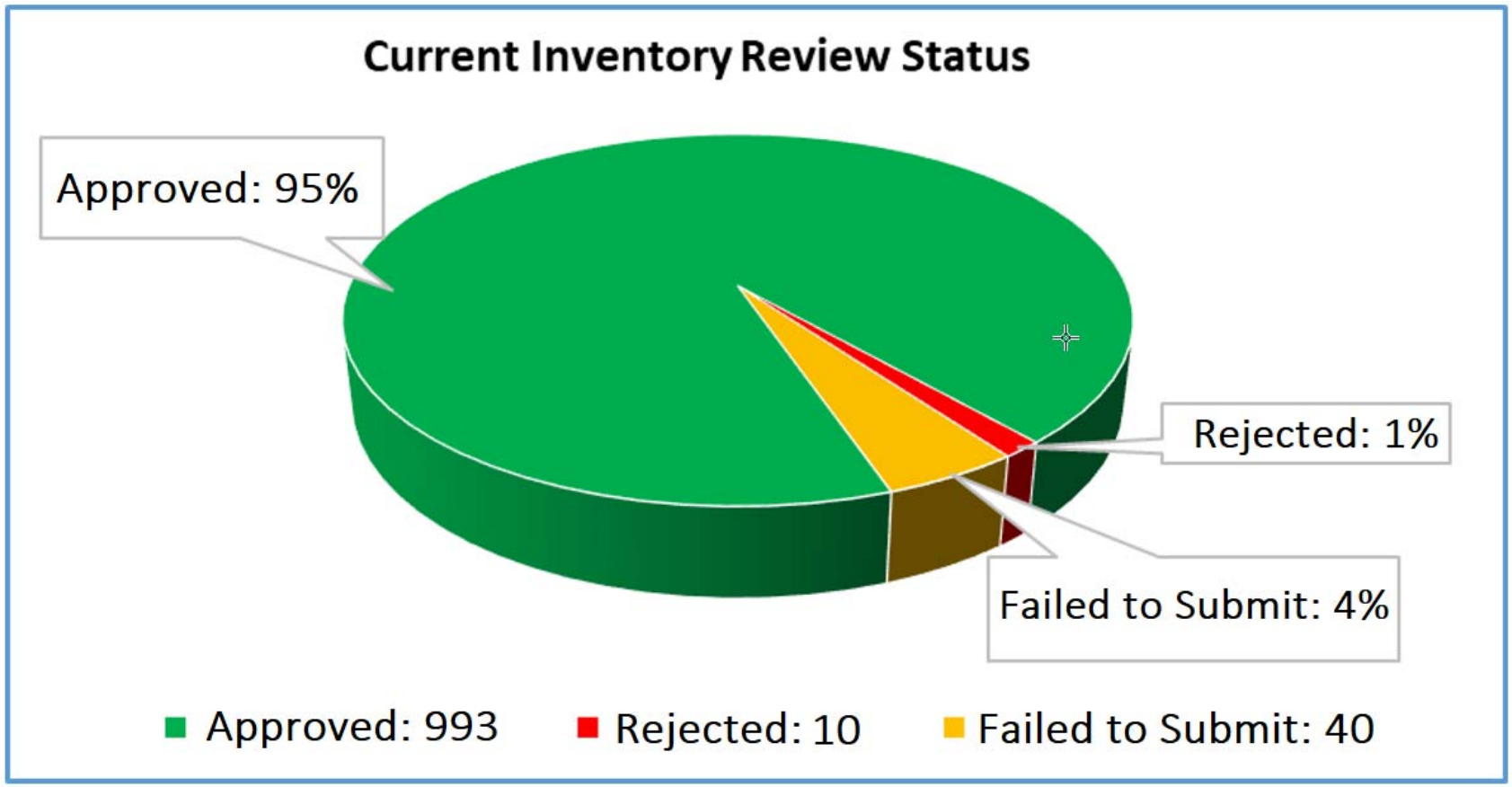
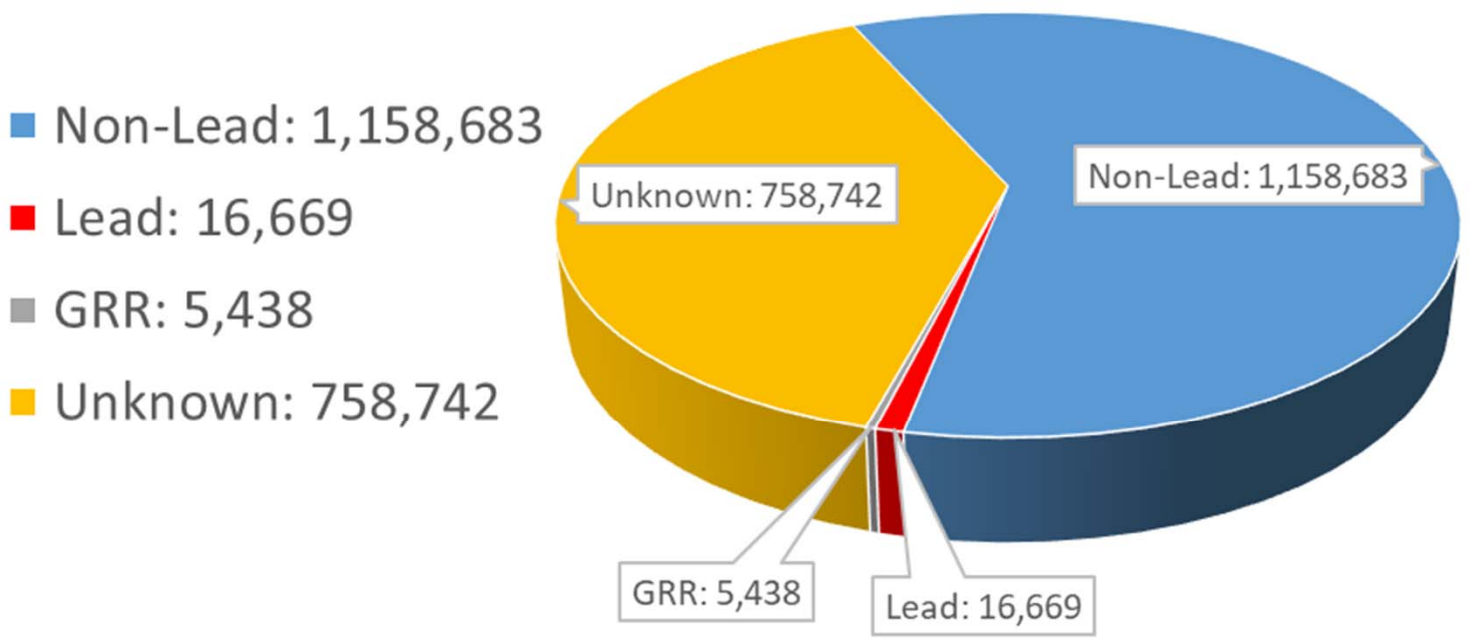
Initial Service Line Inventory Recap

