

Tennessee Association  
of Utility Districts

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# LEAD AND COPPER RULE REVISION

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**Rule became effective December 16, 2021**

**PWS must comply with rule on October 16, 2024**

### **Key Goals of the rule (EPA)**

- ▶ **Better protection of children from lead exposure**
- ▶ **Removing lead from our PWS distribution systems – Get the Lead Out**
- ▶ **Empowering Communications**

# **EPA FINAL LEAD AND COPPER RULE REVISION**



EPA announced intent to propose Lead and Copper Rule Improvements before October 2024.



EPA TO PROPOSE LEAD AND COPPER  
RULE IMPROVEMENTS LCRI

- ▶ **Replacing all Lead Service Lines.** Replacing all lead service lines is an important public health goal. EPA intends to propose requirements that, along with other actions, would replace all lead service lines as quickly as feasible. EPA's proposal will fully consider the agency's statutory authority and required analyses, including an economic analysis. •
- ▶ **Compliance Tap Sampling.** EPA intends to assess data to consider opportunities to strengthen compliance tap sampling requirements. Robust tap sampling methods are essential to identifying locations with elevated lead, whether the source of the lead is a lead service line or leaded plumbing materials within a residence. •
- ▶ **Action and Trigger Levels.** For the proposed rule, the agency plans to explore options to reduce the complexity and confusion associated with these levels with a focus on reducing health risks in more communities. The agency will also evaluate whether the trigger level requirements of the LCRR are still necessary with a proactive lead service line replacement and more protective action level. •
- ▶ **Prioritizing Historically Underserved Communities.** EPA intends to explore how to replace lead service lines in a manner that prioritizes underserved communities. EPA will evaluate options to prioritize the removal of lead service lines in communities disproportionately impacted by lead in drinking water. The goal of these potential lead service line replacement regulatory improvements—coupled with non-regulatory actions—is to more equitably protect public health.

EPA TO PROPOSE LCRI

## Additional Infrastructure Funds.

- ▶ EPA announced that it will allocate \$2.9 billion in Bipartisan Infrastructure Law funding to states, Tribes, and territories to remove lead service lines. This 2022 allocation is the first of five allotments that will provide **\$15 billion in dedicated funding for lead service line replacements.** **In addition** to the dedicated investment in lead service lines, the Law provides an additional \$11.7 billion in general funding through the DWSRF, which can also be utilized for lead removal projects.

EPA TO AUTHORIZE ADDITIONAL FUNDING

## Major Changes include

- ▶ Lead Service Line inventories /replacement plans
- ▶ New Tier Designations
- ▶ Revised Sample Siting Plans
- ▶ Corrosion Control Treatment Changes
- ▶ Tap Sampling Procedures
- ▶ Public Education and Transparency Provisions
- ▶ Trigger level 10 ppb
- ▶ Find and Fix provisions for samples >15ppb
- ▶ Lead Sampling of Schools and Childcare Facilities
- ▶ CCR reporting changes



# EPA FINAL LEAD AND COPPER RULE REVISION

# Lead Service Line inventories

PWS develop and submit LSL inventory by **October 16, 2024**

- ▶ **PWS owned and customer owned lead, non-lead, lead status unknown , Galvanized requiring replacement (GL is or ever was downstream of a lead service line)**
- ▶ **Inventories to be made available to public – can use street name of block number >50K available online. Note availability in CCR.**
- ▶ **Update inventory annually or triennially based on removals or verification of unknowns**
- ▶ **PE to customers served by LSL**

## Lead and Copper Sample Siting Plans

PWS revise and submit Revised Sample siting or monitoring plans based on LSL inventory by **October 16, 2024.**

- ▶ **Must include Highest Tier sites first ( LSL)**
- ▶ **Must include Water Quality Parameter Monitoring Locations**
- ▶ **LCRR sample siting plans are much more comprehensive**



## New Tier designations

- ▶ T1- Single family residences served by LSL . Or multi family residences if they rep 20% of structures served.
- ▶ T2- Buildings and Multi Family residences served by LSL.
- ▶ T3-Single Family Residence with Galvanized lines downstream of a current or past LSL or lead connector.
- ▶ T4-Single Family Residence with copper pipes and lead solder installed before the states lead ban. (July 1988)
- ▶ T-5 Single Family or Multi-Family Structures or Buildings that are representative sites of the system.

## **\*Tap Sampling**

Wide mouth bottles to be used

Revised sample instructions to customers- can not specify flushing or aerator cleaning prior to sampling.

