Ushering the Lead and Copper Rule through Controversy and Change

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SE District AWWA and Eastern Section WWOAP
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Caught in a Trap, Can’t Get Out

- Years of debate continued over the control of lead in water and the reduction of risks
- Health community is focused on paint and soil
- Some water systems still had problems
- Research continued to raise more questions
- Lead is complicated
- Many lead services lines still exist
The Levels of Concern are Getting Lower

- Children’s blood levels continue to fall such that contributions from less significant sources become more important

Source: http://www.epa.gov/ace/biomonitoring/lead.html
• The ultimate goal is zero exposure from all sources

• Public “failures” raise concern and lessen public confidence

Seattle Post-Intelligencer
Lead-Tainted Water in Seattle Schools Stuns Parents
District should have told them of danger, they say

By DEBORAH BACH, SEATTLE POST-INTELLIGENCER, 7/1/04

Source: Centers for Disease Control and Prevention
Is Lead Still an Issue?

• Real health concerns
  • The most vulnerable populations are pregnant women and bottle-fed infants

• Available epidemiology studies indicate potential additional health and quality-of-life risks

• Lead is a hazard of concern to the general public
  • High emotional content
**City to subsidize lead pipe project**

State looks at taking financial burden of pipe replacement off homeowner's shoulders.

By Dean Mosiman
City government reporter

The city of Madison is considering subsidizing the lead pipe replacement cost for homeowners. This measure is intended to reduce the financial burden on residents who are responsible for replacing their lead pipes due to health risks.

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**Lead pipe options explored**

Local/state lawmakers and state officials are exploring various options for lead pipe replacement.

By Dean Mosiman
City government reporter

The state government is examining the feasibility of different methods for lead pipe replacement, considering both state and local solutions to address the issue.

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**Lead pipe removal could prove costly for homeowners**

Meeting goes for nearly nine hours to decide who will pay for pipe repairs.

Madison officials introduce a plan that may be necessary for about 1,000 homes.

By Aaron Nathans
The Capital Times

The Madison City Council is considering a plan to pay for lead pipe removal, which could potentially cost homeowners up to $1,000.

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**So how much will taxpayers shell out for landlords’ pipes?**

Private pipes don’t need public money.

By Aaron Nathans
The Capital Times

The cost of lead pipe removal for landlords is under debate, with private owners arguing that they should not be burdened with the expense.

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**Lead pipe decision time**

Council agenda lengthy tonight.

By Aaron Nathans
The Capital Times

The Madison City Council is scheduled to discuss a decision on lead pipe repair and replacement options.

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**Lead pipe risk rings hollow**

Readers react to lead pipe controversy.

No proof that lead pipes are harmful.

By Dean Mosiman
City government reporter

Despite concerns about lead pipes, there is no concrete evidence linking them to health risks.

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Image Courtesy Madison Water Utility
EPA must take Additional action

THE WASHINGTON POST
Little Action on Lead Warnings
Many D.C. Residents Remain Unaware of Problem
By Monte Reel and Sarah Cohen, Washington Post Staff Writers
3/14/04

• **NDWAC Work Group (2005 – 2006)** Focused on lead public education (part of national review)

• **Short Term Revisions (2007)** Intended to be a good first step, not the entire solution

• **NDWAC Work Group (2014 – 2015)** Recommendations for Long-Term LCR
So How Do “We” Get Out of this Trap?

Special Interest Groups

EPA

Water Systems
Long Term Revision of the LCR

• Stakeholder process was re-opened to get better consensus on the most difficult issues vs EPA pushing an agenda-based regulation through

• 2014-15 NDWAC Working Group makes recommendations to National Drinking Water Advisory Council in Fall 2015

• NDWAC will then make its recommendations to the EPA Administrator later in 2015

• EPA will take all of 2016 to formulate a proposed LTR-LCR
Issues Discussed by NDWAC Workgroup

- Sampling Procedures
- Sample Site Selection
- Corrosion Control Treatment
- Lead Service Line Replacement
- Lead Education
- Copper Corrosion
- State Enforcement
Sampling is a Very Complicated and Intensive Undertaking

- Outreach
- Look for appropriate Sample sites
- Connecting with potential samplers
- Explaining request
- Agreement to participate
- Offering incentives
- Confirm site is appropriate
- Respond to questions
- Valid sample obtained
- Sample materials delivered
- Results distributed
- Sampler may leave program

Graphic Courtesy Maggie Rogers
• **Dissolved Lead**
  • We have theoretical and practical experience with corrosion control

• **Particulate Lead**
  • Almost no theoretical or practical experience

• We don’t know if it is possible to manage particulate lead release using centralized corrosion control treatment
Where are the LSLs?

- Is there an inventory of service lines?
- How can lead service lines be located?
- Are there opportunities to engage real estate and home inspectors?

Images courtesy of Framingham Water and BWSC
A Conceptual Approach to Copper...

• Categorize systems by finished water aggressiveness (alkalinity, pH...)

• Monitor distribution system water quality

• Targeted outreach if water is aggressive

• Sample only if water is aggressive

• Apply corrosion control when needed
Copper Control Program

Provide Information in Consumer Confidence Report

Lead Control Program

Do Lead Service Lines Exist?

Corrosion Control Treatment needed?

Yes

No

Water Quality Parameter Monitoring

Change Treatment or Source

Maintain Water Quality Conditions

Copper Control Program

Is water corrosive?

Yes

No

Public Education

Change such that water is not corrosive

Maintain Water Quality Conditions

HAL Exceeded?

Yes

No

SAL Exceeded?

