LCR Long-Term Revisions

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Lead and Copper in Drinking Water

- Lead & Copper in water is primarily from pipe corrosion
- Pipes, faucets and fixtures
- Lead solder in Copper pipes
- Interior wall pipes in homes
- Lead service lines still present in many cities

Health Effects

- 20% of person's lead exposure comes from drinking water
- Lead poisoning can result in death
- Children – learning problem, hearing problems, anemia, lower IQ, slowed growth
- Adults: Increased blood pressure, decreased kidney function, birth defects for pregnant women

Steps to Reduce Lead

1. Flush pipes before drinking
2. Only use cold water for eating/drinking
3. Use Filters or Treatment Devices

* Boiling water DOES NOT reduce lead levels

LCR Overview

- Sampling a function of population and most recent results
- Affected PWSs
  - Yes – Community (CWS) & Non Transient Non Community (NTNC)
  - No – Transient Non Community (TNC)
- Action Levels
  - 90^{th} percentile
  - Lead = 0.015 mg/L (15 ppb)
  - Copper = 1.3 mg/L (1,300 ppb)
- Sampling Plan Requirements and Procedures
  - Tier 1, 2, 3
  - Inside Tap, first draw, water has to stand for 6 hours

Materials Inventory

- Distribution system materials
  - Should be directly reflected in sampling plan
- Lead Service Line (LSL)
  - Main to meter and meter to building
- Amount
  - Miles/linear feet/number
- Review
  - System records
  - Plumbing codes/regulations
  - Observations of system staff
  - Customer information

Proposed Revisions to the LCR

- **Focuses on Six Key Areas:**
  - Identifying the most impacted areas in distribution systems
  - Strengthening treatment requirements
  - Replacing LSLs
  - Increasing drinking water sampling reliability
  - Improving risk communication to customers
  - Better protecting children in schools and day care centers

Identifying Most Impacted Areas

Current LCR	Proposed LCR
Initial LSL Program Activities • Materials inventory required. No requirement in place to update • No LSL replacement plan required	Initial LSL Program Activities • LSL inventory required within 3 years of rule publication, updated annually. • LSL replacement plan required for systems with known or possible LSLs. • Inventory can be list, table, map etc. Not necessarily a specific address.

LSL Inventory Requirements

- Galvanized SLs will be treated as LSLs for sampling if currently or formerly downstream of a LSL
- SLs of unknown material will be treated as lead to provide incentive to water system to collect more information
- Unknown SLs count as lead for establishing replacement, but NOT for sampling

Strengthening Treatment Requirements

- **Acceptable Corrosion Control Treatment**
  - Any phosphate inhibitor MUST be orthophosphate
  - Calcium hardness adjustment no longer acceptable
- **Trigger Level for Lead**
  - 90^{th} percentile
  - Lead = 0.010 mg/L (or 10 ppb)
- **If the 90^{th} percentile is over 10 ppb but less than 15 ppb:**
  - PWS MUST conduct a corrosion control treatment study, and
  - Follow steps to re-optimize if CCT is already in place
- **If the 90^{th} percentile is over 15 ppb:**
  - PWS MUST install corrosion control, or
  - Re-optimize existing treatment

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Strengthening Treatment Requirements

- Two treatment options for orthophosphate in det. OCC:
  - Maintaining a 1 mg/L residual concentration
  - Maintaining a 3 mg/L residual concentration
- Metal coupon tests no longer allowed as the basis for determining OCC
  - Not truly representative of existing LSLs or lead plumbing
  - Only can be used as a screen to reduce options using pipe rig/loops
- Orthophosphate cannot be ruled out based on loading at WWTPs
- pH and alkalinity cannot be ruled out based on simultaneous compliance concerns (DBPs, etc.)
- Calcium, temp. and conductivity no longer WQPs

Strengthening Treatment Requirements

Current LCR	Proposed LCR
• PWSs > 50,000 required to monitor for WQPs at entry and thru the dist. system • PWSs < 50,000 only monitor for WQPs if there is an ALE for lead or copper • Contains provisions to sample at reduced # of sites in dist. system at a less frequency if a system meets optimum WQPs.	• PWSs > 50,000 required to monitor for WQPs at entry and thru the dist. system • PWSs < 50,000 must continue WQP monitoring until they no longer exceed lead or copper AL for 2 consecutive 6-month periods • Lead 90%ile must be <10 ppb and the system must meet optimum WQPs for reduced monitoring

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Replacing Lead Service Lines

Current LCR	Proposed LCR
LSL Outreach • If a PWS plans to replace the portion of the LSL it owns, it must offer to replace the customer-owned portion at the customer's expense • PWS must provide notification to affected residences 45 days prior to replacement on measures to minimize lead exposure • Offer to collect lead tap sample within 72 hours • Provide test results within 72 hours of receipt	**LSL Outreach** • PWSs must inform customers annually if they have a LSL or SL of unknown or galvanized (if applicable) material • If subject to a goal-based program, PWS must conduct targeted outreach that encourages consumers with LSLs to participate in the LSL replacement program. • If subject to a mandatory LSLR program, PWS must include LSLR information in public education materials with an AL exceedance.

