



# Information Item

**Date: February 22, 2016**

To: Mayor and City Council  
From: Martin Pastucha, Director of Public Works  
Subject: Lead in Drinking Water

## **Introduction**

This information item provides background and history on the City of Santa Monica's compliance with the federal Lead and Copper Rule of 1991, an EPA published regulation to control lead and copper in drinking water, and outlines how lead contamination of the magnitude experienced in Flint, Michigan will not occur in Santa Monica.

## **Background**

Recent issues with elevated levels of lead in drinking water in Flint, Michigan have increased public awareness of the dangers of lead in public drinking water supplies. When Flint switched its water supply from Lake Huron to Flint River, it did not take the required steps to address the changes in water chemistry of the new water source. Water from Flint River caused lead to leach from service lines and home plumbing systems, eventually resulting in dangerously elevated levels of lead in the water coming from the taps.

In contrast, since the 1920's Santa Monica's water supply has come from a blend of local groundwater and treated imported surface water. The constant monitoring and testing conducted in Santa Monica would reveal sudden changes in water chemistry, as was the case with methyl tertiary-butyl ether (MTBE) contamination in the 1990's. According to the World Health Organization, ingestion of lead is detrimental to human health, interfering with the metabolism of calcium and Vitamin D, and can cause permanent

damage to nervous, reproductive and renal systems. Lead is especially harmful to the developing brains of fetuses and young children, and to pregnant women.

## **Discussion**

When lead is found at the tap, it typically does not come from treatment plants and water mains. In Flint, the lead came from service lines running between the water main in the street and the home. A secondary source can be lead used in solder, a metal alloy used to join together older pipes and lead used in the manufacture of plumbing fixtures. The chemical composition of the water running through the mains, without the proper treatment, can cause lead to leach from these older lead pipes.

Lead contamination in Santa Monica drinking water is highly unlikely. There are no lead service lines in Santa Monica. Santa Monica's corrosion control processes have been deemed "optimal" by State drinking water regulators, a designation that Santa Monica's water treatment is in accordance with best practices and no further corrosion treatments are required.

Pursuant to the federal Lead & Copper Rule of 1991, Santa Monica was required to find a minimum of 60 residences that would be considered at "high risk" for lead and copper leaching from premise plumbing materials. Since Santa Monica has no lead service lines, homes were considered "high risk" if they were plumbed between 1982 and 1986 (before the ban for lead in solder took place). Single family homes throughout Santa Monica were solicited based on construction permits. Subsequently, 61 homeowners volunteered to participate and were enrolled in the City's Lead and Copper Monitoring program.

The first two rounds of testing were conducted in 1992. The homeowners were given instructions to collect "first" draw samples that were subsequently analyzed by our state-certified lab. The results were ranked and the 90th percentile sample was used to determine the extent to which lead and copper were leaching into the water in test homes.

The results for the first two rounds of testing indicated that Santa Monica was already in the category of having “optimized corrosion control”. As a result, no requirement was imposed on the City’s water system by the California Department of Health Services (now known as State Water Resources Control Board/Division of Drinking Water, SWRCB/DDW) to adjust water quality parameters.

Prior to the enactment of the Lead and Copper Rule, the City’s Water Treatment staff maintained a corrosion control program consisting of adjusting the pH, alkalinity and mineral content of finished water to ensure it would not fall on the “aggressive” side of various indicators of corrosiveness. This corrosion control program continues today in addition to the Lead and Copper testing.

Because test results for lead were so low in 1992, the City was permitted to reduce monitoring and testing from 60 to a minimum of 30 “high risk” homes every three years to ensure that optimized conditions remain in place. The 90th percentile sample has continued below the threshold of five parts per billion, indicating optimized conditions every three years since the first follow-up in 1995. First draw lead and copper samples will be collected again this summer for the eighth time since 1992.

There is always some potential for the introduction of lead into homes. The most common source of lead in drinking water in homes (without lead service lines) is the corrosion of household plumbing fixtures (brass or chrome-plated brass faucets or fixtures) which can leach lead into the water. Although lead solder was banned in 1986, legally “lead free” plumbing could contain up to eight percent lead, until a new California law in 2010 redefined “lead free” as 0.25 percent lead in pipes and pipe fittings. The 2010 regulations also prohibit the use of any plumbing fitting or fixture which is not “lead free”.

Homeowners concerned about lead exposure to their tap can take a few precautions, including periodic flushing of their pipes before drinking and replacing older pipe systems which may contain lead solder. While risks to safe water are always present, from lead

and other potential contaminants, the on-going diligence of water quality staff and a fully engaged city government differentiate Santa Monica from the conditions which led to widespread lead contamination in Flint, Michigan. A full discussion on lead safety in homes will be included in the City's Annual Water Quality Report in June 2016.

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