Tier descriptions change to ensure LSL are included.

1<sup>st</sup> and 5<sup>th</sup> liter sample is required for LSL samples

\* Tap sampling requirements could change under the LCRI

## \*Lead Service Line replacement Plan

All systems with LSL must develop an LSL replacement plan by October 16, 2024, to be implemented in the case of lead action trigger (10ppb) or action level exceedance (15ppb)

- ▶ (PWS >10K) Plan to include a goal rate % to be developed in conjunction with the state. 2 year rolling average compliance calculation.
- ▶ 90<sup>th</sup> 15 ppb ALE- minimum 3% LSLR- may stop after 2 years of biannual sampling. Below 90<sup>th</sup>
- ▶ \* Triggers will likely be eliminated under the LCRI

## Lead Service Line replacement Plan

- ▶ Strategy to prioritize replacement of LSL- most vulnerable populations, disadvantaged communities.
- ▶ Strategy for determining status of unknowns
- ▶ Procedures to contact customers and conduct full LSL replacement
- ▶ Procedures to notify customers to flush lines
- ▶ Customer outreach information , pitcher filters for six months
- ▶ funding strategy to assist customers with customer LSLR
- ▶ PWS must replace its side upon customer LSLR ( 45-180 days)

## \*90<sup>th</sup> % 10 ppb trigger level exceedance

- ▶ Notify customers with LSL or unknowns.
- ▶ Begin Annual monitoring
- ▶ Evaluation of CCT- install or re-optimize
- ▶ (> 10K) Begin LSLR replacement in accordance with plan
- ▶ May stop LSLR when below trigger level for 2 consecutive monitoring periods.
- ▶ <10K select small system flexibility.

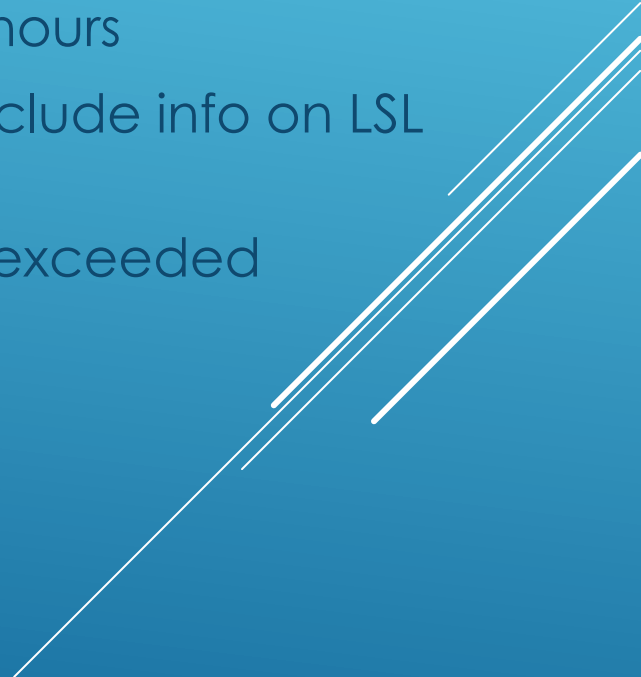
**\* Trigger level may be eliminated or changed under LCRI**

## **\*90<sup>th</sup> % 15 ppb Action level exceedance**

- ▶ 24 hour Tier 1 public notice ( TNSDWA = 72)
- ▶ Revert to Standard monitoring –every 6 months
- ▶ Evaluation of CCT- install or re-optimize
- ▶ Begin mandatory 3% LSL replacement
- ▶ Requires customer notification of replacements ,filters for 6 months and follow up tap testing within 3-6 months
- ▶ Continue LSLR until system achieves <15 ppb 90<sup>th</sup>% for two consecutive years , four six month monitoring periods.

