Water Quality Division, Safe Drinking Water Value Stream

LEAD AND COPPER RULE REVISIONS

Focus Group III:
Materials Inventory and Lead Service Lines

March 8, 2022

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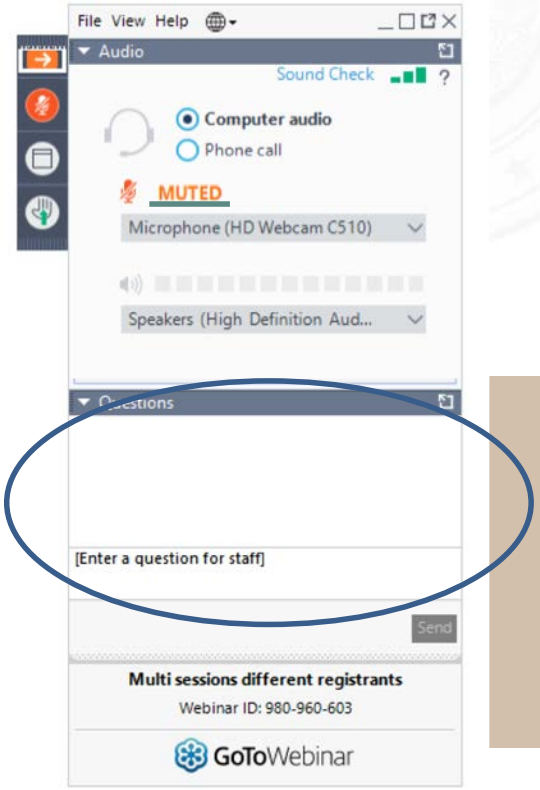
Today's Agenda

1:00 – 1:05 PM	• Welcome
1:05 – 1:40 PM	• Final Rule Summary
1:40 – 1:45 PM	• Resources/Templates
1:45 – 1:55 PM	• Open Discussion
1:55 – 2:00 PM	• Closing Remarks

Housekeeping Rules



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Or Text: ocicoach1909 to 22333

Answers are anonymous

LCRR Timeline

LCRR Final Rule

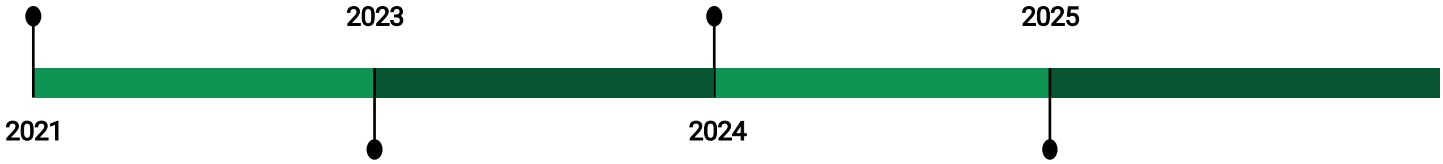
EPA determined 12/17/2021 as the LCRR effective date. PWS's should begin:

1. Completing materials inventory for all service lines
2. Develop LSLR Plan
3. Tap Monitoring Plan
4. Identify elementary schools and licensed child care facilities for lead in school's sampling requirements

Compliance Due Date

By 10/16/2024, PWS's must be in compliance with all requirements for:

1. LSL Materials Inventory
2. LSL Replacement Plan
3. Tap Monitoring Plan (Regulatory agency must approve locations prior to sampling)
4. Begin conducting lead in schools sampling



LCRR Adoption for States Due

States have until 10/16/2023 to adopt the LCRR or request extension from EPA.

Begin Initial Monitoring

PWSs will return to initial monitoring, per the LCRR's tap monitoring changes, ***unless*** PWS has sampled according to the new rule prior to October 16, 2024.

