



Indiana Department of Environmental Management
Protecting Hoosiers and Our Environment Since 1986

Office of Water Quality



Indiana Chapter National Association of Water Companies 2017 Water Summit

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Office of Water Quality





What Happened In Flint

- June 2013 - City of Flint decides to use the Flint River as a water source a more corrosive source of water.
- Not only were the lead levels extremely high, but in summer 2014 three boil-water advisories are issued in 22 days after positive tests for coliform bacteria.
- February 27, 2015 - MDEQ states in email to EPA that Flint water treatment plant has “optimized corrosion control program” after EPA inquiries about treatment.
- April 24, 2015 MDEQ staff indicates to EPA no corrosion control treatment in place.
- Lead levels still exceeding the AL, some as high as to meet the EPA definition of toxic waste.
- Plant was too old to handle the treatment and the operators were not trained properly.



How Do We Know What Happened in Flint Won't Happen in Indiana?





Action Taken by Indiana

- Consumer notice within 24 hours if results are over the AL
- IDEM recommends all consumer notice within 10 days
- IDEM recommends Public Education within 30 days
- Increase sampling



Action Taken by Indiana

- In January and February, IDEM requested an update from all 789 community public water systems regarding the number of lead service lines. The responses are available on IDEM's virtual file cabinet.
- The Indiana General Assembly passed SEA 93 which provides that schools are to be supplied safe drinking water from their public water system.
- House Enrolled Act 1519



Some Changes at EPA

- Developing a New Action Plan for Drinking Water
 - Advancing Next Generation Safe Drinking Water Act Implementation
 - Addressing Environmental Justice and Equity in Infrastructure Funding
 - Strengthening Protections against Lead in Drinking Water
 - Emerging and Unregulated Contaminant Strategies



Lead Service Lines (LSL)

- Based on our 2016 LSL survey, there were an estimated 205,557 service lines that have a portion of lead (this includes goosenecks, partial lead lines and full lead lines). There are an estimated 92,483 full lead service lines (entire service line is lead).
- 488 out of 783 Community System submitted a survey so far (62%)
- We also requested system to review and update their Lead and Copper sample plan



Search for Lead and Copper Compliance Documents

1. Go to <https://vfc.idem.in.gov/DocumentSearch.aspx>
2. Program: Select DW Compliance
3. Document Type: Select Compliance
4. Full Text Search: Type in lead and copper
5. Alternate Field: Select PWSID and a enter seven digit number – in the field next to PWSID
6. Click Search



IDEM

IN.gov

IN-EPA

Virtual File Cabinet

Document Search

Facility Search

More Info

Survey

Document Search Virtual File Cabinet

Document Date:

ex:12/13/2011



To:

ex:01/09/2011



Program:

DW Compliance



Document Type:

Compliance



Full Text Search:

lead and copper

Alternate Field:

Public Water Supply (PWS ID)



5245012

Reset

Search



House Enrolled Act 1519

- Authorizes a public utility that provides water utility service to petition the utility regulatory commission (IURC) for approval of a plan (plan) to develop a future source of water supply.
- Amends the statute concerning infrastructure improvement charges for eligible water and wastewater utilities
- Provides that the statute governing public works projects by political subdivisions does not apply to a project involving the extension or installation of utility infrastructure by a private developer of land if certain conditions are met



House Enrolled Act 1519

- The bill allows a public water utility to seek to include customer lead service line improvements as eligible infrastructure improvements for purposes of the statute concerning infrastructure improvement charges for water and wastewater utilities.
- The bill would allow public water utilities to petition the IURC to include customer lead service line improvements as eligible infrastructure improvements under IC 8-1-31.
- The bill provides that infrastructure improvement costs associated with customer lead service line improvements shall not be counted as adjustment revenues in determining whether the water utility's total adjustment revenues exceed 10% of the water utility's base revenue level approved in the water utility's most recent general rate case



Challenges Of LSL Removal

- The Water Research Foundation (WRF) has funded over 45 research projects since the 1980s at a cost of "\$14 million.
- "The most effective way to reduce the total mass of lead measured at the tap is to replace the entire lead service line, followed by replacing lead sources in the premise plumbing, the faucet, and then the meter."