**\* Action level could be lowered to 10 or less under the LCRI**

## Public Education and Notifications

- ▶ Revised Health Effects Language to be used.
  - ▶ Any customer with tap levels above 15ppb are to be notified within 72 hours
  - ▶ Annual notices to customers with LSL, Galvanized and unknowns. To include info on LSL replacement and funding opportunities.
  - ▶ Tier 1 24 hour notice to all customers if the 90<sup>th</sup> % 15ppb Action Level is exceeded
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## CCT changes

- ▶ Eliminates calcium carbonate equilibrium as a CCT
  - ▶ Specifies Orthophosphate if a phosphate is used for CCT
  - ▶ \*exceed the 10ppb trigger level -
    - ▶ If you are not providing CCT – must conduct CCT study if agency requires it.
    - ▶ If you are providing CCT you must re-optimize
  - ▶ \*exceed the 15 ppb action level
    - ▶ If you are not providing CCT – must install CCT
    - ▶ If you are providing CCT you must re-optimize
- \* subject to change under LCRI



## Water Quality Parameters

- Required for all systems that exceed the Action Level (\*15ppb) and all medium and small systems with CCT that exceed the Trigger Level(\*10ppb)
- The number of entry point and tap samples based on size. Find and Fix triggers the addition of WQP tap sites.
- All WQP monitoring site are to be monitored at least annually, two 6-month periods initially.
- Calcium stabilization is being eliminated as a CCT along with the associated WQP Calcium hardness , conductivity and temp.
- \*subject to change under the LCRI

## Find and Fix

Triggered when any individual sample result  $>^*15$  ppb

- ▶ **Step 1**- Within 5 days or 14 days for pop <10K collect a WQP sample within 0.5 miles of the customer, same pressure zone, same main size. Add site to WQP monitoring plan.
- ▶ **Step 2**-within 30 days collect follow up samples for lead. May collect additional samples ( i.e. 5<sup>th</sup> liter or sequential ) to help identify plumbing contribution to lead.
- ▶ **Step 3** – report findings and cause if known. Make recommendation for corrective action if water quality related.

## Sampling at Schools and Childcare Facilities

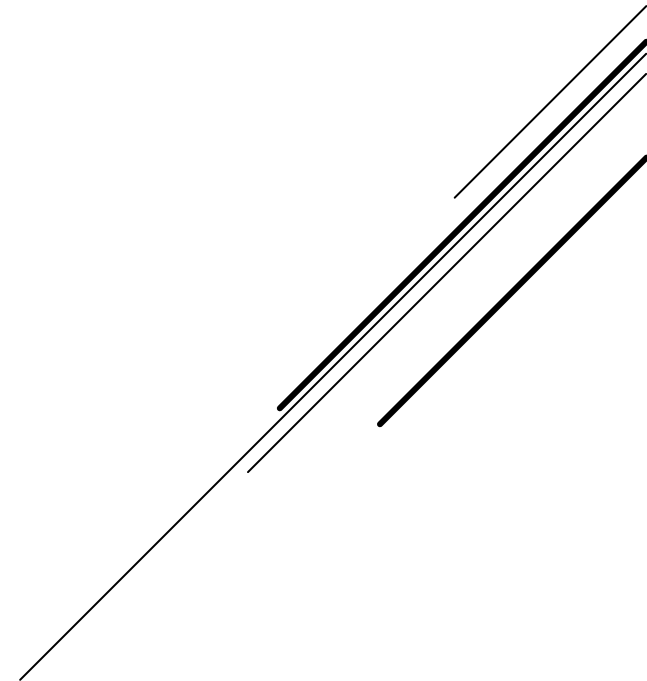
- ▶ Excludes building built after July 2015,
- ▶ CWS develop lists of schools and daycares, provide communication about risks of lead and 3ts.
- ▶ Sample elementary schools (k-6) and daycares one time during the first five years. 2024-2029  
At least 20%/year
- ▶ (follow 3ts sampling protocol 8-18 hr. stagnation 250 ml sample.
- ▶ 5 samples per school , 2 samples per child -care facility
- ▶ Results not included in 90th calculation and must be reported to the facility, TDEC and the local and state Health Departments.
- ▶ State can waive schools already being tested.

## Increased transparency


- ▶ Revised health effects language for customer notifications
- ▶ CCR to include revised language and includes 90<sup>th</sup> % compliance value, the range of lead results and number of samples above \*15 ppb.
- ▶ CCR information on how to obtain copies of all results.
- ▶ CCR update on LSL inventories and availability for viewing.
- ▶ Tier 1 public notice (24 hours) for lead 90th percentile\*15 ppb exceedance .
- ▶ 72 hour notice to any customer with results above \*15 ppb

Lead Goosenecks  
/connectors etc. are to be  
replaced as they are found.

