



STAFF SUMMARY

TO: Board of Directors
FROM: Frederick A. Laskey, Executive Director 
DATE: February 17, 2021
SUBJECT: Update on EPA's Revised Lead and Copper Rule

COMMITTEE: Water Policy & Oversight

X INFORMATION
 VOTE

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RECOMMENDATION:

For information only.

DISCUSSION:

On January 15, 2021, the Environmental Protection Agency (EPA) finally published the long awaited revisions to the Lead and Copper Rule (LCR) after almost 16 years of work. Staff are in the process of carefully reviewing the changes while awaiting guidance documents from EPA. Staff are planning on holding a community forum or training session in March to help communities prepare for the changes, similar to the ones held in 2016 after the Flint, Michigan situation.

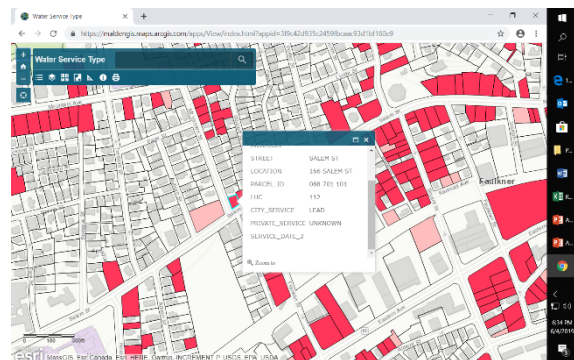
There are a number of significant changes in the rule that will require substantial effort by community water systems, along with changes that will make it more likely that MWRA will be required to make changes to its corrosion control treatment. Several of the changes require work to be completed and submitted to the state within the first three years, even as the state will be in the process of developing its own implementing regulations. This staff summary provides a high-level overview of the new requirements; it does not detail every regulatory change or the nuance of the changes it does describe.

Most of the significant changes in the rule will directly affect communities. These include requirements that the communities:

- develop and submit complete inventories of all their service lines;
- develop and submit detailed plans for lead service line replacement and annual notifications to occupants;
- provide risk mitigation efforts, including the provision of filters after many activities that disturb the service line;
- provide 24-hour notification of an exceedance of the 15 ppb Action Level;
- change where and how they conduct the required sampling;
- conduct “find and fix” activities at any home where the LCR sample is over the Action Level; and
- conduct mandatory sampling in 20 percent of all schools and childcare facilities annually.

The regulatory changes will also affect MWRA primarily by potentially mandating a review of MWRA's corrosion control treatment if the system is over the new Trigger Level of 10 ppb or the existing Action Level of 15 ppb¹. Staff do anticipate a greater volume of samples and a higher level of requested technical assistance to communities, especially during the first several years of implementation. The revisions will require more communities to replace lead services, increasing demands to the MWRA loan program.

Service Line Inventories: Each water system must develop a complete inventory of all of its service connections within the next three years, and submit it to the MassDEP by January 2024. The inventory must include information about both the portion of the service line in the public way and the portion on private property, regardless of ownership. Both portions of each service line must be identified as made of lead, made of galvanized iron downstream of a lead service line (called *galvanized requiring replacement* in the regulations), lead status unknown, or non-lead. The standards of proof for these identifications will hopefully be made clearer by EPA guidance materials before too long. The inventories must be publicly available, with systems serving over 50,000 persons required to have it online. While several MWRA communities already have publicly available inventories, each will require additional information to meet the new requirements, and it is likely all communities will need substantial additional work to complete their inventories to these new standards.



Malden Service Line Map

Annual Service Line Notices: Water systems will be required to provide an annual notice with information about the risks of lead and other required information to the residents of every home with a lead service line, a galvanized service line requiring replacement (called *galvanized* for the rest of this staff summary) or a service line with lead status unknown (called *unknown* for the rest of this staff summary). These annual notices are expected to encourage some homeowners to request removal of their lead service lines. The first notices are due 30 days after the inventories are submitted.

Lead Service Line Replacement Program: Also in the first three years, each community must develop and submit a plan to MassDEP for replacing lead and galvanized service lines. This plan must include an agreed-upon rate of replacement that would be put into action if they exceed a newly created Trigger Level of 10 ppb. If the system exceeds the existing Action Level of 15 ppb, they must replace three percent of the sum of lead, galvanized and unknown services per year for at least two years. Only full replacement, where all the lead from the main to the building inlet is removed, counts as replacement. The changes in sampling described below will likely increase the number of communities that exceed one of these two triggers for lead service line replacement.

The lead replacement plan must also include the system's plan for developing better information about their unknown services, providing notices and risk mitigation information to the building

¹ While the current consecutive system arrangement that MassDEP and EPA have approved uses the system-wide 90th percentile results as the trigger for a system-wide treatment review, it is possible that MassDEP could take the position that any individual community being over the Trigger or Action Levels would require that MWRA conduct a corrosion control study.

occupants whenever a service line is disturbed or replaced, and providing pitcher filters (along with six months of replacement filters) to the building occupants if the service line is fully or partially replaced or for certain types of disturbances. For any multi-family buildings, these notices must be provided to all the residents, not just the owner or customer.