11/21/2025


Current Inventory Review Status
Approved: 95%
Rejected: 1%
Failed to Submit: 4%
Approved: 993
Rejected: 10
Failed to Submit: 40

Service Line Classifications



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LCRI Resources

11/21/2025

LCRI Resources:

- **LDH LCRR/LCRI Website:** https://www.ldh.la.gov/bureau-of-engineering-services/lcrrlcri-rulemaking-overview
- **LDH Lead Service Line Inventory Website:** https://ldh.la.gov/bureau-of-engineering-services/LSLI
- **LDH LSLI Inventory Portal:** https://pwsportal.ldh.la.gov/Portal
- **EPA Guidance on Developing Lead Service Line Inventories and Service Line Inventory Template:** https://www.epa.gov/ground-water-and-drinking-water/revised-lead-and-copper-rule.
- **EPA Customer Notice Fact Sheet:** https://www.epa.gov/system/files/documents/2024-07/fact-sheet-for-notification-of-known-or-potential-lsls_0.pdf

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Bipartisan Infrastructure Law (BIL) Funding

11/21/2025

Bipartisan Infrastructure Law (BIL):

- Louisiana is eligible to receive over $45 million per year over the next several years in dedicated funding for Lead Service Line (LSL) identification (i.e., inventories) and replacement.
- Funding is managed by our Drinking Water Revolving Loan Fund Program. For a project to be eligible for funding, it must be otherwise DWRLF eligible and be a lead service line identification and/or replacement project.
- Any project funded under this appropriation involving the replacement of a lead service line must replace the entire lead service line (both public and private owned portions), unless a portion has already been replaced or is concurrently being replaced with another funding source.
- Under the BIL, 49% of funds awarded to a LSL replacement project would be in the form of principal forgiveness (free) and 51% would be in the form of no-interest loans (up to 30 year terms).
- For more information visit the LDWRLF Program at: https://ldh.la.gov/page/430