Partial LSLR are discouraged  
and only full LSLR are  
credited for % removals



# LCRR SUMMARY OF REQUIREMENTS

- ▶ Develop Service Line inventory
  - ▶ Develop revised sample site monitoring plan
  - ▶ Develop lead service line replacement plan
  - ▶ Make notifications to customers with LSLs
  - ▶ Develop lists of daycare facilities and Schools
  - ▶ Provide outreach to schools and daycares
  - ▶ Conduct sampling of schools and daycares
  - ▶ Monitor at new sites
  - ▶ Activate Lead Service line replacement plan if triggered
  - ▶ Initiate find and fix procedures is triggered.
  - ▶ Conduct public notice if Action level is exceeded.
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## PWS action needed to comply with LCCR prior to **October 16, 2024.**

- ▶ Developing Service Line Inventories- Include customer side
  - ▶ Lead
  - ▶ Non-Lead- any thing after **July 1988**
  - ▶ Galvanized Requiring Replacement-(downstream of lead)
  - ▶ Lead Status Unknown
- ▶ Develop Revised LCR sampling plan.
- ▶ Develop Lead Service Line Replacement Plan, if applicable.
- ▶ Develop lists of childcare facilities and Schools constructed prior to **July 2015.**

▶ LSL Records Review 141.84(a)(3)

(i) All construction and plumbing codes, permits, and existing records or other documentation which indicates  
the service line materials used to connect structures to the distribution system

DEVELOPING SERVICE LINE INVENTORIES



## LSL Records Review 141.84(a)(3)

(ii) 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.

DEVELOPING SERVICE LINE INVENTORIES

## LSL Records Review 141.84(a)(3)

- (iii) 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
- (iv) Any resource, information, or identification method provided or required by the State to assess service line materials.