In many communities, the portion of the service line on private property is not owned by the water system, but still must be replaced to be counted as a replacement. The replacement plan must include funding strategies considering how to accommodate customers that are unable to pay to replace the portion they own.

Public Notification Changes: Perhaps the most significant change from the public's perspective will be the new requirement for a Tier 1 24-hour notice if a water system exceeds the lead Action Level. This is similar to what is currently required for a confirmed *E. coli* detection. Under the current rule, systems have 60 days to complete a public education effort after an Action Level exceedance. Requiring an immediate 24-hour notice is likely to significantly complicate risk communication, especially if communities have not done advance preparation before each sampling round. This is because the risk is not uniform; homes with lead service lines may have higher risk than those without, but the notice will be broadcast to all users in the community. Unlike the current public education requirement that provides a longer message with more context, the immediate notice will provide less context, and will likely be interpreted as an emergency, rather than an opportunity to understand existing risks. In addition, unlike most other notices, the resolution is not a couple of days of special sampling and an "all clear." MWRA staff will be recommending that communities prepare in advance for this possibility, especially for the initial rounds of sampling under the new sampling requirements.

Changes in Sampling: There are two important changes to how sampling is required to be done that will affect most MWRA communities. While actual lead levels will not change, these changes will increase reported lead levels. Systems with any lead services must collect all of their samples from those homes. Systems with no lead service lines or not enough to fill out their sampling pool will be required to sample in homes with galvanized service lines if there are any. Based on both MWRA and national data, these changes are likely to increase the reported lead levels. In addition, any sample taken from a home with a lead service line will be required to sample using a new technique designed to capture water from the service line. Five one-liter bottles will be filled sequentially and the fifth one analyzed for lead. The available national data indicates that this is also likely to result in higher reported lead levels. MWRA staff will be working with communities over the next few sampling rounds to collect additional samples to better understand how these changes may affect results.

Find and Fix: The new rule will require a number of specific activities by the local water department and MWRA after any LCR sample is over the Action Level, even if the system 90th percentile is below the Action Level. These include additional investigatory sampling at the home to determine if a cause of the elevated levels can be found, sampling nearby to determine if local distribution system issues influenced the high results and potentially a review of treatment effectiveness if no local cause is identified. MWRA and the community will need to work in collaboration to accomplish this in the relatively short timeframe allowed under the rule.

Of note is the requirement that the resident be notified of the elevated value within three calendar days. While the current rule requires 30 days, MWRA's practice has been to provide immediate notice to the local water department in these cases and urge immediate notice to the resident.

School and Childcare Facility Sampling: The new rule now requires that each system develop a complete list of all public and private schools and all licensed childcare facilities by 2024, and then provide information about the risk of lead in tap water annually. Over the next five years, each system must sample 20 percent of all elementary schools (five taps each) and 20 percent of the childcare facilities (two taps each) each year. In addition, during that five-year period, and then thereafter, they will be required to sample any school or childcare facility upon request. It is not clear whether any of the extensive school sampling that has already occurred will be “grandfathered,” reducing the burden on communities and MWRA.

Potential Corrosion Control Treatment Changes: Staff anticipate that the addition of the new 10 ppb Trigger Level and changes to sampling will make it more likely that MWRA will need to reevaluate its corrosion control treatment. Staff are already working proactively to be ready to do that review in a thorough and thoughtful way.

The rule revisions require that specific treatment alternatives be evaluated, including the addition of a phosphate-based corrosion inhibitor. Corrosion control studies for systems with lead services must include the use of harvested lead service lines. Staff have constructed a series of pipe loop test racks with lead pipe from an MWRA community, and are in the process of acclimating and stabilizing those pipes with system water. Beginning this process now will allow for a more extensive stabilization time before MWRA is required to begin evaluating alternatives, improving the accuracy and usefulness of the pipe loop study.



Within the next several months, staff anticipate holding the first of a series of virtual meetings with key local stakeholders and outside corrosion experts. The group would help staff identify and confirm the feasible and appropriate alternatives to be evaluated for our specific system and to identify the critical research questions that need to be answered to assure that any recommended alternatives are implementable without adverse, unintended consequences to water quality, public health or the environment.



Presentation to

MWRA Board of Directors

Revised Lead and Copper Rule

February 17, 2021



Significant Community Requirements

- Service Line Inventories
- Annual Service Line Notices
- Lead Service Line Replacement Plan
- Changes in Sampling
- Public Notification Changes
- Find and Fix for Any Elevated Samples
- School and Childcare Facility Sampling



Significant MWRA Impacts

- Support to Communities on:
 - Inventories
 - Replacement Plans
 - Find and Fix
 - Laboratory Services
- Corrosion Control Treatment Review
 - Pipe Loop Study
 - Stakeholder Panel
- Community Forum/Training