



DATE: May 14, 2019

CATEGORY: Public Hearing

DEPT.: Public Works

TITLE: **Approval of the Mountain View 2019 Water System Public Health Goals Report**

RECOMMENDATION

1. Accept public comment regarding the City of Mountain View 2019 Water System Public Health Goals Report.
2. Approve the City's 2019 Water System Public Health Goals Report and direct staff to file the report with the California State Water Resources Control Board.

BACKGROUND

The City of Mountain View tests for contaminants in its drinking water supply to comply with water quality requirements established by the U.S. Environmental Protection Agency (EPA) and the California State Water Resources Control Board (SWRCB). The EPA and the California Office of Environmental Health Hazard Assessment (OEHHA) also set more aggressive goals (nonregulatory requirements) to further reduce contaminants in water. These requirements and goals include:

Public Health Goal (PHG): The level of a contaminant in drinking water below which there is no known or expected health risk. PHGs are nonenforceable goals established by the OEHHA and are based on health risk assessments.

PHGs are not regulatory requirements but are nonmandatory goals and are set at a level at which no known or anticipated adverse effects on health will occur with an adequate margin of safety. PHGs are established based on numerous criteria, including consideration of possible synergistic effects resulting from exposure to two or more contaminants, and consideration of potential adverse effects on members of subgroups that comprise a meaningful proportion of the population, including, but not limited to, infants, children, pregnant women, the elderly, and individuals with a history of serious illness. PHGs for cancer-causing chemicals are typically established at a risk level that

one person in a population of 1 million people drinking the water daily for 70 years would be expected to develop cancer as a result of exposure to that chemical.

State law requires the SWRCB to set drinking water requirements for chemical contaminants as close to the corresponding PHG as is economically and technologically feasible. PHGs adopted by the OEHHA are reviewed at least once every five years and revised as necessary based on the availability of new scientific data. There are no penalties for exceeding PHGs.

Maximum Contaminant Level Goal (MCLG): The level of a contaminant in drinking water below which there is no known or expected health risk. MCLGs are set by the EPA and allow for a margin of safety. MCLGs are unenforceable and there are no penalties or action required for exceeding an MCLG.

Maximum Contaminant Level (MCL): MCLs may be established by either the EPA or SWRCB, and are the highest level of a contaminant that is allowed in drinking water. Primary MCLs (those that address health concerns) are set as close to PHGs (or MCLGs if no PHG exists) as is economically and technologically feasible. Secondary MCLs are set to regulate the odor, taste, and appearance of drinking water. MCLs established by the SWRCB must be at least as stringent as the Federal MCL, if one exists.

PHG EXCEEDANCES

The California Health and Safety Code requires California water retailers serving more than 10,000 service connections to prepare a report every three years informing consumers of water quality contaminants (that have a set MCL) that exceeded the corresponding PHG or MCLG during the reporting period. Many contaminants with established MCLs do not have corresponding PHGs; for these contaminants, the City is required to report on exceedances of MCLGs if one exists. The City's last PHG report was published in July 2016 and included information on lead and hexavalent chromium exceedances. The content of this report reflects guidance provided by the OEHHA.

The City's water met all primary and secondary water quality regulatory requirements during 2016 to 2018 and the City incurred no water quality violations. Routine water quality testing identified two contaminants, lead and Gross Alpha Particles, at levels exceeding PHGs or reporting limits. To meet regulatory requirements, the City must hold a public hearing and issue a Public Health Goals Report (Attachment 1). In accordance with State law, the report must include the following elements:

- The identification of each contaminant detected in drinking water that exceeds the applicable PHG.
- The MCL and PHG (or MCLG) for each contaminant identified.
- The category or type of risk to health that could be associated with each contaminant.
- The best treatment technology commercially available, if any, that could be used to reduce or remove the contaminant, and an estimate of the cost to use that treatment if it is appropriate and feasible.
- A description of what action, if any, the City intends to take to reduce the concentration of the contaminant.