Challenges Of LSL Removal

- Further complicating the issue are the findings from a growing body of scientific research that indicate partial lead service line replacement, where only the utility-owned portion is replaced and the customer-owned portion is left intact, has not been effective in reducing potential lead exposure and may make the situation worse
- WRF and EPA research suggests the removal of only a portion of a lead service line and leaving lead on the customer side should be reconsidered or avoided where possible.



Challenges Of LSL Removal

- An interim short-term strategy of delaying partial replacement until the customer is willing to fund the work is also not considered an effective solution.
- These strategies could delay other important water infrastructure upgrades that would benefit many customers.
- If the utility chooses to avoid partial line replacements because of the potential exposure, or the customer is unable to pay to replace his/her portion of a lead service line, the utility faces a significant dilemma.



Physical and Hydraulic Factors Affecting Release of Lead and Copper

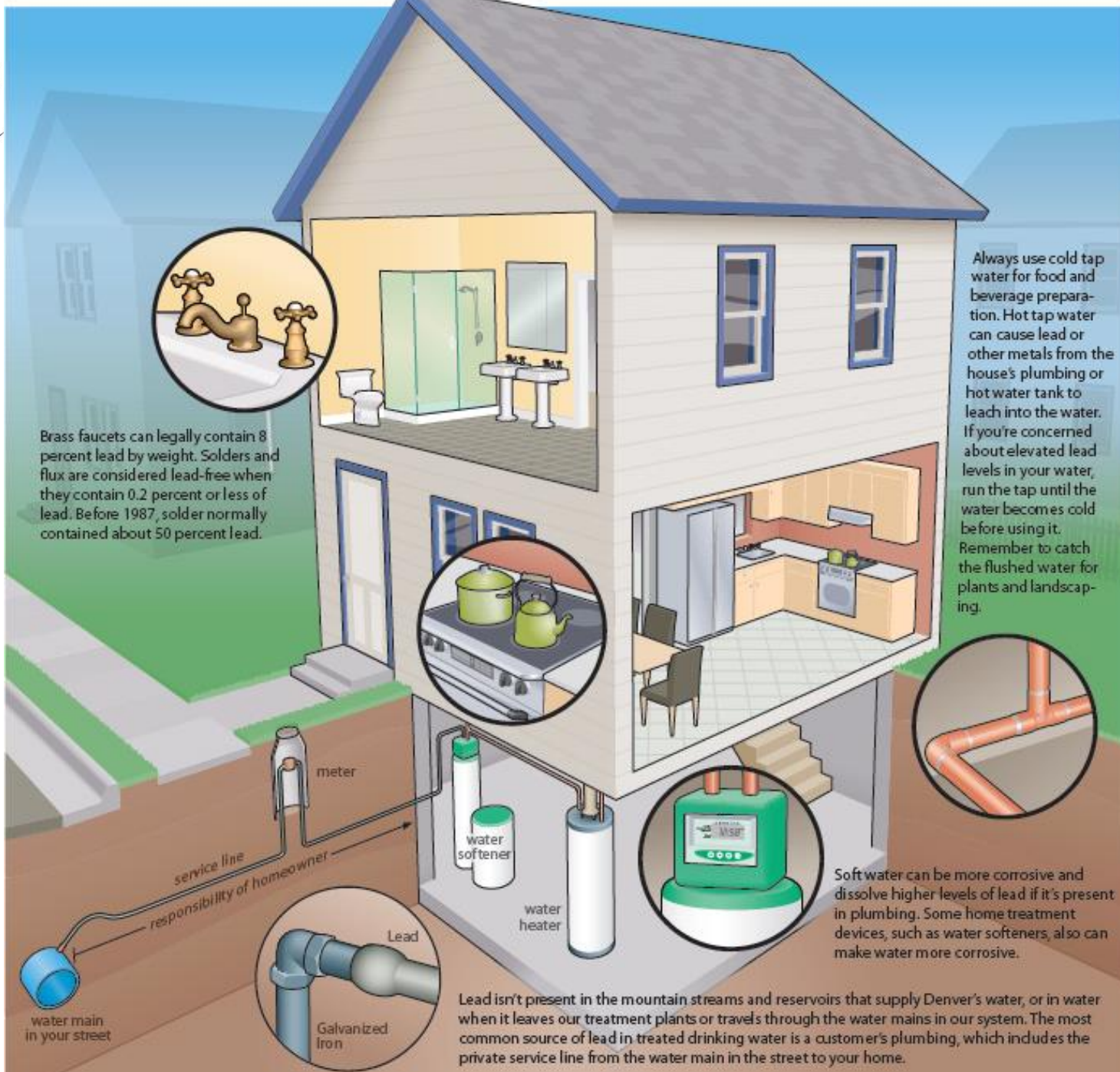
- Physical Disturbances
- Hydraulic Factors
- Water Use
- Water Temperature
- Chemical Treatment Changes





