

Michigan Lead and Copper Rule: Proposed Revisions





Purpose of Today's Presentation

Provide an overview of the proposed changes to the Lead and Copper Rule



Agenda

- Background Information
- Rule Revision Process to Date
- Proposed Lead and Copper Rule Changes
- Rule Revision Next Steps



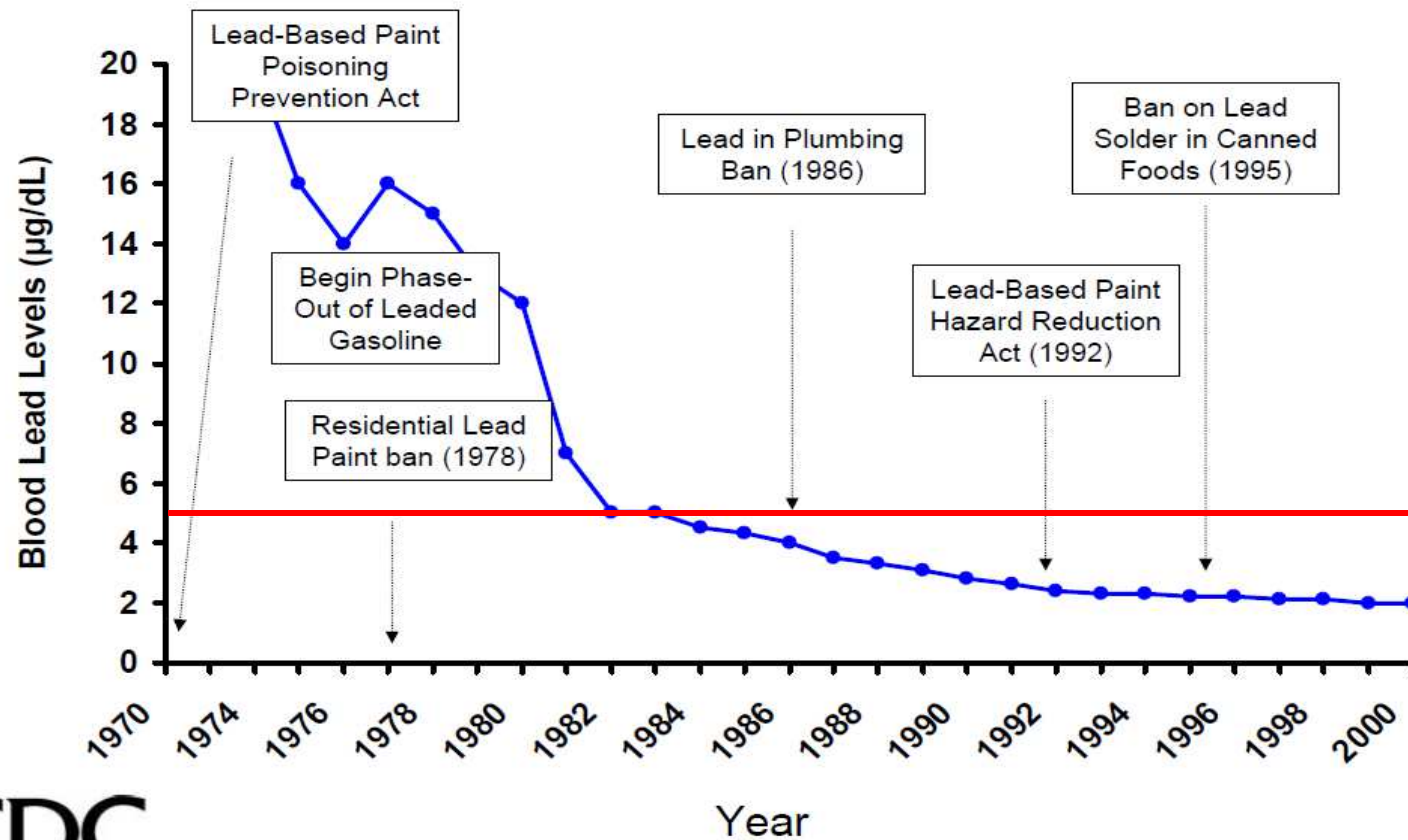
Background



Lead Exposure

- Lead exposure is known to have adverse health impacts
- There is no known safe level of lead in blood
- Children are more susceptible to lead exposure than adults
- Significant progress has been made in the recent decades in reducing major sources of lead exposure, including gasoline, paint, etc
- Lead components in drinking water distribution systems can leach lead into drinking water
- Older homes are more likely to have lead service lines and therefore more potential for lead exposure