The public hearing and Public Health Goals Report fulfill all City PHG reporting requirements.

Lead – Overview

Lead is a metallic element that has been used for many years in piping, paints, cable coverings, bullets, radiation shielding material, and as a gasoline additive. Lead is a widespread contaminant and occurs in drinking water primarily as a consequence of corrosion and leaching from plumbing and fixtures containing lead. Lead has multiple toxic effects, including decreased intelligence in children and increased blood pressure in adults. Lead is also a carcinogen in animals and a probable carcinogen in humans.

Effective June 19, 1986, Federal regulations established in the Safe Drinking Water Act defined the allowable content of lead in pipes, solder, or flux to be considered “lead free.” The regulations also required future installations use these “lead-free” components in public water systems or any residential or nonresidential facility that was connected to a public water system and provided water for human consumption. New California regulations further reduced the allowable amounts of lead as of January 1, 2010, and in 2011, Congress passed the Reduction of Lead in Drinking Water Act, matching California’s standard. New pipe and meter installations in the City distribution system meet all requirements for lead-free plumbing materials.

OEHHA has established a lead PHG of 0.2 parts per billion (ppb), and the U.S. EPA adopted a MCLG of zero for lead in drinking water based on associated health impacts and because the EPA classifies lead as a “probable human carcinogen.” The EPA has

not adopted an MCL for lead in drinking water because the source of lead in water is typically from home or building plumbing and not under the control of water suppliers. As an alternative, the EPA established a treatment technique, an enforceable procedure or level of technological performance that water systems must follow to ensure control of a contaminant. The EPA has also set an “action level” for lead in drinking water of 15 ppb, the level the EPA believes is feasible for public water systems to attain by such measures as adjusting the physical characteristics of the water to reduce the water’s corrosivity. If lead concentrations exceed 15 PPB in more than 10 percent of customer taps sampled, the water system operator must undertake additional actions to control corrosion.

The City tests lead levels at approximately 30 to 40 residences every three years as required by the SWRCB. During tests conducted in 2016, lead levels exceeded the PHG of 0.2 ppb at seven of 34 residences tested. Three (3) samples exceeded the action level of 15 ppb (less than 10 percent of the samples), so the City is not required to take any action. Residents participating in the testing program were provided with test results from their residence, as well as information regarding how to address related water quality concerns such as additional testing inside their home.

Lead – Best Available Technology

As noted, the City’s water sampling results do not require the City to take additional actions to reduce lead. However, staff believes it is appropriate to summarize recommended lead reduction strategies and the City’s current treatment strategies.

The SWRCB considers optimizing corrosion control as the Best Available Technology (BAT) for reducing lead in drinking water, recommending a minimum pH of 8.2 be maintained throughout the distribution system. From 2016 to 2018, the pH of the water supplied by the SFPUC averaged 9.2. The pH of the water supplied by the SCVWD averaged 7.7 but is treated with corrosion inhibitors and considered to be compliant with BATs. The pH of water produced from City wells ranged from 7.1 to 8.0. Approximately 2 percent of the City’s water supply is generated by wells, and well water mixes with SFPUC water, so no additional actions to increase the pH of the well water is necessary.

Another lead reduction strategy is to replace the portions of lead service lines (lines that connect distribution mains to customers) that are under the water system’s control. During the last several years, staff reviewed the water distribution system infrastructure and determined there are no lead service lines in the water system. There are lead joints scattered throughout the distribution system in areas with older water

mains; these joints are replaced during main breaks and through annual water main replacement capital improvement projects.

Although the City is not required to test for lead in the distribution system, during the 2016 lead testing process staff conducted limited tests of distribution system water and no lead was detected. Additionally, 27 of the 34 lead testing samples in 2016 contained no lead, indicating the City is delivering water with no lead content. Staff also conducted limited distribution system testing in 2018 during school lead testing and no lead was detected.