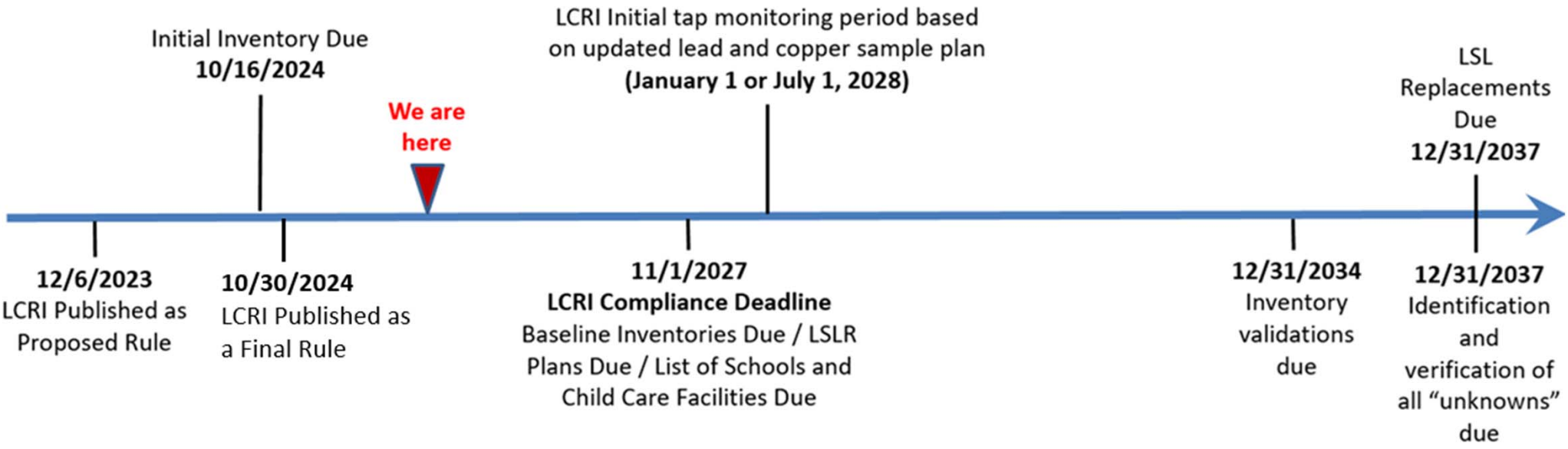
Lead & Copper Rule Improvements (LCRI)

Jeremy Harris, P.E.

LDH/OPH – Engineering Services

11/21/2025

LCRI Timeline:



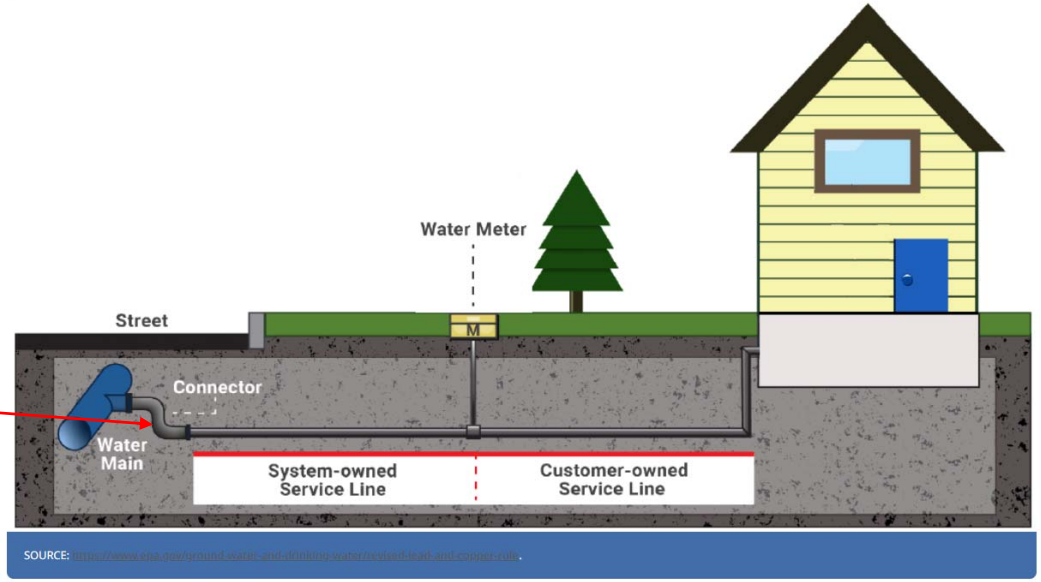
Ongoing Activities:

- Water systems must continue identifying service line materials and updating their inventories.
- Annual notifications to consumers with "Lead", "GRR", or "Unknown" lines are required each November.