Decline in Children's Blood Lead Levels





Health Effects

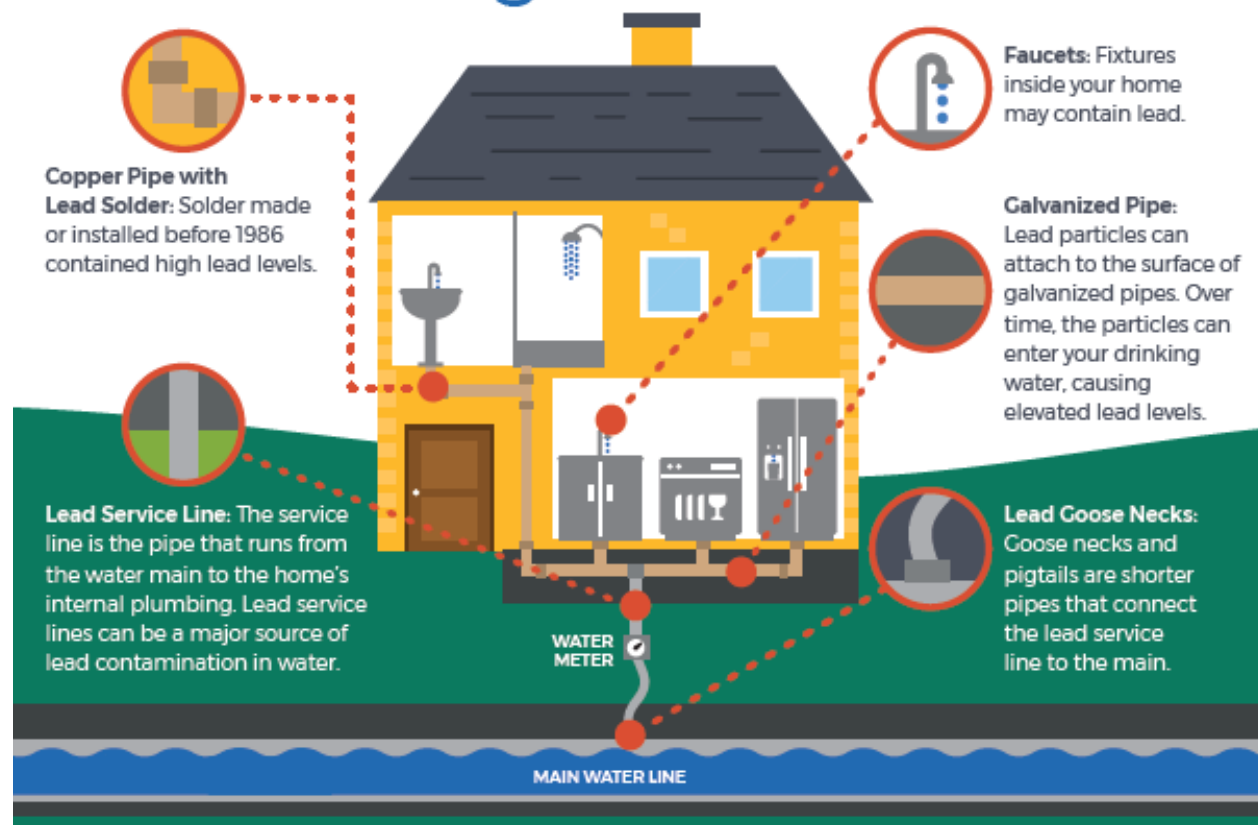
Health Effects of Lead

- Biggest concern is young children and infants, who absorb more lead than the average adult
- Health effects in children include:
 - Impaired mental development, IQ deficits
 - Shorter attention spans
 - Low birth weight

Health Effects of Copper

- Stomach and intestinal distress
- Complication of Wilson's Disease
- Chronic exposure can cause liver disease in predisposed individuals

Sources of **LEAD** in Drinking Water





Lead & Copper Rule (LCR)

The purpose of the Lead and Copper Rule (LCR) is to protect public health by minimizing lead and copper levels in drinking water, primarily by reducing corrosivity.

