STAFF REPORT

Meeting Type:	Operations Committee/Board of Directors
Title:	Update on the Lead and Copper Rule Revision
From:	Paul Sellier, Water Resources Director
Through:	Ben Horenstein, General Manager
Meeting Date:	February 16, 2024

TYPE OF ACTION: Action X Information Review and Refer

RECOMMENDATION: Receive update on status of the Lead and Copper Rule Revision

SUMMARY: The U.S. Environmental Protection Agency (EPA) has proposed updated revisions to the Lead and Copper Rule (LCR), strengthening key elements of the existing federal water quality regulation. Included in the revised LCR, public water systems are required to provide an inventory of lead service lines by October 2024. District staff have undertaken a comprehensive field inspection process to develop an inventory of service lines. No lead service lines have been identified. Staff will provide an overview of the regulations, field inspection methods, results of the field inspections completed, and next steps.

DISCUSSION: Lead has been used in plumbing fixtures and as pipe since the Roman Empire. In the United States, lead was the material of choice for plumbing up until the 1920s when it was supplanted by copper. According to an article[1] published in the American Journal of Public Health in 2008, "installation of lead pipes in the United States on a major scale began in the late 1800s, particularly in the larger cities. By 1900, more than 70% of cities with populations greater than 30,000 used lead water lines. Although lead was more expensive than iron (the material of choice until that time), lead pipes had 2 significant advantages over iron ones: they lasted much longer than iron (about 35 years compared with 16) and, because they are more malleable, they could be more easily bent around existing structures." These practical aspects of lead piping, disagreement on health effects, the robust efforts of the Lead Industry Association to promote the use of lead and the lack of a federal standard meant that lead continued to be used in water infrastructure.

Comprehensive health based drinking water regulations were first promulgated with the Safe Drinking Water Act in 1974; this regulation was amended in 1986 prohibiting the use of pipes, solder or flux that were not "lead free" in public water systems or plumbing and regulations have continued to evolve.

1 The Lead Industry and Lead Water Pipes "A MODEST CAMPAIGN", Richard Rabin. 2008 American Journal of Public Health. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2509614/

Following the lead contamination crisis in Flint, Michigan that began in 2014, the US EPA proposed revisions to the Lead and Copper Rule (LCR), a federal water quality regulation established in 1991 to reduce lead and copper in drinking water. The LCR established regular monitoring and testing of drinking water systems for lead and copper, and defined action limits for performing mitigations, including replacing lead service lines, optimizing corrosion control, and notifying customers of lead exposure. Although rarely found in natural sources of water, lead can leach from lead pipes, faucets, and plumbing installed many decades ago and can lead to adverse health effects in young children. The recent USEPA revisions to the LCR known as the Lead and Copper Rule Revisions (LCRR) added the requirement to identify customer service laterals that are lead.

In compliance with existing LCR regulations, Marin Water performs lead monitoring at residential sampling locations on a triennial basis with the next sampling event planned to occur during summer 2024. Results from sampling events have remained well below regulatory limits. Over a three year period beginning in 2017, the District conducted lead sampling at all public K-12 schools built after 2010, and private schools that requested assistance within the service area. In total, 267 drinking water samples were analyzed for lead from 53 public and private schools throughout the service area, focusing on drinking fountains and faucets accessible to children. Exceedances of lead levels were discovered at three schools through this sampling program. Contacts at each of the schools were notified and took action to replace suspect drinking fountain or plumbing associated with the high lead levels.

Lead Service Line Inventory

In light of the public health crisis in Flint, the USEPA has developed a number of revisions to the Lead and Copper Rule, including a requirement for water systems to identify lead service lines and for replacement of those lines if lead is identified. While the USEPA is continuing to finalize components of the revised regulation, an inventory of service line materials is required by October 16, 2024.

The USEPA requirement to identify lead service lines encompasses the entire service line, including both the portion owned by the water utility and the extent beyond the meter to the premises owned by the customer. The District has maintained thorough historical records of service lines owned by the District and many were field verified in 2020 to comply with California Senate Bill 427 (2017), confirming that no lead service lines were identified. Similar to most water utilities in California, the District does not maintain records of the customer-owned portion of the service line. To meet the requirements of the revised LCR, the material type of the customer owned service lines must be determined and submitted for compliance with the revised regulation.

Field Verification

The California State Water Resources Control Board (SWRCB) Division of Drinking Water (DDW) has developed guidance to aid local water agencies in the development of a compliant lead service line inventory. Compliant identification methods described by DDW utilize field verification along with desktop statistical analysis of the service area. The District used stratified random sampling, an approved service line identification method which divides a large and diverse population, such as the District's 63,156 service lines, into smaller groups called strata and selecting a random but representative sample from each group. Strata are formed based on a population's common attributes, such as age, year of construction, etc., to increase the similarity of characteristics within each group. To effectively use the statistical verification process, DDW requires that results achieve a

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minimum level of confidence -- 95% plus or minus 5% margin of error. For example, a typical strata group may consist of approximately 5,000 service lines but only a representative group of 350 would be required to be field verified. The results of the field inspections can then be statistically applied across the entirety of the group.

Hands-on training for identification of pipe material was provided to District staff prior to beginning the field inspection process in May 2023. The training covered methods to accurately identify service line materials including lead, copper, galvanized iron, and plastic pipes. Identification methods included techniques such as visual (color) assessments, scratch testing, magnetic attraction, and chemical reaction testing.

Results of Investigations

Between May 2023 and January 2024, District field staff have verified 8,991 customer service lines throughout the Marin Water service area. No lead service lines have been discovered during the entirety of the inspection period. The most common service line materials identified are copper (68%), plastic (13%), galvanized iron (11%), and other non-lead (8%). Staff prepared a LCRR compliance plan that included the initial field inspection results and submitted it to DDW for review in January 2024. In early February 2024, DDW completed review and approved the District's compliance plan.

ENVIRONMENTAL REVIEW: Not Applicable.

FISCAL IMPACT: None.

ATTACHMENT(S): None.

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