Baseline Inventory:

Baseline Inventory - Systems must submit an updated inventory known as the "baseline inventory" by **November 1st, 2027**.

- Must include any updates to the inventory since the initial submittal.
- Must include service line ***connector material***.
- Must be submitted to the LDH LSLI Portal by the November 1st 2027 deadline.



Connector Material:

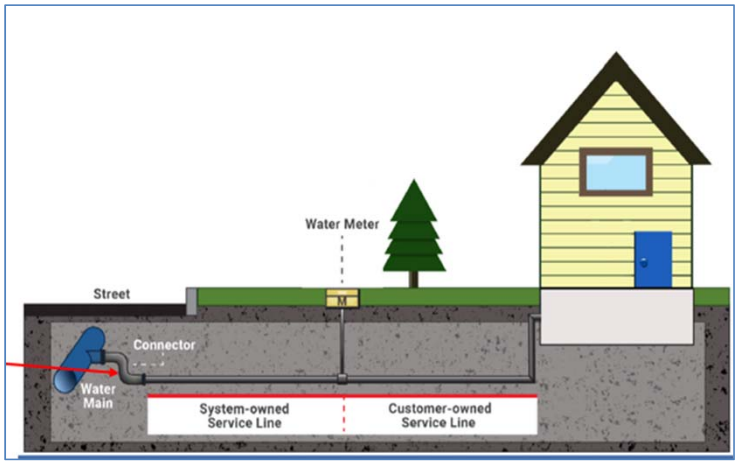
Connector materials must be categorized as follows in the baseline inventory submittal:

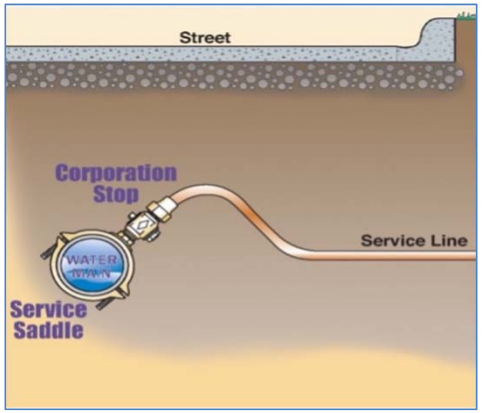
(A) "**Lead**" where the connector is made of lead.

(B) "**Non-Lead**" where the connector is determined through an evidence-based record, method, or technique not to be made of lead.

(C) "**Unknown**" where the material of the connector is not known.

(D) "**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).





Lead Connectors (Goosenecks/Pigtails):

Water System Responsibilities:

- Systems must replace any system-owned lead connectors when encountered during planned or unplanned water system infrastructure work.
- Upon replacement of any gooseneck, pigtail, or connector that is attached to a lead service line, the water system must provide the homeowner:
  - ✓ information about the potential for elevated lead levels in drinking water as a result of the disturbance,
  - ✓ An NSF approved pitcher filter or POU treatment device certified to reduce lead,
  - ✓ Instructions to use the filter,
  - ✓ and six months of filter replacement cartridges.

Inventory Validation:

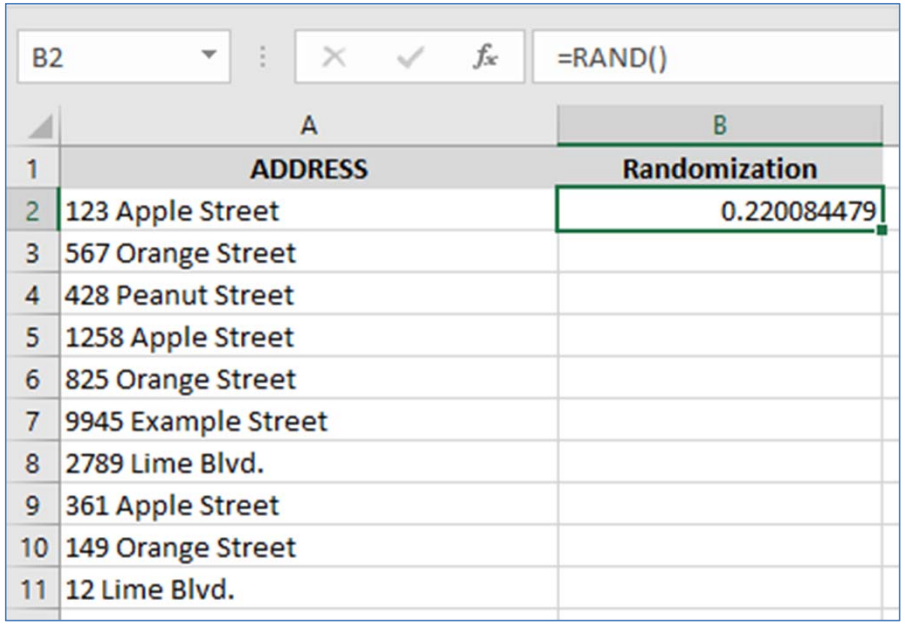
Systems must validate certain “non-lead” lines by **2034**.