Items Due by 10/16/2024

1. Service Line Inventory
2. Lead Service Line Replacement (LSLR) Plan
3. Tap Sampling Plan; and
4. Inventory of elementary schools and licensed childcare facilities (CWS only)

LSLR Plan	Tap Sampling Plan
The LSLR plan describes the procedure for conducting lead service line replacements in accordance with the LCRR	The Tap Sampling plan identifies the locations and procedures for conducting tap sampling in accordance with the LCRR

Compliance must be met by October 16, 2024

Service Line Inventory

Summary and Requirements

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LSL Inventory: Summary

- The initial inventory must include all service lines connected to the distribution system, regardless of ownership status
  - Includes system-owned and customer-owned portions of the service line
  - Inventories must be updated annually or triennially depending on reduced monitoring schedule
- Each service line, including service lines where ownership is split, must be categorized
- The service line materials inventory must be publicly accessible
  - PWS serving > 50,000 persons must make the publicly accessible inventory available online
  - PWS serving < 50,000 persons can have a copy at their front desk/office, available upon request.

Purpose of LSL Inventory

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Integral to lead reduction efforts

Provides critical information on the locations of potential high drinking water lead exposure

Preparing the initial inventory will allow systems to

- Assess the extent of the LSLs within their system
- Better identify more high risk sampling locations
- Begin planning for LSL replacements, including applying for state and federal grants and loans

Rule Required Sources for Inventory

The PWS may use other sources of information not listed below if approved by the State

Suggested Approach to Inventory Development

Preliminary Review

- Example: Local plumbing code history, when lead was last used

Community Records

- Service line installation dates/maintenance records, plumbing permits, tax records, etc.

Onsite Basic/Visual Examination

- Resident survey, photos, utility staff/meter inspections, partners (plumbers, etc.)

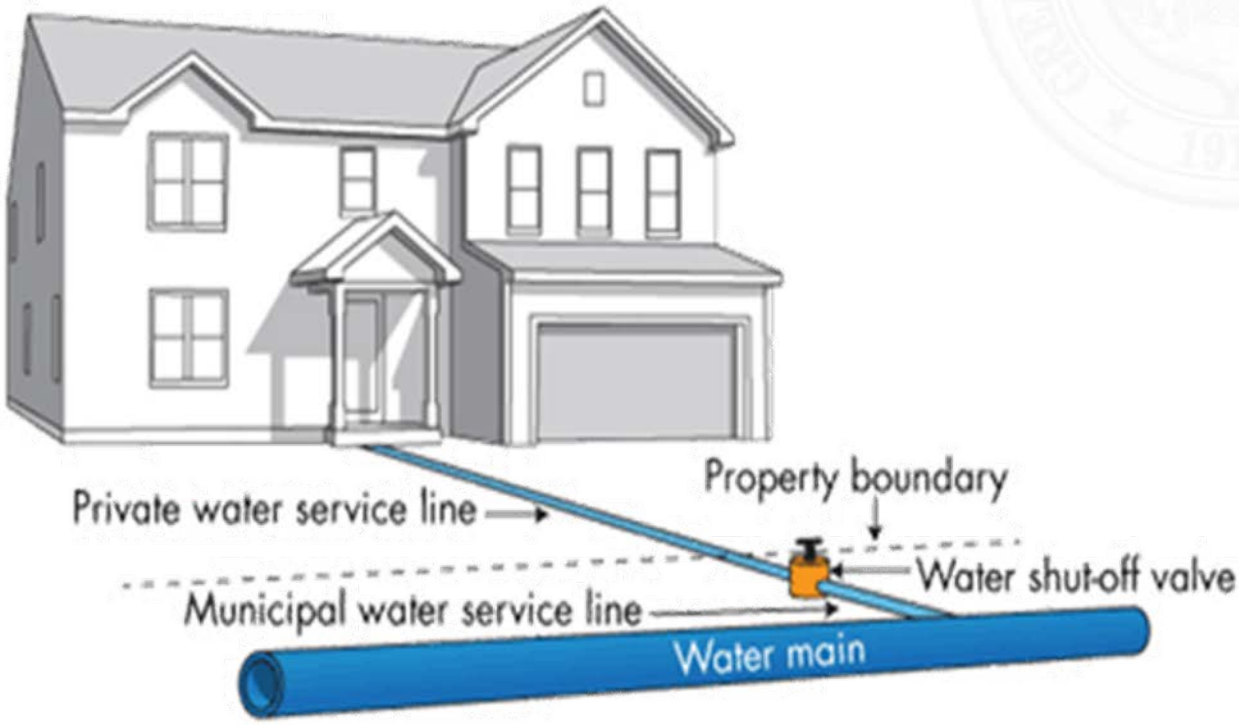
Specific Water Analyses

- Flushed sampling, targeted service lines, sequential sampling

Excavation

- Mechanical, vacuum excavation

Service line Scope



Service Line Categories

Lead: Service line is made of lead

Galvanized Requiring Replacement (GRR): A galvanized service line is or was at any time downstream of a lead service line or is currently downstream of an "Unknown" service line