Lead & Copper Rule (LCR)

- Enacted in Federal Safe Drinking Water Act in 1991
- Michigan incorporated into state law
- LCR is a treatment technique rule
- Establishes action levels (AL), which when exceeded, require supplies to take certain actions
- Purpose of LCR:
 - Minimize lead and copper in drinking water,
 - Reduce water corrosivity to prevent leaching from plumbing and distribution system components,
 - Remove lead service lines when other actions are not enough

LCR Applies to...

- **Community Water Supplies (CWS)**
 - Provide year-round service to 25 or more people or 15 or more living units (municipalities, apartments, mobile home communities)
 - Approximately 1,390 in Michigan
- **Nontransient Noncommunity Water Supplies (NTNCWS)**
 - Serve 25 or more of the same people for more than six months of the year (schools, daycares, industries)
 - Approximately 1,300 in Michigan

Action Levels (AL)

- An Action Level is a screening tool to determine when treatment technique actions are needed
- ALs are based on the practical ability of reducing exposure by controlling corrosion
- Lead AL = 0.015 milligrams per liter (mg/L) or 15 parts per billion (ppb)
- Lead Maximum Contaminant Level Goal = 0 mg/L
- Copper AL = 1.3 mg/L or 1300 ppb
- An AL exceedance occurs if the 90th percentile value of a water supply's compliance samples is over the AL
- A supply exceeds the 90th percentile if more than 10% of samples are over AL



Rule Revision Process to Date



State Lead Elimination Efforts

- There are numerous state efforts to reduce lead exposure
 - Child Lead Exposure Elimination Commission
 - Expanded services by DHHS
 - Regulatory revisions
 - And other efforts
- Updating the LCR is one task among many designed to reduce lead exposure



Purpose of Proposed LCR Revisions

The intent of the proposed revisions is to protect public health by promoting the reduction of lead and copper exposure via drinking water, and ensuring effective implementation of the lead and copper rule



Goals

- Make Michigan's Rule More Protective of Public Health by:
 - Reducing Ambiguity in the Rule
 - Requiring Systems to Re-Examine and Verify Materials Inventories
 - Lowering the Action Level for Lead
 - Establishing a Household Action Level
 - Enhancing Sampling Methods to More Accurately Reflect Highest Risk
 - Increasing Sampling
 - Requiring Lead Service Line Replacement
 - Increasing Transparency
- Engaged Stakeholders



Recent Recommendations

- Recommendations for improving the Lead and Copper Rule gathered from various sources, including:
 - Flint Water Interagency Coordinating Committee Recommendations
 - Flint Water Advisory Task Force Recommendations
 - EPA Lead and Copper Revisions White Paper, October 2016
 - Report of the Lead and Copper Rule Working Group to the National Drinking Water Advisory Council, August 24, 2015
- Stakeholder Group formed to provide input on proposed rule changes (July 2017)



Proposed Lead and Copper Rule Changes



Summary of Proposed Changes

- Update Distribution System Materials Inventories
- Require Lead Service Line Replacement
- Update Sample Collection Locations
- Strengthen Sampling Procedures
- Lower Lead Action Level and Establish Household Advisory Level
- Promote Transparency & Strengthen Public Education
- Strengthen Corrosion Control Treatment Requirements

Distribution System Materials Inventories

- A distribution system is the piping and components through which water is distributed for use (water mains, service lines, storage tanks, etc.)
- Some distribution components may be decades old and some may contain lead
- Water supply records of distribution materials vary. Some have good records, some poor, some only include publicly-owned portion of service lines.
- Proposed rules would require distribution components and service line materials be identified/verified and residents made aware if they are served by a lead service line

Distribution System Materials Inventories (cont.)

