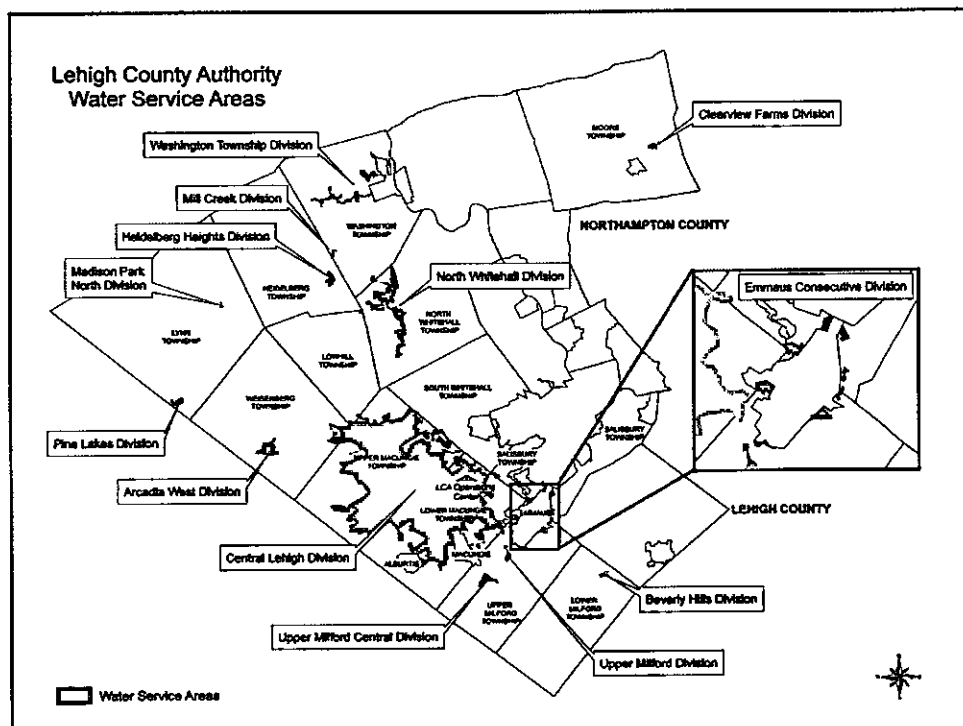




Lehigh County Authority

Every drop matters. Every customer counts.

Lead in Drinking Water – Overview April 2016



LCA's Systems:

- No lead pipes in our 600 miles of water main
- Estimate about 15,000 lead service lines in Allentown
 - 5,000 known lead lines
 - 10,000 lines of unknown material – assume worst case that they may be lead
- No lead service lines in LCA systems outside of Allentown
- Lead service lines routinely replaced as we complete construction projects



Lead & Copper Rule (LCR)

- Published in the Federal Register in 1992.
- Recognizes that water utilities can't prevent all lead exposure!



How does lead get into water?

- Not naturally present in LCA's water
- Lead can leach into the water once it enters customer's property through:
 - Lead plumbing
 - Lead service lines
 - Lead solder
 - Brass fixtures
- LCR focuses on what a water utility can do to reduce water corrosivity & reduce leaching.



LCR "Action Level"

- EPA has established an "Action Level" – the concentration at the consumers' tap that triggers treatment or other actions on the part of the water utility.
- Action Level for Lead = 0.015 ppm (15 ppb)
- If 10% of test results exceed the Action Level, action must be taken by the water utility.
- All LCA water systems are below the Action Level, and several systems have no detectable lead levels at the tap!

What Happens...?

- If Action Level is exceeded, treatment would be required to decrease corrosivity of LCA's water.
- Corrosive water can dissolve metals in pipe.
- Treatment to control corrosivity of water (*by adding a chemical like orthophosphate*) minimizes the dissolving of metals from the pipe into the tap water.
- Allentown water plant has corrosion control treatment system in place in case we need it!