Lead Status Unknown: 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

Non-Lead: Service line is determined through an evidence based record, method, or technique not to be lead or galvanized requiring replacement

Copper

Pex

CPVC or PVC

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System Name
PWSID

Ownership Type		

SITE ID	LOCATIONAL IDENTIFIER	GOOSENECK CURRENTLY PRESENT?	CURRENT UTILITY SERVICE LINE MATERIAL	WAS UTILITY SERVICE LINE MATERIAL EVER PREVIOUSLY LEAD?	UTILITY SERVICE LINE SIZE	UTILITY SERVICE LINE INSTALL DATE	CURRENT CUSTOMER SERVICE LINE MATERIAL	CUSTOMER SERVICE LINE SIZE	CUSTOMER SERVICE LINE INSTALL DATE	BUILDING TYPE	POINT-OF-ENTRY OR POINT-OF-USE TREATMENT PRESENT?	BUILDING PLUMBING MATERIAL 1	BUILDING PLUMBING MATERIAL 2	BUILDING PLUMBING MATERIAL INSTALL DATE	COMMENTS

SITE ID	LOCATIONAL IDENTIFIER	LEAD CONNECTOR CURRENTLY PRESENT? (E.G., GOOSENECK, PIGTAIL, OTHER)	CURRENT PUBLIC SERVICE LINE MATERIAL	WAS PUBLIC SERVICE LINE MATERIAL EVER PREVIOUSLY LEAD?	IS SERVICE LINE GALVANIZED?	CWS SERVICE LINE INSTALL DATE	CURRENT CUSTOMER SERVICE LINE MATERIAL	CUSTOMER SERVICE LINE INSTALL DATE	VERIFICATION SOURCE	COMMENTS	CWS SERVICE LINE SIZE	CUSTOMER SERVICE LINE SIZE	IS THERE A COMMUNITY OUTREACH PROGRAM?	IS INFORMATION MAINTAINED IN SYSTEM'S ASSET MANAGEMENT PROGRAM?	BUILDING TYPE	POINT-OF-ENTRY OR POINT-OF-USE TREATMENT PRESENT?	BUILDING MATE
Address or other unique identifier	Geo locational information	Y = Yes N = No U = Unknown	L = Lead G = Galvanized Iron/Steel C = Copper P = Plastic O = Other UL = Unknown but could contain lead UN = Unknown but installed after state lead ban date (1986-88) UX = Unknown	Y = Yes N = No	Y = Yes N = No		L = Lead G = Galvanized Iron/Steel C = Copper P = Plastic O = Other UL = Unknown but could contain UN = Unknown but installed after state lead ban date (1986-88) UX = Unknown		R = Records Only F = Field Inspection Only V = Records Validation I = Records Invalidation A = Statistical Analysis S = Sequential Monitoring					Y = Yes N = No	SFR (Single Family Residence) MFR (Multiple Family Residence) School or Child care center Child care (In-home) Business	Y = Yes N = No	L = Lead G = Galvanize C = Copper P = Plastic O = Other

This is an example of what the state can provide as a template to the system to complete.
The codes to be put in dropdown are listed beneath the header. Option needed to type code in directly and skip dropdown.
Inventory Requirements: black font (columns A-J)
Good to know: green font (columns K-O)
Needed for SMP (standard monitoring plan as of the January 2021 LCRR): blue font (columns P-W)
Eligible connection for LSLR (lead service line replacement) or GRR (galvanized requiring replacement) funding: purple font (column X)

makeup, installed after documented discontinuation of use of lead as a service line material.		