Premise Plumbing

- Premise plumbing is defined as the point from the service connection line to the public distribution system and extending through schools, hospitals, businesses and private buildings.
- The US Environmental Protection Agency (US EPA) has regulations regarding lead and copper contaminants in the premise plumbing water, but there are no regulations regarding other potable water quality parameters after the service connection.
- Beyond the property line, therefore, water quality is primarily the responsibility of the consumer.



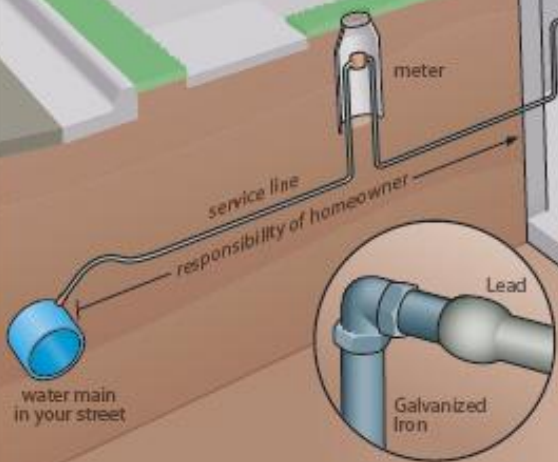
Brass faucets can legally contain 8 percent lead by weight. Solders and flux are considered lead-free when they contain 0.2 percent or less of lead. Before 1987, solder normally contained about 50 percent lead.



Always use cold tap water for food and beverage preparation. Hot tap water can cause lead or other metals from the house's plumbing or hot water tank to leach into the water. If you're concerned about elevated lead levels in your water, run the tap until the water becomes cold before using it. Remember to catch the flushed water for plants and landscaping.



Soft water can be more corrosive and dissolve higher levels of lead if it's present in plumbing. Some home treatment devices, such as water softeners, also can make water more corrosive.



Lead isn't present in the mountain streams and reservoirs that supply Denver's water, or in water when it leaves our treatment plants or travels through the water mains in our system. The most common source of lead in treated drinking water is a customer's plumbing, which includes the private service line from the water main in the street to your home.



How Lead Gets into Drinking Water

- Lead Service Lines
- Lead Pipes – Lead Goosenecks
- Brass or Chrome-plated brass faucets
- Copper pipes with Lead Solder
- Galvanized Pipe





Takeaways From Recent Events

- Require systems to conduct Corrosion Control Study before changing sources
- Ensure system is sampling from proper sites
- Follow specific US EPA criteria before invalidating samples
- Transparency is key



Water Professionals

- For those of us in the water profession, Flint reminds us that our first and most important job is to protect the families we serve. A lack of money, political will, or technical resources can never be an excuse to put people at risk. From public officials, to water utility managers, to regulators, to chemists, to every operator at the treatment plant and throughout the distribution system, we must renew our commitment daily to providing safe water to our communities.



Flint

- If there is one lesson to be learned from the Flint crisis, it is this: Our communities will be safer in the long run with no lead pipes in the ground.
- But the Flint crisis lays bare a simple fact: As long as there are lead pipes in the ground or lead plumbing in homes, some risk remains.