Yes

No

Customer Requested Tap Sampling

Report to Customer

Report to Customer and to State

Evaluate CCT and other Conditions

Contact Health Agency and Report to Customer

Report to Customer and to State and Evaluate CCT and other Conditions

Provide Information in Consumer Confidence Report

Is water corrosive?

Yes

No
Water Quality Monitoring is Expanded

**Lead Control Program**
- Corrosion Control Treatment needed?
  - Yes: Water Quality Parameter Monitoring
  - No: Maintain Water Quality Conditions
- Do Lead Service Lines Exist?
  - No: Lead Service Line Replacement Program
  - Yes: Customer Requested Tap Sampling
- Customer Requested Tap Sampling
  - HAL Exceeded?
    - Yes: Contact Health Agency and Report to Customer
    - No: Report to Customer and to State
  - SAL Exceeded?
    - Yes: Report to Customer and to State and Evaluate CCT and other Conditions
    - No:
- Maintain Water Quality Conditions
- Change Treatment or Source

**Copper Control Program**
- Is water corrosive?
  - No:
  - Yes: Public Education
    - Change such that water is not corrosive
  - Maintain Water Quality Conditions
- Change Treatment or Source
Corrosion Control Treatment is Retained

Lead Control Program

- Provide Public Education Information and Consumer Confidence Report
- Maintain Water Quality Monitoring
- Corrosion Control Treatment needed?
  - Yes
    - Water Quality Parameter Monitoring
    - Change Treatment or Source
  - No
    - Lead Service Line Replacement Program
    - Maintain Water Quality Conditions
- Do Lead Service Lines Exist?
  - Yes
    - Customer Requested Tap Sampling
    - HAL Exceeded?
      - Yes
        - Report to Customer and to State
      - No
        - No
        - No
          - Change such that water is not corrosive
        - Yes
          - Maintain Water Quality Conditions
    - SAL Exceeded?
      - Yes
        - Report to Customer and to State and Evaluate CCT and other Conditions
      - No
        - No
        - No
          - Change Treatment or Source

Copper Control Program

- Provide Information in Consumer Confidence Report
- Is water corrosive?
  - No
    - Public Education
    - Change such that water is not corrosive
  - Yes
    - Change Treatment or Source
Find and Remove LSLs as Long-term Goal

**Lead Control Program**

- Corrosion Control Treatment needed?
- Do Lead Service Lines Exist?
  - No
    - Water Quality Parameter Monitoring
  - Yes
    - Lead Service Line Replacement Program
      - Corrosion Control Treatment needed?
      - Customer Requested Tap Sampling
      - Maintain Water Quality Conditions
      - Change Treatment or Source

**Copper Control Program**

- Is water corrosive?
  - No
  - Maintain Water Quality Conditions
  - Change Treatment or Source
  - Hal Exceeded?
  - Yes
    - Maintain Water Quality Conditions
  - No
    - Change such that water is not corrosive
  - Sal Exceeded?
    - Yes
      - Change such that water is not corrosive
    - No
      - Maintain Water Quality Conditions

**Public Education**

- Do Lead Service Lines Exist?
  - Yes
    - Provide Public Education Information and Consumer Confidence Report
    - Maintain Water Quality Monitoring
    - Change such that water is not corrosive
  - No
    - Change Treatment or Source
    - Maintain Water Quality Conditions
    - Provide Information in Consumer Confidence Report
Re-evaluate when changes occur

**Lead Control Program**

- **Corrosion Control Treatment needed?**
  - **Yes**: Water Quality Monitoring
  - **No**: Lead Service Line Replacement Program

- **Do Lead Service Lines Exist?**
  - **Yes**: Customer Requested Tap Sampling
  - **No**: Do Lead Service Lines Exist?

- **Customer Requested Tap Sampling**
  - **HAL Exceeded?**
    - **Yes**: Contact Health Agency and Report to Customer
    - **No**: Report to Customer and to State
  - **SAL Exceeded?**
    - **Yes**: Report to Customer and to State and Evaluate CCT and other Conditions
    - **No**: Maintain Water Quality Conditions

- **Maintain Water Quality Conditions**
  - **Yes**: Maintain Water Quality Monitoring
  - **No**: Change Treatment or Source

- **Report to Customer and to State and Evaluate CCT and other Conditions**
  - **Yes**: Change such that water is not corrosive
  - **No**: Maintain Water Quality Conditions

**Copper Control Program**

- **Is water corrosive?**
  - **Yes**: Provide Public Education Information and Consumer Confidence Report
  - **No**: Maintain Water Quality Monitoring

- **Provide Information in Consumer Confidence Report**
  - **Yes**: Change such that water is not corrosive
  - **No**: Maintain Water Quality Conditions

- **Maintain Water Quality Conditions**
  - **Yes**: Maintain Water Quality Monitoring
  - **No**: Change Treatment or Source
Sampling: Continuous & Customer Initiated

**Lead Control Program**
- Provide Public Education Information and Consumer Confidence Report
- Maintain Water Quality Monitoring
- Corrosion Control Treatment needed?
  - Yes
    - Water Quality Parameter Monitoring
    - Change Treatment or Source
  - No
    - Do Lead Service Lines Exist?
      - Yes
        - Customer Requested Tap Sampling
      - No
        - Lead Service Line Replacement Program
          - Maintain Water Quality Conditions
          - Change Treatment or Source

**Copper Control Program**
- Provide Information in Consumer Confidence Report
- Is water corrosive?
  - No
  - Public Education
  - Change such that water is not corrosive
  - No
  - Maintain Water Quality Conditions
  - Change Treatment or Source
  - Yes
    - Maintain Water Quality Conditions
The current LCR would keep us running in a circle, forever!

The revised LCR sets a long-term goal to get us to a place where such a Rule may no longer be needed.
Acknowledgements:

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