Service Line I

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  - Other sou
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    must be u

- Updated i
  in accorda
  no more fr
  - Publicly a
    frequentl

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Part 1: General Pub

Regulatory Agency:

PWS Name:

Contact Person:

Email Address:

PWS Daily Population Se
Include residents and non-transi

Part 2: Lead Servic

The primary focus of the Distri
status unknown, and non-lead
records, thereby providing imp
January 16, 2024, will require
form are provided at the end o

Does this water supply ha

- **Note**: The inventory n
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☐ YES
☐ NO

Estimated Number of Ser

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categories need to be repor

- **Lead Service Lines:**
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  service line, it must pr
- **Lead Status Unknow**
  that indicates the likeli
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  - **Unknow**
    lead.
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- **Non-Lead:** Service lin
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  in this category, but ra

All physically connected po
the best of your ability bas
category. **You will not be p**
service line materials docum
of service lines in your syst

Complete the table below

LEAD SERVICE LINES	GAL REC REPL

*The total number sl

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DISTRIBUTION SYSTEM MATERIALS INVENTORY FORM (LCR.DSMI)
Lead and Copper Rule Revisions (LCRR)

Water supplies should review all records documenting the materials used to construct and repair service lines and use that information to complete this reporting form.

Potential sources of service line information may include, but are not limited to, the following:

- Plumbing codes
- Plumbing permits
- Distribution maps and drawings
- Tap records
- Inspection and maintenance records
- Meter installation records
- Billing records
- Water asset databases
- Geographic Information System
- Standard operating procedures
- Operation and maintenance manuals
- Permit files
- As-built drawings
- Existing water quality data
- Property tax records
- Interviews with senior personnel, building inspectors, and retirees
- Community survey
- Other

Describe the sources of information used to summarize or estimate the data above (see instructions for a list of potential sources of information):

Rate your confidence level in the sources of information provided above, and describe why:

☐ Very Confident | ☐ Somewhat Confident | ☐ Not Very Confident | ☐ Not Confident

Describe Reasoning:

How common is it to find discrepancies in your service line data (for example, services you expected to be lead turned out to be copper)?

☐ Frequently | ☐ Occasionally | ☐ Seldom | ☐ Never | ☐ Not enough Information

Describe the discrepancies (include any common patterns):

DRAFT

Part 3: Certification

I certify that I have reviewed the available documentation related to the materials in this water supply's distribution system, and the information herein is accurate and complete to the best of my knowledge and information.

Printed Name, Title | Signature | Date

Submit completed report to: EMAIL: PBCU@azdeq.gov

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NO LEAD SERVICE LINE VERIFICATION FORM (LCR.NoLSL)
Lead and Copper Rule Revisions (LCRR)

Part 1: Purpose/Introduction

Regulatory Agency: ☐ ADEQ ☐ PDEQ ☐ MCESD	**Date:**
PWS Name:	**PWS ID#:**
Contact Person:	**Phone#:**

The owner or operator of all public water systems (PWS) must identify and map areas of their distribution system that are known or are likely to contain lead, galvanized requiring replacement, non-lead, or lead status unknown service lines in accordance with 40 Code of Federal Regulations (CFR) §141.42/ Arizona Administrative Code (A.C.C.) R18-4-107.

- **Lead Service Lines:** Any portion of pipe that is made of lead, which connects the water main to the building inlet.
- **Galvanized Requiring Replacement:** A galvanized service line (galvanized service line means iron or steel piping that has been dipped in zinc to prevent corrosion and rusting) that 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 the galvanized service line was never downstream of a lead service line, it must presume there was an upstream lead service line.
- **Lead Status Unknown:** While a water supply may not be certain of the materials content of some service lines, they may have information that indicates the likelihood of a service line containing lead. For planning purposes, it is helpful to record this information. Therefore, three categories of unknown service lines are provided.
- **Non-Lead:** Service lines that are known to contain NO lead in any portion. These typically include copper, plastic, cast iron, ductile iron, or galvanized that was NEVER connected to lead.

The PWS must submit a copy of the applicable map and a report to the Arizona Department of Environmental Quality, Safe Drinking Water Monitoring and Protection Unit (ADEQ) containing at least both of the following:

(1) Detailed narrative of verification efforts, and
(2) Complete sampling history of any lead detections.