LCA's Water is Non-Corrosive

- All LCA systems have achieved compliance with the LCR by having test results consistently below the Action Level for lead.
- To maintain compliance, water quality parameters (pH & alkalinity) are monitored constantly (24/7 at the Allentown plant).
- Natural properties of water from our limestone geology is a big help!



Water Quality Parameters

System	pH	Hardness*
Allentown	7.8	14
Central Lehigh	7.2-7.8	14-20

Hardness Scale:

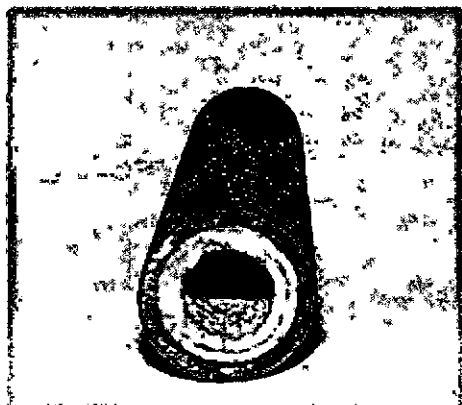
0 - 5 grains per gallon = Soft Water

6 - 10 grains per gallon = Moderately Hard Water

> 11 grains per gallon = Hard Water

*Hardness = Mineral content such as calcium and magnesium

Effects of "Hard" Water



In addition to creating scale on your dishes and plumbing fixtures, mineral deposits line the inside of your pipes and prevent lead leaching if you have lead plumbing!



Water Sampling Process

- › The lead and copper rule defines how water systems must select sample sites.
- › Initially, material surveys are conducted to determine plumbing used in the home.
- › Tier designations are assigned and a sample pool is created of worst-case scenario sites.



LCA's Sample Sites

- › All lead and copper samples from the Allentown and Central Lehigh divisions are collected from "Tier 1" sites, which are the worst-case scenario sites that DEP prefers.
 - Allentown's Tier 1 sites have lead service lines
 - Central Lehigh Tier 1 sites have copper pipe with lead solder
 - There are no lead service lines in this division!



Sample Collection Process

- Water system provides sampling instructions
- Water system provides bottles
- Customers must collect cold-water samples at “first draw” after 6 hours of no usage
- Customers must certify instructions are followed
- Water system picks up samples
- Chain-of-custody forms completed
- Samples tested at PA-DEP certified lab
- Customers notified of results



What About Schools?

- Allentown schools are not part of LCA's regular monitoring program because they don't have lead service lines.
- LCA cannot verify or replicate any of the third-party test results that were reported on recently. Our work with the schools shows lead results below the Action Level.
- However, we know the schools take the issue seriously and are doing their own investigation to ensure the safety of their water. LCA is here to help!



Homeowner Actions

- Learn more! Seek advice on whether you have an increased risk of lead exposure due to lead or brass plumbing, lead solder, etc.
- Call LCA – we will gladly tell you if we have any information on the public portion of your service line and what material it is.
- Ask a plumber for help finding out about the private portion of the service line.
- If needed, replace lead plumbing.
- If you're going to test your water, LCA always recommends using a certified lab.

PA-DEP Certified Labs

MJ Reider Associates, Inc. (610) 374-5129

Suburban Testing Laboratories, Inc. (610) 375-8378



Homeowner Actions, cont'd

- If you have a water softener, make sure it treats the hot water side only.
- Even if you don't have a softener, don't cook or drink with hot water, which is more likely to leach metals into the water.
- If you filter your water, make sure your device is certified for lead removal, and replace the filter cartridge on schedule!
- Easy, quick fix => run the cold water until you feel it change temperature - the water coming in from the public system is a little colder and has no detectable lead!

What's Next?

- Legislative / regulatory changes on the horizon?
 - Universal blood testing for children in PA?
 - Revitalization of lead paint abatement program / grants?
 - Revisions to LCR for water system monitoring frequency?
 - Required lead service line replacement programs?
- Finding the best solution will require research and funding!



Discussion / Questions?