Gross Alpha Particles – Overview

Gross Alpha is a measurement of radioactive alpha particles present in water; most radiation in water is the result of interactions with geologic materials that contain trace levels of radioactive isotopes.

The SWRCB has set an MCL of 15 picocuries per liter (pCi/l) for Gross Alpha Particles in water. A curie is a standard unit of radioactivity, where 1 curie is the radioactivity associated with 1 gram of radium. A picocurie is one trillionth of a curie. The EPA has set an MCLG of 0 pCi/l.

Gross Alpha Particles – Best Available Technology

According to the SWRCB, mitigation of drinking water that exceeds a state or Federal radionuclide standard is challenging because residuals and wastewater derived from the treatment process for these types of contaminants cannot be easily disposed. Water systems with sources that exceed drinking water standards for radionuclides may consider mixing affected water with other water sources to produce blended water that meets water quality standards. Water system operators may also isolate and remove affected water sources if they can be identified.

Hexavalent Chromium

The City's 2016 PHG report included information on exceedance of the State's hexavalent chromium PHG. The State approved hexavalent chromium MCL on July 1, 2014, necessitating inclusion of hexavalent chromium in the report. On May 31, 2017, the hexavalent chromium MCL was invalidated by the Superior Court of Sacramento County, eliminating the requirement for hexavalent chromium PHG reporting.

ANALYSIS

The required information is summarized in the following tables.

Contaminant: **Lead**

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| <u>Standards and goals</u> | PHG: 0.0002 (mg/l) – 0.2 ppb. Action level: If more than 10% of the City’s samples exceed 15 ppb, the City must take measures to reduce water corrosivity. |
| <u>Measured amounts</u> | Three of 34 samples (less than 10%) exceeded the action level. |
| <u>Sources of contaminant</u> | Occurs in drinking water primarily as a consequence of leaching from plumbing containing lead. |
| <u>Health risk</u> | Numerous impacts, including decreased intelligence in children and increased blood pressure in adults. Lead is also a carcinogen in animals and a probable carcinogen in humans. |
| <u>BAT to reduce</u> | Corrosion control through a minimum pH of 8.2 for water in the distribution system. |
| <u>Cost to reduce</u> | N/A. Corrosion control measures are in place. |
| <u>Source of cost estimate</u> | N/A. |
| <u>Steps to reduce contaminant levels</u> | None planned. The City’s water meets all health requirements. |

Contaminant: **Gross Alpha Particles**

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| <u>Standards and goals</u> | MCL: 15 pCi/l PHG: None MCLG: 0.0 pCi/l |
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| <u>Measured amounts</u> | 4.3 pCi/l in one well sample (2018) during well startup testing. |
| <u>Sources of contaminant</u> | Naturally occurring (granitic formations, sandstone aquifers, shales, phosphate deposits) and manmade sources, including industry (labs, pharmaceuticals). |
| <u>Health risk</u> | Damage to tissue, increased risk of cancer. |
| <u>BAT to reduce</u> | Mixing with other water sources or identifying and removing impacted water source. |
| <u>Cost to reduce</u> | N/A. |
| <u>Source of Cost estimate</u> | N/A. |
| <u>Steps to reduce contaminant levels</u> | None planned. The City's water meets all health requirements. |

FISCAL IMPACT

Because there are no changes recommended for treating the City's water supplies, there is no financial impact from this report.

CONCLUSION

The City's water meets all water primary and secondary quality requirements established by the EPA and SWRCB. BATs are currently used to address findings for lead and Gross Alpha Particle readings, and staff is recommending no changes to the City's current water treatment process. No further action is required after the Council approves the PHG report.

ALTERNATIVES

1. Provide comments or changes to the PHG Report.
2. Provide other direction to staff.

PUBLIC NOTICING

Agenda posting and a notice of the public hearing was published in two newspapers of general circulation, the *San Jose Post Record* and the *Mountain View Voice*.

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Attachment: 1. City of Mountain View 2019 Public Health Goals Report