Should the PWS determine no lead service lines exist in the distribution system, the PWS must provide information stating they reviewed, at minimum: historical permit records and local ordinances, distribution maintenance records and information pertaining to installation dates or materials for all service lines. This information must be verified below.

In the future, if the PWS finds a lead service line, galvanized requiring replacement, or lead status unknown within its system through normal operations, the PWS must notify ADEQ within 30 days of identifying the service line(s) and prepare an updated inventory within 30 days of the lead tap monitoring period.

Part 2: Verification

I HEREBY CERTIFY THAT THE FOLLOWING METHOD(S) WERE USED TO DETERMINE NO LEAD, GALVANIZED REQUIRING REPLACEMENT, AND UNKNOWN SERVICE LINES EXIST IN THIS WATER SYSTEM'S DISTRIBUTION SYSTEM, IN ACCORDANCE WITH 40 CFR §141.86 (a) / A.A.C. R18-4-111:

PWS states they have no lead service lines in the distribution and has reviewed the following information (select one or more of the following):

- ☐ Historical permit records and/or local ordinances
- ☐ Distribution maintenance records (i.e. meter replacement, waterline break repairs)
- ☐ Information pertaining to installation dates for all service lines (i.e. after 1986 when lead services lines were banned)
- ☐ Service line material of all service lines is known (i.e. all service lines are known to be PVC)
- ☐ Other:
- ☐ Other:
- ☐ Other:

Signature **Date**

Submit completed report to: EMAIL: PBCU@azdeq.gov

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onstrated that it
replacement, or
in its inventory, it
ventory updates to

ubsequently
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tify ADEQ within 30
(s) and prepare an
with § 141.84(a) on

Tap Sampling Plan

New Tiering Criteria

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Identifying Sampling Sites:

- **Must use information on lead, copper, galvanized requiring replacement service lines and representative sites** that is required to be identified in the service line inventory
- **Representative Sites:** A site in which the plumbing materials used at that site would be commonly found at other sites served by the water system
  - Can be non-residential if there are not enough residential homes
- **Lead Status Unknown service lines** shall not be used for any tap sampling sites (Tier 1 - 5)

New CWS Tiering

Tier 1:
- Sampling sites from **single-family** structures that are served by a lead service line

Tier 2:
- Sampling sites from **buildings**, including **multiple-family** residences that are served by a lead service line

Tier 3:
- Sampling sites from **single-family** structures that contain galvanized lines identified as being downstream of a lead service line (LSL) currently or in the past, or known to be downstream of a lead gooseneck, pigtail or connector

Tier 4:
- Sampling sites from **single-family** structures that contain copper pipes with lead solder installed before the effective date of the 1988

Tier 5:
- Sampling sites from **single-family** structures or buildings, including **multiple family** residences that are representative of sites throughout the distribution system

New NTNC Tiering

Tier 1:

- Sampling sites that are served by a lead service line

Tier 3:

- Sampling sites that contain galvanized lines identified as being downstream of a lead service line (LSL) currently or in the past, or known to be downstream of a lead gooseneck, pigtail or connector

Tier 5:

- Sampling sites from single-family structures or buildings, including multiple family residences that are representative of sites throughout the distribution system

POU Sampling

- Sample sites may NOT have point-of-entry (POE) treatment devices
- Sample taps may NOT have point-of-use (POU) devices designed to remove inorganic contaminants

- Only water systems with agency approval for lead or copper treatment may sample at sites with POU devices
    - These systems may not be approved for reduced annual or triennial monitoring

ADEQ Resources

Previous Focus Group Meeting Info, Presentation, and Templates

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Lead and Copper Rule Revisions (LCRR) Resources, Updates & Focus Group Information

The US Environmental Protection Agency (EPA) revised the effective date of the National Primary Drinking Water Regulations: LCRR to Dec. 16, 2021, and extended the Jan. 16, 2024, LCRR compliance date to Oct. 16, 2024 | View Federal Register (6/16/2021) >

To help public water systems prepare for LCRR, ADEQ is conducting informal focus groups and developing compliance tools and forms prior to state rulemaking.