- **Step 1: Identify the validation pool.** The validation pool consists of all non-lead service lines in the inventory **excluding** lines installed after the lead ban of 1988, and lines that were visually verified.
- **Step 2: Determine the minimum number of validations required**. See Table.
- **Step 3: Randomly select service lines to be field validated.** Water systems can use tools such as a random number generator to ensure the sites are truly randomly selected.
- **Step 4: Field verify the randomly selected locations.** Where ownership of the service line is split, one verification point is required on each side of the meter (i.e., public and private).
- **Step 5: Submit field verification results to the State.** Field verification findings shall be documented and submitted to the state upon completion. If a water system identifies a lead or GRR service lines during validation, water systems must notify the state within 60 Days.

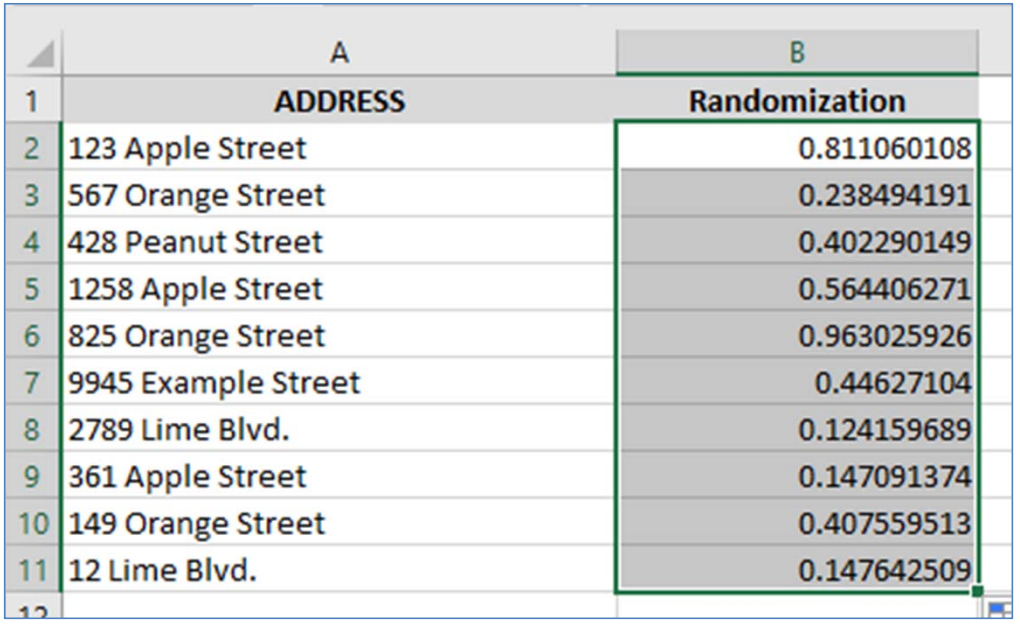
Table 1. Minimum Number of Validations Required

Size of Validation Pool	Number of Validations Required
<1,500	20% of validation pool
1,500 to 2,000	322
2,001 to 3,000	341
3,001 to 4,000	351
4,001 to 6,000	361
6,001 to 10,000	371
10,001 to 50,000	381
>50,000	384

Random Selection:



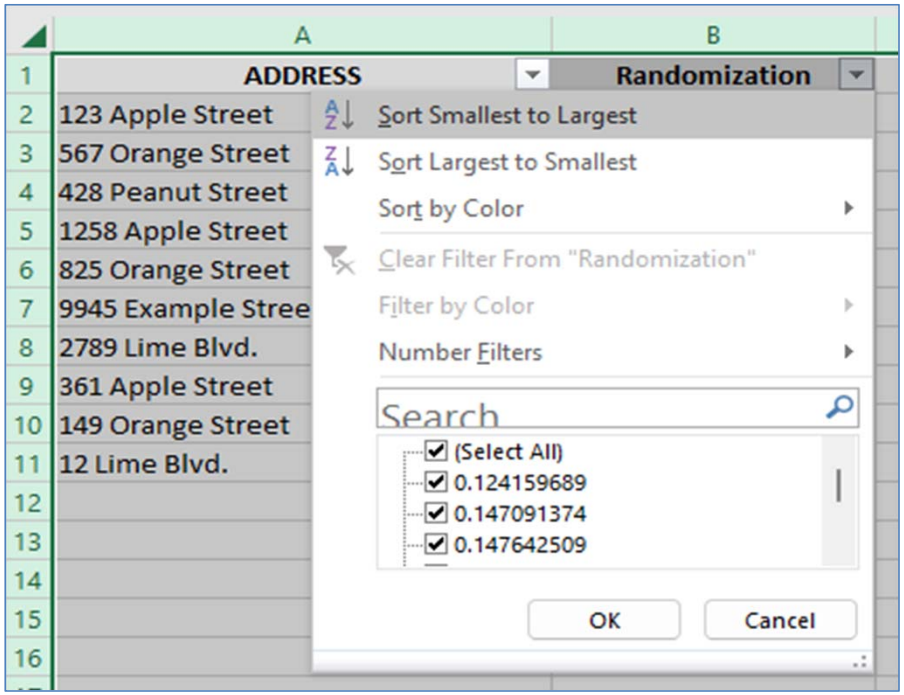
	A	B
1	ADDRESS	Randomization
2	123 Apple Street	0.220084479
3	567 Orange Street	
4	428 Peanut Street	
5	1258 Apple Street	
6	825 Orange Street	
7	9945 Example Street	
8	2789 Lime Blvd.	
9	361 Apple Street	
10	149 Orange Street	
11	12 Lime Blvd.	



	A	B
1	ADDRESS	Randomization
2	123 Apple Street	0.811060108
3	567 Orange Street	0.238494191
4	428 Peanut Street	0.402290149
5	1258 Apple Street	0.564406271
6	825 Orange Street	0.963025926
7	9945 Example Street	0.44627104
8	2789 Lime Blvd.	0.124159689
9	361 Apple Street	0.147091374
10	149 Orange Street	0.407559513
11	12 Lime Blvd.	0.147642509

1. Insert a new, blank column next to your addresses you want to include in the study.
2. Enter the formula: In the first cell of the new column, type =RAND() and press Enter.
3. Copy the formula down: Click on the cell with the formula, then drag the small square at its bottom-right corner down to apply the formula to all rows in your list.
4. To keep the order static, select the random number column, copy it, and then paste it back into the same column as "Values" (right-click, choose Paste Special, and select Values).

Random Selection:



5. Sort the data: Select your entire dataset, including the new random number column. Go to the "Data" tab and click "Sort". Sort the data by the new random number in Ascending order (smallest to largest).

ADDRESS	Randomization
825 Orange Street	0.038845857
9945 Example Street	0.157996291
2789 Lime Blvd.	0.272287595
428 Peanut Street	0.401788795
1258 Apple Street	0.413990141
361 Apple Street	0.436343037
123 Apple Street	0.473138703
149 Orange Street	0.717876844
12 Lime Blvd.	0.775321245
567 Orange Street	0.906886259

Lead Service Line Replacement Plan:

Systems with at least one “Lead”, “GRR”, or “Unknown” service line must develop and submit a replacement plan to the state by **November 1, 2027**. The plan must be made publicly available and must include:

1) A description of a strategy to identify the material composition of all unknown service lines in the inventory.
2) A standard operating procedure for conducting full service line replacement.
3) A communication strategy for informing customers before a full or partial lead or GRR service line replacement.
4) A procedure for customers to flush service lines and plumbing following a disturbance or LSL replacement.
5) A strategy to prioritize service line replacement.
6) A funding strategy for conducting replacements that includes ways to accommodate customers that are unable to pay to replace the portion of the service line they own.
7) A communication strategy to inform consumers and customers about the replacement plan and program.
8) Identification of any laws or regulations that affect the water system’s ability to gain access to conduct replacements.
9) For water systems that identify any lead-lined galvanized service lines in the inventory, a strategy to determine the extent of their use in the distribution system.

Replacements – Must Identify all “Unknowns” and replace all “Lead” and “GRR” service lines by **2037**.

