

STAFF SUMMARY


TO: Board of Directors
FROM: Frederick A. Laskey, Executive Director
DATE: December 15, 2021
SUBJECT: Update on Lead and Copper Rule Compliance – Fall 2021



COMMITTEE: Water Policy & Oversight

X INFORMATION
 VOTE

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Preparer/Title



David W. Coppes, P.E.
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RECOMMENDATION:

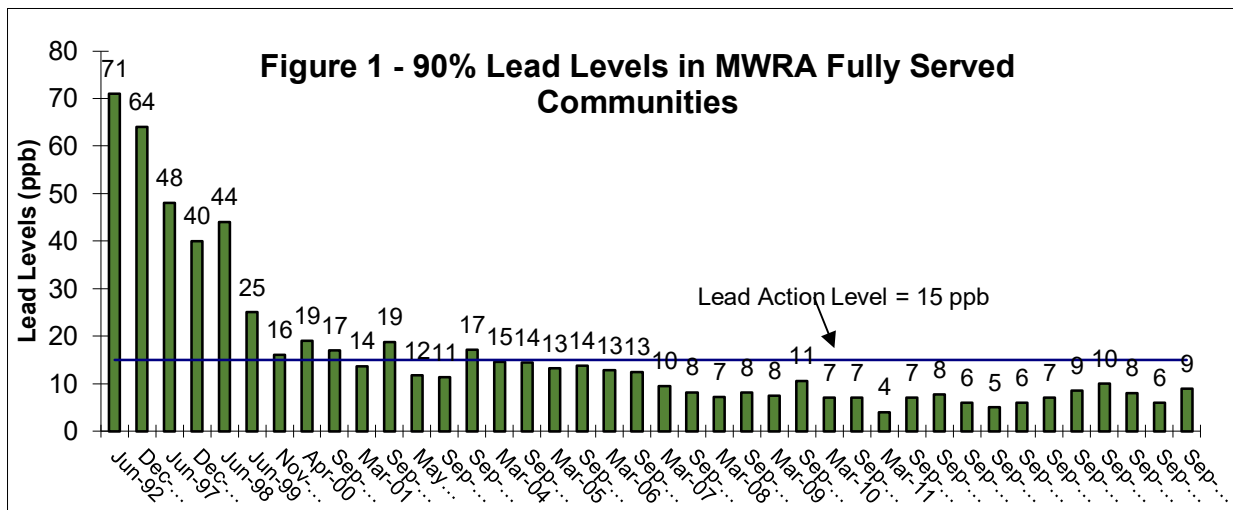
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DISCUSSION:

Under the Environmental Protection Agency's (EPA) Lead and Copper Rule (LCR), each year MWRA and every fully-supplied community must collect and test tap water in a sample of homes *that are likely to have high lead levels*. These are usually homes with lead services or lead solder. EPA requires that nine out of ten of the sampled homes have lead levels at or below the Action Level of 15 ppb.

MWRA and its communities conducted the 2021 LCR sampling round beginning in September 2021. The 90th percentile lead value for the system as a whole was 8.5 parts per billion (ppb). The MWRA system has been below the lead Action Level of 15 ppb in every round since 2004.

In addition to determining how the system as a whole performs, EPA looks at each individual community. Five MWRA customer communities were individually over the lead Action Level, including Boston, Malden, Medford, Melrose, and Winthrop. Boston was over in 2020 for the first time since 2014. Malden was over in 2014, 2015, and 2016. Medford was over in 2020 as well as several rounds before then. Melrose was over in 2020 and 2017; and Winthrop was over in 2017, 2018, and 2019.



Staff have notified all five communities that exceeded the lead Action Level. The Massachusetts Department of Environmental Protection (MassDEP) has had extensive interactions with all five communities regarding the requirements of the Lead and Copper Rule. Each will need to meet the rule’s public education requirements, including mailing updated lead education brochures to all customers, and each will be required to meet lead service line replacement requirements set by MassDEP. MWRA has provided an updated educational brochure and staff have offered assistance in working with MassDEP on the educational requirements and documentation that demonstrates that the community has replaced the required number of service lines.

Under the LCR, each community is also required to collect samples from two schools or childcare facilities. Seven schools (out of 60 tested) in six communities had one or two samples above the Action Level as part of the LCR testing. As with residential samples, MWRA staff immediately contact any community that has a school sample above the Action Level. All school data are available on MassDEP’s online school database that includes over 39,000 school test results from MWRA communities. A link to the MassDEP database is available on the MWRA webpage.

MWRA has formally transmitted these results to MassDEP. The results were also transmitted to the communities and, through them, to each individual homeowner or school that collected a sample.