- State Rulemaking Process | View >
- ADEQ's Active Rulemaking | View >

LCRR Focus Group Information & Resources

Lead Service Line and Materials Inventory

Community and Non-Transient Non-Community public water systems must identify all service lines from the main to the building, regardless of usage of the water (e.g., non potable use such as fire suppression system), and must identify the active/emergency status of the service line since it could be repurposed in the future for potable, active use.

The materials inventory is used in several parts of LCRR, including to determine specific requirements on lead service line replacement, to conduct customer and property owner notification, and to select compliance tap sampling sites. Finding and organizing existing information is essential to developing and maintaining a successful inventory. Public water systems serving > 50,000 people will need to post the lead service lines on a publicly available website.

Draft Templates for Feedback

The draft templates are for feedback purposes only and not for regulatory use at this time. The drafts reflect the current state of knowledge of LCRR and will be updated as EPA provides more information.

- Materials Inventory Template | Download (Excel) >
- Distribution System Materials Inventory Summary | View/Download >
- No Lead Service Line Verification Form | View/Download >

Meeting Information

Group 1 | July 28, 2021

Presentation | View/Download >

Compliance Assistance Coordinators
Find by County >

DW Compliance Data Submittals
Email >

SEE MORE

Lead & Copper Rule >
Lead & Copper Rule Revisions >

TEMPLATES & TOOLS

Materials Inventory Template >
Distribution System Materials Inventory Summary >
No Lead Service Line Verification Form >

ADDITIONAL RESOURCES

Revised LCR Updates >
Long-Term Revisions >
Notice of Delay of Effective Date for LCR Revisions >
Reference Guide (LCR vs LCRR) >

Important Links:

EPA's LCRR Resource Page: https://www.epa.gov/ground-water-and-drinking-water/revised-lead-and-copper-rule

ASDWA's LCRR Resource Page: https://www.asdwa.org/lead-and-copper-rule-lcr/

ADEQ's LCRR Resource Page: http://azdeq.gov/LCRR

- Materials Inventory Template: https://static.azdeq.gov/dw/lcrr/inv_template.xlsx
- Distribution System Materials Inventory Summary: https://static.azdeq.gov/wqd/lcrr/dsmi.pdf
- No Lead Service Line Verification Form: https://static.azdeq.gov/wqd/lcrr/nlsl.pdf
- Please note that we have taken out the customer survey form.

Open Discussion

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Or Text: ocicoach1909 to 22333

Answers are anonymous

Lead in Schools and Childcare Facilities

One cycle of lead in schools sampling is required for Community Public Water Systems

Elementary Schools	Licensed Childcare Facilities
Minimum 20% sampled per year over 5 years	Minimum 20% sampled per year over 5 years
5 specific tap locations	2 specific tap sampling locations
Must document declined participation	Must document declined participation

PWS must sample at the request of the school, childcare facility, or a secondary school (i.e. middle or high school).

Lead in School Sampling: Follows 3T's Method

- School Specific Resources:

https://www.epa.gov/ground-water-and-drinking-water/3ts-reducing-lead-drinking-water#school

- Childcare Specific Resources

https://www.epa.gov/ground-water-and-drinking-water/3ts-reducing-lead-drinking-water#child

Example of Sampling eTracker

3Ts Sampling eTracker for Schools

Who should use this Sampling eTracker?
The 3Ts Sampling eTracker for Schools is a recordkeeping and reporting tool intended for schools that have more than 10 outlets when collecting drinking water samples for lead testing. If fewer than 10 outlets exist, use the eTracker for Child Care Facilities and Small Schools located at www.epa.gov/safewater/3Ts. For recordkeeping, this tool serves to track testing results and follow-up, remediation, and replacement actions taken on drinking water outlets that are tested for lead. For reporting, this tool contains the data elements needed for reporting to the state if the school is receiving a Water Infrastructure Improvements for the Nation (WIIN) Act grant. There are additional sheets included in this tool specifically for WIIN grant recipients. These are explained in more detail below.