Customer Notices:

Notification of lead or potential lead service lines - Systems that have any service connections classified as "Lead", "Galvanized Requiring Replacement", or "Unknown" in their initial inventory are required to deliver public education information to those customers each year by **November 15th.**

Lead	GRR	Lead Status Unknown
✓ A statement that the service line is lead.	✓ A statement that the service line is GRR.	✓ A statement that the service line material is unknown but may be lead.
✓ An explanation of the health effects of lead as specified in the rule and below.	✓ An explanation of the health effects of lead as specified in the rule and below.	✓ An explanation of the health effects of lead as specified in the rule and below.
✓ Steps persons at the service connection can take to reduce exposure to lead in drinking water.	✓ Steps persons at the service connection can take to reduce exposure to lead in drinking water.	✓ Steps persons at the service connection can take to reduce exposure to lead in drinking water.
✓ Information about opportunities to replace LSLs as well as programs that provide financing solutions to replace the LSL.*	✓ Information about opportunities for replacement of the service line.	✓ Information about opportunities to verify the material of the service line.

Notification templates are available at: https://www.epa.gov/dwreginfo/lead-and-copper-rule-implementation-tools

Service Line Disturbances:

Beginning **November 1, 2027**, any work on or near a lead service line, such as the replacement of a water main, service line, or meter, may move, vibrate, or physically disturb the lead water service line, which can release lead particles and cause a temporary increase of lead levels in water.

- Systems must provide notice and educational materials during water-related work that could disturb “lead”, “GRR”, or “unknown” SLs.

- Systems are required to distribute a pitcher filter or point-of-use treatment device (ANSI certified to reduce lead), instructions to use the filter, and six months of filter replacement cartridges; **only when** the disturbance is resulting from:

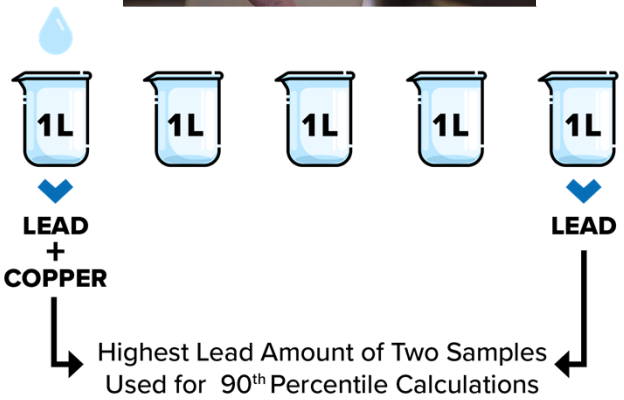
    1. the replacement of an inline water meter, a water meter setter, or connector; or,
    2. from the replacement of a water main whereby the service line pipe is physically cut.

Revised Tap Sample Collection Protocol:

Water systems are required to collect first and fifth-liter tap samples **at sites with lead service lines (LSLs)**. Both the first and fifth-liter samples must be analyzed for lead and the higher of the two values is used for compliance.

First and Fifth-liter sample collection procedure:

- Fill the first numbered wide-mouth sample bottle with tap water.
- Immediately slide the second bottle under the tap without turning the water off and repeat the process for bottles three through five in consecutive order.



Updated lead & copper sample plans:

Systems must reevaluate the sites used for lead and copper monitoring. Updated sample plans required to be submitted to the state by **November 1, 2027**.

- Revised LCRI Tiering criteria based on which sampling sites have the greatest likelihood of capturing lead levels at the tap (see Table).
- Water systems must identify locations in the site sample plan by selecting from sites in the highest tier, unless the site has been found to be unavailable.

Sample Site Tier	Description
Tier 1	Single-family structures (SFS) with premise plumbing made of lead and/or served by an LSL.
Tier 2	Buildings, including multiple-family residences, with premise plumbing made of lead and/or served by an LSL.
Tier 3	SFS served by a lead connector. SFS served by a galvanized service line or containing galvanized premise plumbing identified as ever having been downstream of an LSL.
Tier 4	SFS that contain copper premise plumbing with lead solder installed before the effective date of the State's applicable lead ban.
Tier 5	SFS or a building in which the plumbing materials used at that site would be commonly found at other sites served by the water system (i.e., representative of sites throughout the distribution system).

Lowering the Lead Action Level:

EPA has lowered the lead action level from 15 parts per billion (ppb) to 10 parts per billion (ppb).

