Lead & Copper Rule (LCR)

• Purpose of LCR:
  – Reduce water corrosivity to prevent corrosion of plumbing and distribution system components;
  – Minimize lead and copper in drinking water;
  – Remove lead and galvanized service lines that are or were previously connected to lead.

• Establish action levels (AL), which when exceeded, require supplies to take actions to reduce corrosion and exposure
Sources of Lead in Drinking Water

• Lead pipes
  – Service lines or building plumbing
• Copper with lead solder
• Galvanized pipe
  – Service lines or building plumbing
  – Harbor particulate lead; lead in the galvanic coating
• Fixtures with brass and valves
  – These items are ubiquitous in water treatment plants, distribution systems, customer site piping, and building plumbing systems
Sources of Lead in Drinking Water

CONCERNED ABOUT LEAD IN YOUR DRINKING WATER?

Sources of **LEAD** in Drinking Water

Copper Pipe with Lead Solder: Solder made or installed before 1986 contained high lead levels.

Lead Service Line: The service line is the pipe that runs from the water main to the home’s internal plumbing. Lead service lines can be a major source of lead contamination in water.

Faucets: Fixtures and fittings inside your home contain varying lead content depending on the age of the fixture.

Galvanized Pipe: Lead particles can attach to the surface of galvanized pipes and service lines. Over time, the particles can enter your drinking water, causing elevated lead levels.

Lead Goose Necks: Goose necks and pigtails are shorter lead pipes that connect the lead, copper or galvanized service lines to the water main.
Michigan’s Lead and Copper Rule (LCR)

2018 Rule Revision
Michigan’s Lead and Copper Rule

June 2018 – Michigan’s LCR revisions were promulgated

Major Changes
- Definitions
  - SL and LSL
- Materials Inventory
- SLR
- Tiering criteria
- Sampling pools
- 90th percentile calculation
- Action Level
- Sampling – Tap sampling and WQP
- Transparency
  - Public Education
  - Water Advisory Councils
- Continuity of Source/Treatment
Implementation Dates

January 1, 2019  – 1\textsuperscript{st} and 5\textsuperscript{th} Sampling procedure for LSLs
January 1, 2020  – Preliminary DSMI
January 1, 2020  – Updated tap sampling pools/plans
January 1, 2021  – SL replacement at 5\% on average begins
January 1, 2025  – Action Level lowered to 12 ppb
January 1, 2025  – Verified DSMI
Definitions
Service Line Diagram
Lead Service Line Examples

- **Full LSL**
- **Partial LSL**
- **Partial LSL**
- **Lead gooseneck**

**Copper or Plastic**

**Lead**
Lead and Copper Sampling Methodology
Lead and Copper Sampling Methodology

• Changes were made to what is defined as “proper” sample collection
  – NO systematic flushing of a sampling site is allowed prior to the 6-hour stagnation period
  – NO aerator removal or cleaning immediately before compliance sampling can be conducted
Compliance Sampling Procedures

Lead Service Lines
Five 1-liter bottles
• Tier 1, Category A sites
• Tier 2, Category D sites

No Lead Service Lines
One 1-liter bottle
• All other sites
Why the 5th liter?

• Why collect a second sample?
  – The first draw sample does not always represent the highest risk to public health for a site with an LSL

• Why the fifth liter?
  – Chosen based on the average home configuration.
Action Level (AL)
Action Level (AL)

- AL ≠ MCL (Maximum Contaminant Level)
- An AL is a screening tool for determining when treatment technique actions are needed.
- A community or non-community facility is considered to have an ALE when more than 10% of the samples are >15 ppb Pb or >1.3 ppm Cu

<table>
<thead>
<tr>
<th>Contaminant</th>
<th>Action Level</th>
<th>Maximum Contaminant Level Goal</th>
<th>Your Result</th>
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<tr>
<td>Lead (ppb)</td>
<td>15</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Copper (ppb)</td>
<td>1300</td>
<td>1300</td>
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</tbody>
</table>

**Action Level (AL):** The concentration of a contaminant which, if exceeded, triggers treatment or other requirements that a water system must follow.

**Maximum Contaminant Level Goal (MCLG):** The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs allow for a margin of safety.

**ppb:** Parts per billion or micrograms per liter.

**ND:** Not detected.
Distribution System Materials Inventory (DSMI)
Distribution System Materials Inventory (DSMI)
Service Line Replacement
Service Line Replacement

• Replacement of lead service lines and galvanized service lines that are or were connected to lead service lines

• Partial LSLR are banned, except for emergency repairs
Online Resources

- Michigan.gov/MILeadSafe
- Michigan.gov/drinkingwater
- Michigan.gov/lcr
- Michigan.gov/deqleadpublicadvisory
- Michigan.gov/cleanwaterrevolvingfund
Contacts
When You Need Help or Other Resources...

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