This tool contains four (4) sheets:
- **[#1 - Sample and Action Tracker]**, for completion by all schools (i.e., WIIN and non-WIIN grant recipients);
- **[#2 - State Report - School Info]**, for completion by schools that are WIIN grant recipients only;
- **[#3 - State Report - Auto-Calculation]**, for schools that are WIIN grant recipients only. Schools do not enter data in sheet #3; it is auto-populated based on entries in sheets #1 and #2. ***Sheet #3 is the only sheet that is submitted to the state for WIIN grant reporting purposes.***
- **[#4 - Data Description],** for all schools to reference.

INSTRUCTIONS on HOW to use the sheets in this eTracker tool

Note: For WIIN grant recipients, an asterisk (*) indicates that the data field is used to auto-populate cells in the [# 3 - State Report – Auto-Calculation] sheet.

Sheet Name	Intended for:	Description
#1 - Sample and Action Tracker	**All schools**	*This sheet will help the school organize its Testing and Taking Action data. Schools should enter information about each sample collected and any follow-up, remediation, or replacement actions taken directly into this sheet.*
#2 - State Report - School Info	**Schools that are WIIN grant recipients**	*This sheet is intended to capture general information about the facility undergoing testing for lead in drinking water. Schools should enter data directly into this sheet.*

Please rank the following LCRR compliance requirements from most important to least important for the next Focus Group Topic

Requirements for action level or trigger level exceedances

Lead and Copper Tap Monitoring (i.e. sample site selection, collection procedures, and monitoring frequency etc.)

Corrosion Control Treatment (i.e. studies, treatment types, monitoring, etc.)

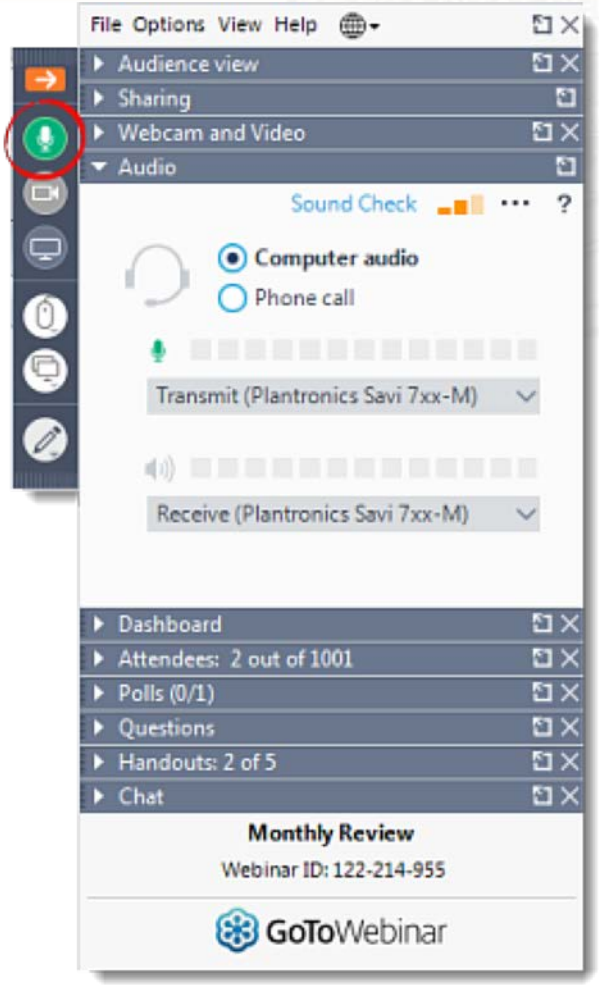
Find and Fix (i.e. follow up requirements for tap sampled above 15 ppb)

Lead Service Line Replacement (LSLR) Plans

Small Water System Flexibility (i.e. point of use devices, material replacement, etc.)

Start the presentation to see live content. For screen share software, share the entire screen. Get help at **pollev.com/app**

Open Discussion



Operator Certification Workshop - 3/22

Date: Tuesday, March 22, 2022

Time: 8AM - 12PM

Webinar Only

Topics Include:

Consumer Confidence Reports (CCRs)

Level 1 and Level 2 Assessments

Monitoring and Treatment Technique Violations

Materials Inventory