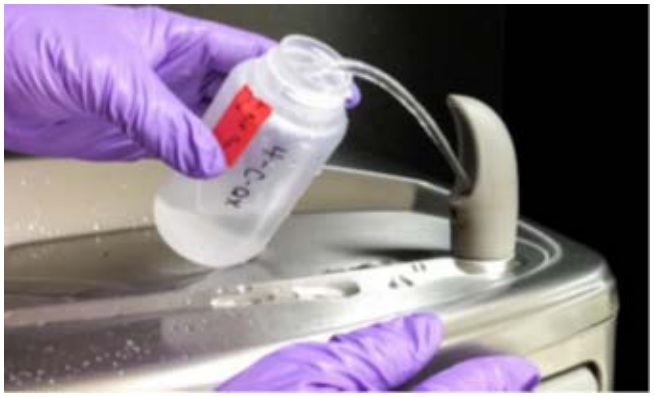
How might this affect me???

- **Find and Fix** – Requires systems to collect a follow-up sample at each location with lead > 10 ppb within 30 days of learning of the results. Conduct WQP monitoring at or near the site > 10 ppb. Systems must determine if a "fix" is needed (e.g., adjustment to CCT, flushing portions of the distribution system, or other strategies).
- **90th Percentile Action Level Exceedance** – When more than 10 percent of a systems routine lead sample results exceed the action level, systems are required to:
  - inform the public within 24 hours (Tier 1 Public Notice) and conduct public education.
  - install or adjust corrosion control treatment to reduce lead that leaches into drinking water.
  - under the LCRI, systems are required to make filters certified for lead reduction available to <u>all</u> consumers if they have three or more 90th lead action level exceedances (above 10 ppb) within a 5-year time period.

School and Childcare Lead Monitoring:

Starting in **2028**, water systems must sample at least 20% of elementary schools and childcare facilities that they serve each year for the first five years. After this initial phase, sampling is typically only required upon request from the school or childcare facility.

- Minimum of 5 samples per school and 2 samples per daycare. Sample results, public education and remediation options must be provided to each sampled school or daycare. 1st Draw, 250 mL bottles.
- All CWSs must develop and maintain a list of schools and child care facilities they serve and submit it to the State by **November 1, 2027**.
- Water systems are required to conduct annual public education in schools and childcare facilities about the health risks of lead in drinking water.
- See EPA's Technical Fact Sheet: Lead in Schools and Child Care Facilities: https://www.epa.gov/system/files/documents/2024-10/final_lcri_fact-sheet_schools-and-child-care.pdf



LCRI Summary of Deadlines:

LCRI Requirement	Deadline	Applicability
Customer Notices to Lead or Potential Lead Lines	Notify customers annually by November 15th and Certify to the State by July 1st of the following year	Systems with service lines classified as “Lead”, “Galvanized Requiring Replacement”, or “Unknown” in their inventory
Baseline Inventory with Updates and Connector Material	11/1/2027	All Community and Non-Transient Non-Community Systems
Lead Service Line Replacement Plan	11/1/2027	Systems with “Lead”, “GRR”, or “Unknowns”
Updated Sample Site Plan	11/1/2027	All Community and Non-Transient Non-Community Systems
Revised Lead Action Level (15 ppb > 10 ppb)	11/1/2027	All Community and Non-Transient Non-Community Systems

Continued…….

LCRI Requirement	Deadline	Applicability
Lead Gooseneck Replacements	Ongoing	Beginning 11/1/2027, must replace when encountered during routine work
List of School and Daycares to the State	11/1/2027	Systems that serve one or more school or daycare
School and Childcare Lead Monitoring	Beginning in 2028	Systems that serve one or more school or daycare
Field Validation of Non-Lead Lines	11/1/2034	Systems with lines installed pre-1988 that were not field verified
Identification/verification of remaining unknowns	11/1/2037	Systems with remaining unknowns
Lead Service Line Replacements	11/1/2037	Systems with Lead or GRR lines

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LCRI Resources

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LCRI Resources:

- **EPA's LCRI Website:** https://www.epa.gov/ground-water-and-drinking-water/lead-and-copper-rule-improvements
- **EPA's LCRI Questions and Answers:** https://www.epa.gov/ground-water-and-drinking-water/lcri-questions-and-answers
- **EPA LCRI Webinar:** https://www.youtube.com/watch?v=ecN38LOlO5o
- **EPA LCRI Technical Fact Sheets:** https://www.epa.gov/dwreginfo/lead-and-copper-rule-improvements-supporting-materials
  - Tap Monitoring Requirements
  - Service Line Inventory & Replacement Requirements
  - Public Education and Customer Notice Requirements
  - Inventory Validation
  - Schools and Childcare Sampling

Questions???

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