Replacing Lead Service Lines

- If the 90%ile > 10 ppb but < 15 ppb
  - PWS must consult with Primacy Agency on implementing a LSL replacement program for 2 consecutive 1-year monitoring periods
- If the 90%ile > 15 ppb
  - PWS must replace 3% of LSLs per year
  - Conducted for 4 consecutive 6-month monitoring periods
- Only replacement of the full LSL (system owned side and customer owned side) counts toward the mandatory rate
- Rate includes # of LSLs at the LSLs at the time of exceedance plus any SLs of unknown or galvanized material
- “Test outs” of LSLs eliminated

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Replacing Lead Service Lines

- PWSs must replace their portions of the LSL within 3 months if notified by the customer that they've replaced their portion of the LSL
- After full LSL replacement, PWSs must:
  - Provide pitcher filters/cartridges to each customer for 3 months. Must be provided within 24 hours
  - Collect a lead tap sample within 3 to 6 months at location with replaced service.

Increasing Sampling Reliability

Current LCR	Proposed LCR
Collection Procedure • Requires collection of a 1-liter sample after water has been stagnant for a minimum of 6 hours	**Collection Procedure** • Samples must be collected from a wide-mouth bottle • Strictly prohibits sampling instructions that include recommendations for aerator cleaning/removal and pre-stagnation flushing prior to sample collection

Increasing Sampling Reliability

Increasing Sampling Reliability

Current LCR	Proposed LCR
Site Selection • Highest priority given to sites with copper pipes with lead solder installed after 1982 but before State ban on lead pipes/services • System must collect 50% of samples from LSLs, if available	**Site Selection** • Greater focus on LSLs • No distinction in prioritization of copper pipes with lead solder by installation date • Systems must collect all samples from sites served by LSLs, if available.

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Increasing Sampling Reliability

Current LCR	Proposed LCR
Tiers • Tier 1: LSL or copper pipes with lead solder for single family residences, 1983-88 • Tier 2: Copper pipes with lead solder for multi-family residences, 1983-88 • Tier 3: Copper pipes with lead solder for single family residences prior to 1983	Tiers • Tier 1: LSL on single family residences • Tier 2: LSL on multi-family residences • Tier 3: Copper pipes with lead solder on single family residences prior to 1989

Increasing Sampling Reliability

Population	Sample # Standard Mon.	Sample # Reduced Mon.
>100,000	100	50
10,001 – 100,000	60	30
3,301 – 10,000	40	20
501 – 3,300	20	10
101 – 500	10	5
≤ 100	5	5

Increasing Sampling Reliability

- **Trigger Level (10 ppb) now a factor in sampling frequency**
- **90%ile > 10 ppb but < 15 ppb:**
  - **Sampling conducted ANNUALLY at STANDARD number of monitoring sites**
- **90%ile > 15 ppb:**
  - **Sampling conducted SEMI-ANNUALLY at STANDARD number of monitoring sites**

Improving Risk Communication

Current LCR	Proposed LCR
• Education materials provided in CCR • PWSs with an ALE must provide public education materials to all customers about lead sources, exposure, etc. • PWSs must provide customers who were sampled their results within 30 days of receipt of results	• Updated health effects and possible LSLR language in CCR • 24 hour notification to customers upon an ALE; same education information • Improved public access to lead information • Delivery notice and education materials to customers during water-related work that could disturb LSLs

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Improving Risk Communication

- Increased information to be provided to health-care providers
- Customers with individual tap samples that are over the AL (15 ppb) must be notified within 24 hours
- Consumers must be notified they are served by a lead service line, if applicable
- PWSs must respond to requests concerning LSL information including their locations.

Protecting Children Schools

Current LCR	Proposed LCR
• Does not include separate testing and education programs for CWSs at schools and child care facilities • Schools and child cares that are classified as non-transient, non-community PWSs must sample for lead and copper	• CWSs must monitor for lead in 20% of schools and day care centers in its service area • Excludes facilities built after 2014 • First draw, 250 mL samples • Sample at 5 outlets for schools, 2 outlets for day cares

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Resources to fund LSL Replacement

- Drinking Water State Revolving Loan Fund (SRF) Program
- $68 million in grant programs through the EPA Water Infrastructure Improvements for the Nation Act passed in 2018
- EPA Water Infrastructure Finance and Innovation Act financing program - $12 billion
- Consumers Community Development Block Grants through HUD

Preparing for LCR Changes

- Participate in the 60-day public comment period!!! (http://www.regulations.gov, Docket ID No. EPA-HQ-OW-2017-0300)
- Examine current sites to determine any potential any Trigger Level (10 ppb) or Action Level (15 ppb) exceedances
- Begin constructing your lead service line inventories ASAP
- Start gathering information for any new public education material you may be required to distribute

Preparing for LCR Changes

- Review your current corrosion control treatment
- Determine the total number of schools and day care centers on your system that will require monitoring and budget accordingly
- Prepare for any additional public notices for schools or customers with lead, galvanized (if applicable), or unknown service lines and budget accordingly

Questions???

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