School and Childcare Sampling Program

MWRA continues to offer no-cost laboratory analysis services to any of its customer communities that want to sample drinking water taps in schools or childcare facilities. The program is offered in coordination with MassDEP’s similar program. As of the end of October, MWRA’s laboratory has conducted over 39,000 tests from 534 schools and childcare facilities in 44 communities.

Lead Service Line Replacement Loan Program

In March 2016, the Board approved an enhancement to the Local Water System Assistance Program to make \$100 million in 10-year interest-free loans available to communities solely for

efforts to fully replace lead service lines. Under MWRA's Lead Service Line Replacement Loan Program, each community can develop its own replacement program, tailored to its local circumstances.

During the first five years of the program (through December 2021), MWRA has distributed a total of \$28.2 million in Lead Service Line Replacement Loan Program funds to thirteen communities:

- Boston Water and Sewer Commission (BWSC): \$2.6 million in FY21;
- Chelsea: \$100,000 in FY19, \$300,000 in FY20, \$300,000 in FY21, and \$300,000 in FY22 (\$1 million total);
- Everett: \$1 million in FY19, and \$1 million, \$500,000 in FY20, \$1.5 million in FY21 (\$4 million total);
- Marlborough: \$1 million in FY18, \$1 million in FY19, \$1 million in FY20 and \$2 million in FY21 (\$5 million total);
- Needham: \$1 million in FY18;
- Newton: \$4 million in FY17;
- Quincy: \$1.5 million in FY17;
- Revere: \$195,000 in FY18, and \$1.3 million in FY22;
- Somerville: \$900,000 in FY20, and \$1,555,000 in FY22;
- Watertown: \$600,000 in FY21;
- Weston: \$160,000 in FY20;
- Winchester: \$500,000 in FY17, \$500,000 in FY18, \$600,000 in FY20, and \$600,000 in FY21 (\$2.2 million total); and
- Winthrop: \$284,000 in FY18, \$487,850 in FY19, \$690,000 in FY20 and \$750,000 in FY21 (\$2,211,850 total).

Several communities are using the MWRA loans to fully fund replacement of the entire lead service line, while some have developed various incentives for the portion of the line on private property. BWSC increased its long standing lead service line incentive program and is now providing the first \$4,000 toward replacement of lead service lines on private property with a zero-interest loan over 60 months for any cost above that dollar amount.

Revisions to the Lead and Copper Rule

EPA's long awaited revisions to the Lead and Copper Rule were released in January 2021, but the new Administration has delayed implementation while it assesses and makes additional changes to the rule. Staff reported on the revised rule in February 2021 and have provided initial training to communities on its requirements in May 2021, in cooperation with the MWRA Advisory Board. Staff will provide an update to the Board on any additional changes to the LCR when they are released.

Review of Corrosion Control Treatment

Staff continue to review long-term water quality data and the state of knowledge about corrosion control treatment, in case a change in corrosion control is ever desired or required. That effort has included construction of a pipe loop system with "harvested" lead service lines to enable future evaluation of possible changes to treatment. Initially, the system is being operated with

MWRA finished water to acclimate and stabilize the harvested lead pipes. An extended period of acclimation and stabilization will help provide a more realistic evaluation of any potential treatment changes. Acclimation of the initially installed harvested lead service lines is proving more complicated than anticipated, as initial lead results are uncharacteristically high. Staff are evaluating whether some of the installed pieces of pipe will need to be replaced with ones that had less physical disturbance during removal and installation. These difficulties point out the benefit of starting this process early.



Evaluating a corrosion control treatment change is a significant undertaking. It will require careful consideration of both the level of confidence in the expected changes in long-term lead levels, as well as the likelihood of significant water quality problems during the treatment transition.

As a key part of this review, staff have assembled a panel of outside experts to provide input into the type of treatment adjustments to be considered and the type of evaluations to be included. The panel is helping 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. Staff have also asked their opinion on whether and when to replace any harvested pipes that are not providing stable representative data.

Two meetings of the panel have been held. Staff from MassDEP and EPA, as well as community and Advisory Board staff, participated in the panel discussions, as has been MWRA's practice for all prior treatment evaluations.

BUDGET /FISCAL IMPACT:

MWRA began modern effective corrosion control treatment to reduce lead and copper levels at the tap in 1997. MWRA's corrosion control treatment involves raising the pH and alkalinity to the water to provide a stable, non-corrosive product, reducing the potential for both lead and copper to leach from customer's home plumbing. The annual average cost for corrosion control is approximately \$3.6 million, including \$3.3 million in soda ash costs and \$0.3 million in carbon dioxide costs.