Current Rule:

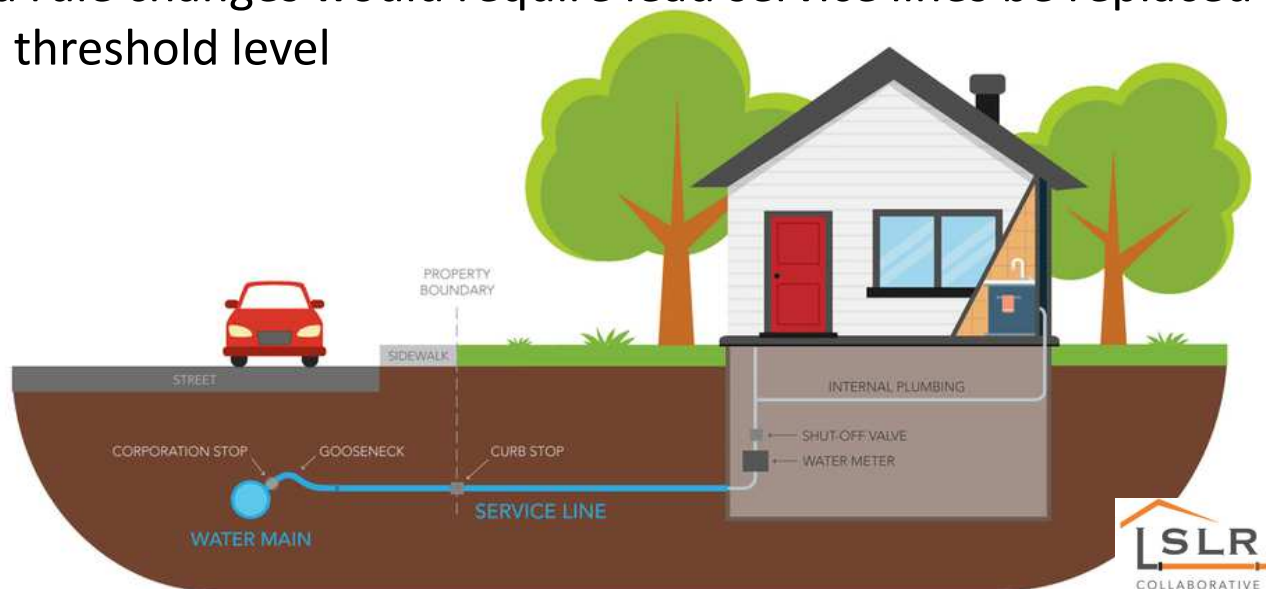
- Requires supplies to evaluate distribution materials to identify proper sampling sites
- No requirement to submit to state

Proposed Changes:

- By Jan 1, 2020: Supplies must complete a preliminary distribution inventory based on existing sources of information, and submit to the state
- By Jan 1, 2024: Supplies must complete a verified inventory, and submit to the state
- Require annual report to state on status on lead service line replacements
- Require inventory be updated every five years
- Require owner/occupant be notified if home found to have a lead service line

Lead Service Line (LSL) Replacement

- A service line is the piping that connects the water main to the building
- A few supplies own entire service line, but most only own to the property line, with portion on private property owned by building owner
- Lead service lines were commonly installed prior to 1950s
- Proposed rule changes would require lead service lines be replaced when supplies exceed a threshold level



Lead Service Line (LSL) Replacement (cont.)

Current Rule:

- Only requires LSL replacement if supply exceeds lead action level after corrosion control treatment installed

Proposed Changes:

- Proactively address LSL replacement in AMP with a criticality assigned
- Systems with lead 90th percentile over 5 ppb must replace LSLs at 5% per year
- Replace galvanized service lines if are/were connected to lead lines
- Supply must offer to replace private portion of LSL **at supply expense**

If homeowner declines, only allow replacement of public portion if:

- Notice provided to owner 45 days before partial LSL replacement
- Supply provides educational materials to reduce exposure to lead



Sample Collection Location

- Supplies must select sample sites based on high risk, giving priority to sites served by LSL or copper with lead solder
- Sites originally identified in 1990s and may have changed over time as service lines replaced, homeowners decline to participate, etc
- Proposed changes would require supplies to review sites and submit to the state

Sample Collection Locations (cont.)