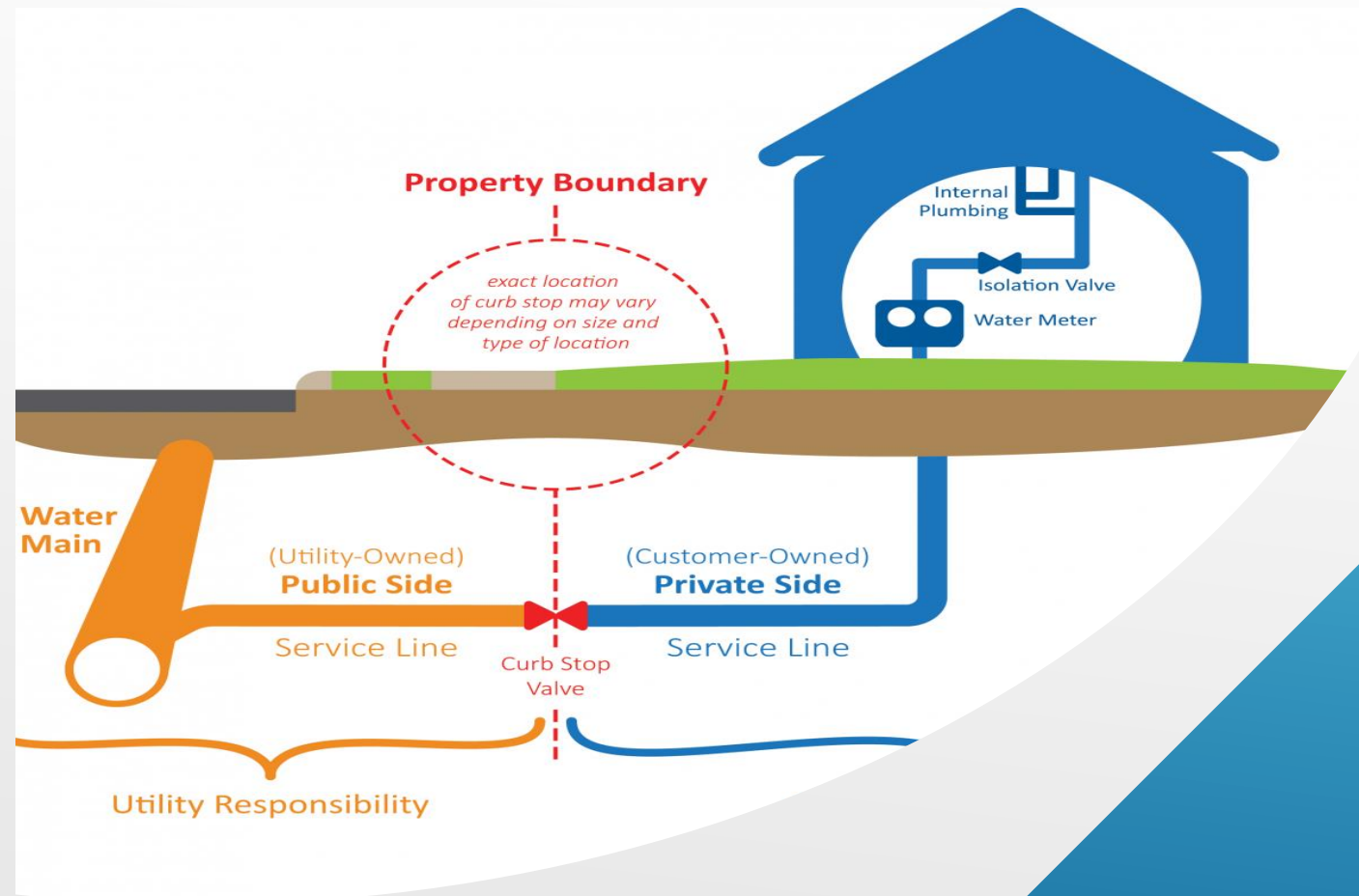
DEVELOPING SERVICE LINE INVENTORIES

- ▶ Existing records are the primary basis for an LSL inventory
- ▶ Routine activities like meter replacement provide an opportunity to identify the pipe material present. Where information is lacking, active investigation, as well as ongoing surveillance approaches, can be undertaken.
- ▶ It is important to remember that visual inspections are informative, but are not a perfect indicator of the material throughout the length of the pipe. Sections of the pipe that are not visible may be a different pipe material. Knowing the pipe material as it enters the home is probably the most useful visual inspection.

# LEAD AND COPPER RULE REVISION

Service line Inventories Due -10/16/2024

1. Lead
2. Galvanized Requiring Replacement
3. Not Lead (anything after 07/1988)
4. Lead status unknown



<https://www.tn.gov/environment/program-areas/wr-water-resources/water-quality/drinking-water-redirect/lead-and-copper-rule.html>

# MATERIALS INVENTORIES WHERE TO START

Populate excel spreadsheet provided by TDEC. Required information is colored in **black** text good to know and useful is in **green** or **blue**

Utilize states lead ban date of **July 1988** as a starting point.

- ▶ Any structure built after this date can be classified as non-lead or Galvanized needing replacement.

Determine if Lead service lines were ever installed. Records review, interviews with staff etc.

- ▶ Timeframe of use can determine portions of communities to target.

- ▶ Meter Installation and Construction records
- ▶ Service Cards or Tickets
- ▶ Plumbing permits
- ▶ Utility Construction standards
- ▶ Plumbing codes or local ordinances
- ▶ Tax records for dates of construction
- ▶ Distribution maps
- ▶ construction records
- ▶ Capital improvement plans
- ▶ Community planning documents and maps
- ▶ Newspaper accounts





Field Experience- historical knowledge

# MATERIAL INVENTORY- RECORDS REVIEW

# MATERIALS INVENTORY - CUSTOMER SURVEYS

- ▶ Begin Customer outreach efforts.
- ▶ Web site and customer survey letter - example provided
- ▶ Ask residents to inspect plumbing and provide guide.
- ▶ Scratch Tests and Magnets are useful
- ▶ Check out [NPR's interactive tool](#) to discover if you have lead pipes in your home.

**DC Water: Understanding your Water Service Pipe**

<p><b>Types of water pipes</b> Follow the guidance below or contact a licensed plumber to determine the material of your water pipes. To identify the material of your service pipe material on private property, check your household water service connection, typically located in the basement.</p> <p>Homeowners should identify and replace old household pipes, particularly galvanized plumbing and sources of lead. The type of household plumbing can vary throughout your household.</p>	<p><b>Lead</b>  A dull, silver-gray color that is easily scratched with a coin. Use a magnet - strong magnets will <i>not</i> cling to lead pipes.</p> <p><b>Galvanized</b>  A dull, silver-gray color. Use a magnet - strong magnets will typically cling to galvanized pipes.</p> <p><b>Copper</b>  The color of a copper penny.</p> <p><b>Plastic</b>  White, rigid pipe that is joined to water supply piping with a clamp.</p>
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- ▶ Normal Utility Field Work- meter reading, construction, repairs.
- ▶ Test Pit – manual excavation.