Current Rule:

- Sampling pools established in 1990s
- No requirement to submit sampling pool to state

Proposed Changes:

- Update rules to include guidance that lead “goosenecks” or “pigtails” are considered priority sites and should be considered for sampling
- Update site selection criteria to ensure highest risk sites are selecting for sampling
- Require supplies review/update sampling locations, provide basis for choosing locations, and submit to state by January 1, 2020
- Confirm & prioritize site selection based on risk of exposure



Sampling Procedures & Frequency

- Rules require first-draw samples for compliance.
- Guidance requires all samples taken at a qualified site during a monitoring period be included in compliance calculation.
- Rules allow all supplies to reduce to 3 year monitoring if they meet criteria

Sampling Procedures & Frequency

Current Rule:

- Allows supplies to reduce to 3 year monitoring
- Only considers first-draw samples for compliance

Proposed Changes:

- Allow supplies with corrosion control treatment and large supplies (>50,000) to reduce to 3 year monitoring only if 90th percentiles at or below 5ppb for lead and 650 ppb for copper
- At sites with LSLs, require first-draw sample (fixture & indoor plumbing) **and second sample** after 6 liters (better represents LSL). Use **highest value for 90th** calculation
- Include only highest value in 90th percentile calculation if multiple valid compliance samples collected from the same site during a monitoring period
- Prohibit flushing in anticipation of compliance monitoring
- Prohibit removal or cleaning of faucet aerators in anticipation of compliance monitoring.
- Require sampling in wide-mouth sample bottles



Lead Action and Advisory Levels

- Current lead action level is 15 parts per billion (ppb)
- No requirement to specifically address homes with high lead results
- Proposed changes would lower lead action level and establish a household advisory level

Lead Action and Advisory Levels

Current Rule:

- Lead action level is 15 parts per billion (ppb)
- No required follow-up at homes with high levels (beyond routine consumer notice)

Proposed Changes:

- Lower lead action level to 10 ppb by 2024
- Establish household advisory level of 40 ppb
 - Requires faster notice to the resident (3 business days, rather than 30 days)
 - Enhanced information (blood testing, household plumbing assessment)



Transparency and Public Education

- Current rule requires several forms of public information:
 - Lead consumer notice: provided to homes where sampling occurs
 - Lead public education: provided to all consumers if supply exceeds lead AL
 - Public notification: provided to all consumers if supply violates requirements
 - Consumer confidence report: includes most recent lead 90th percentile & lead health effects language
- More can be done to raise awareness of the risks of lead exposure and inform public

Transparency and Public Education (cont.)

Current Rule:

- Requires numerous forms of notification, but more can be done to inform public

Proposed Changes:

- Establish Statewide Advisory Council to develop lead public awareness campaign materials.
- Establish community-centric Water System Advisory Councils at supplies over 50,000 to review public awareness materials and advise supply on best ways to distribute materials
- Expand Consumer Notice to include copper information as well as lead
- Add reference to new Public Advisory requirement to notify consumers within 3 business days of Lead Action Level Exceedance being declared
- Shorten Consumer Notice deadline if over 40 ppb Household Advisory Level
- Require supply to notify owner/occupant within 30 days of determining presence of LSL
- Make service line summary information available on CCRs and websites
- Require Public Education materials on supply website if population >1000 (lowered from 100,000)



Corrosion Control Treatment & Water Quality Parameters

- Corrosion control treatment is treatment designed to minimize exposure to lead and copper in drinking water by reducing corrosion
- Water quality parameters (WQPs) currently include: pH, alkalinity, calcium, conductivity, temperature, and inhibitor dosage/residual
- WQPs monitored to evaluate the likelihood of corrosion

Corrosion Control Treatment & Water Quality Parameters

Current Rule:

- Requires Water Quality Parameter (WQP) monitoring at small/medium supplies with optimal corrosion control treatment only during periods with an action level exceedance
- Allows distribution WQP monitoring to be reduced to every 3 years

Proposed Changes:

- Expand Water Quality Parameter (WQP) monitoring to include chloride & sulfate
- Require WQP monitoring for all water supplies with OCCT (no exception for small/medium supplies with OCCT when below the action level)
- Require all supplies with OCCT to monitor distribution WQP at least annually
- Clarify requirements when making source water or treatment changes



Rule Revision Next Steps

Next Steps

- Finalize draft rules - **DONE**
- Finalize Regulatory Impact Statement and Cost-Benefit Analysis (RISCBA) - **DONE**
- Submit draft rules and RISCBA to Office of Regulatory Reinvention (ORR) - **DONE**
- Notify public of comment period and public hearing – **DONE**
 - Public hearing March 1, 2018
 - Comment period open until March 21, 2018
- Address public comment and submit final draft rules to ORR
- Rules submitted to Joint Committee on Administrative Rules
- Note: There will be future opportunities to adjust rule requirements, including after anticipated EPA revisions



Thank you for your interest