MATERIALS INVENTORY – PHYSICAL INSPECTIONS



- ▶ Utilize information from LSL inventory
- ▶ T1- Single family residences served by LSL. Or multi family residences if they rep 20% of structures served.
- ▶ T2- Buildings and Multi Family residences served by LSL.
- ▶ T3-Single Family Residence with Galvanized lines downstream of a current or past LSL or lead connector.
- ▶ T4-Single Family Residence with copper pipes and lead solder installed before the states lead ban. **July 1988**
- ▶ T-5 Representative sites of the system.

DEVELOP REVISED LCR SAMPLE PLAN

- ▶ Monitor at new sites prior to LCCR effective date
- ▶ Evaluate results with regard to \*10 ppb trigger level and \*15 ppb action level at each site.
- ▶ Review Current Corrosion Control Treatment
- ▶ Monitor and Review distribution system Water Quality Parameters (WQP)
- ▶ Adjust Distribution Operations or Corrosion Control Treatment as needed.

**BEGIN MONITORING AT NEW SITES**

# FUNDING IS AVAILABLE

- ▶ service line inventory
- ▶ lead line replacement
- ▶ galvanized line replacement

Contact TDEC SRF staff or web at

<https://www.tn.gov/content/tn/environment/program-areas/wr-water-resources/srfp/srf-home/i-need-funding/funding-dw-projects.html>

- ▶ TDEC Lead and Copper Rule Web site

<https://www.tn.gov/environment/program-areas/wr-water-resources/water-quality/drinking-water-redirect/lead-and-copper-rule.html>

- ▶ The LCRR rule ,additional EPA action and LSL replacement webinars can be accessed at these EPA web sites

<https://www.epa.gov/sdwa/lead-and-copper-rule-long-term-revisions>

LCRR RESOURCES

**Other resources for lead service line inventories and replacement plans can be accessed at**

<https://www.lslr-collaborative.org/preparing-an-inventory.html>

[https://www.asdwa.org/wp-content/uploads/2019/08/ASDWA\\_Developing-Lead-Service-Line-Inventories.pdf](https://www.asdwa.org/wp-content/uploads/2019/08/ASDWA_Developing-Lead-Service-Line-Inventories.pdf)

<https://www.awwa.org/Resources-Tools/Resource-Topics/Inorganic-Contaminants/Lead>

<https://www.blueconduit.com/lcr-revisions>

LCRR RESOURCES

- ▶ **AWWA Is providing virtual sessions every Wednesday in February.**

<https://form.jotform.com/ASDWA/lsl-inventory-symposium-2022>

- ▶ ASDWA's Lead Service Line Symposium will be held as a **series of eight 90-minute online sessions each Wednesday throughout February 2022**. The morning sessions will be **from 11-12:30 PM EST**, and the afternoon sessions will run from 3-4:30 PM EST. The symposium is free to attend and open to all who work in drinking water. All sessions will be recorded and archived on ASDWA's website - please register to ensure access to the archive. Note, ASDWA is unable to provide CEUs for this event.

- ▶ **Day 1 - Wednesday, February 2**

- Morning session: Overview of LCRR
- Afternoon session: Notes from the Field: State and Utility Experiences with Existing LSL Inventory Rules

- ▶ **Day 2 - Wednesday, February 9**

- Morning session: Capitalizing in Innovations for LSL Inventories
- Afternoon session: Small Systems, Big Challenges: Implementing LSL Inventories and Replacements at Small Systems

- ▶ **Day 3 - Wednesday, February 16**

- Morning session: Water System Inventory Case Studies
- Afternoon session: Show me the Money: Funding for LSL Inventories and Replacement

- ▶ **Day 4 - Wednesday, February 23**

- Morning session: The Other Side of the Meter: Practical Tools for Collecting Private-Side Service Line Material
- Afternoon session: Tell Me About It: Mapping and Communicating Your LSL Inventory and Replacements

# LEAD SERVICE LINE INVENTORY SYMPOSIUM

- ▶ Conduct Service line Materials inventories
- ▶ Set water quality goals for distribution
- ▶ **Monitor water quality throughout distribution (develop baseline)**
- ▶ Adopt lead level goals (0-10 ppb?)
- ▶ Conduct additional exploratory monitoring
- ▶ Evaluate CCT – use EPA OCCT guides and templates.
- ▶ Optimize for corrosion control
- ▶ Contact state and evaluate any treatment or chemical changes that might impact OCCT.
  
- ▶ Develop transparency provisions- web sites etc.
- ▶ Engage Customers
- ▶ Begin LSL and Galvanized line removals if applicable

**PREPARE FOR LCR RULE REVISIONS**