

CALIFORNIA WATER SERVICE
REPORT ON WATER QUALITY RELATIVE TO PUBLIC HEALTH GOALS
IN THE SOUTH SAN FRANCISCO WATER SYSTEM
MAY 28, 2025

Background

Provisions of the California Health and Safety Code (Section 116470 [b]) specify that water systems serving more than 10,000 connections shall prepare a special report by July 1, 2025, if their water exceeds any Public Health Goals (PHGs) after each compliance period. PHGs are non-enforceable goals established by the Cal-EPA's Office of Environmental Health Hazard Assessment (OEHHA). The statute also requires that water suppliers use the Maximum Contaminant Level Goals (MCLGs) adopted by USEPA for constituents for which OEHHA has not adopted a PHG.

There are a few constituents that are routinely detected in water systems, at levels usually well below the drinking water standards, for which no PHG or MCLG has yet been adopted (e.g., Total Trihalomethanes). These constituents will be addressed in a future required report after a PHG has been adopted.

In accordance with the Health and Safety Code (reference 1), if a constituent was detected in the water system's supply during 2022, 2023, or 2024 at a level exceeding an applicable PHG or MCLG, it will be identified in this report. Additional information includes the numerical public health risk associated with the Maximum Contaminant Level (MCL), plus the PHG or MCLG; the category or type of risk to health that could be associated with each constituent; the best available treatment technology that could be used to reduce the constituent level; and an estimate of the cost to install that treatment if it is appropriate and feasible.

What are Public Health Goals?

PHGs are set by OEHHA, which is part of Cal-EPA, and are based solely on public health risk considerations. None of the practical risk-management factors that are considered in the rulemaking process by the USEPA or the California State Water Resources Control Board's Division of Drinking Water (DDW) in setting drinking water standards, otherwise known as Maximum Contaminant Levels (MCLs). These factors include analytical detection capability, treatment technology available, benefits, and costs. PHGs and MCLGs are not mandatory and therefore compliance is not legally required by any public water system.

Water Quality Data Considered

All water quality data collected by our system between 2022 through 2024 to determine compliance with drinking water standards, specifically from sources that were not treated to remove certain constituents, are included in this report. This information is also available in our annual Consumer Confidence Reports which can be accessed online at: <https://www.calwater.com/water-quality-reports/>.

Guidelines Followed

The Association of California Water Agencies (ACWA) formed a workgroup that prepared guidelines for water utilities to use in preparing these required reports and ACWA guidelines were followed in preparation of this report.

Best Available Treatment Technology and Cost Estimates

Both the USEPA and DDW adopt the best available technologies (BATs), which are the best-known methods of reducing contaminant levels to the MCL. Costs can be estimated for such technologies; however, since many PHGs and all MCLGs are set much lower than the MCL, it is not feasible to determine what treatment is needed to further reduce a constituent to an established goal. Many established goals are set below analytical detection limits, which means that the level has been lowered to zero. In some cases, installing treatment to further reduce very low levels of one constituent may have adverse effects on other aspects of water quality. Additionally, since there is little data readily available to estimate the cost of treatment to achieve some of the goal levels, use of this “BAT” may still not achieve the PHG or MCLG and the costs may be significantly higher to do so.

Costs estimates for treatment were taken from Tables 1 – 3 in the *Suggested Guidelines for Preparation of Required Reports on Public Health Goals to satisfy requirements of California Health and Safety Code Section 116470(b)*, prepared by Association of California Water Agencies (ACWA), April 2025.

Constituents Detected That Exceed a PHG or MCLG

The following is a discussion of constituents that were detected in one or more of our drinking water sources at levels above the PHG, or alternatively above the MCLG. As previously stated, the numerical value for PHGs and MCLGs are often set below detectable levels. Therefore, the Detection Limit for Purposes of Reporting (DLR) is provided for each constituent. DLR is the lowest quantity of a substance that can be distinguished within a stated confidence limit, generally one percent. Constituents reported in this section were detected above the method DLR and PHG, and in sources that supplied the system during 2022, 2023 and 2024.

ARSENIC (As)

The PHG for arsenic is 0.004 ppb, and the MCL is 10 ppb. The DLR is 2.0 ppb. Arsenic is detected above the DLR and PHG without treatment in 5 active wells.

The category of health risk for arsenic is carcinogenicity. The numerical cancer health risk at the PHG is 1×10^{-6} , which means one excess case of cancer per one million. The numerical health risk at the MCL is 2.5×10^{-3} which means two and a half excess cases of cancer per thousand people.

BATs for treatment/removal of arsenic are activated alumina, coagulation filtration, ion exchange, lime softening, and reverse osmosis. All these technologies generate waste that is sometimes classified as hazardous waste. The costs below do not reflect the cost of disposing of hazardous waste.

The estimated cost to install and operate a treatment system that would reliably reduce arsenic concentrations to the PHG would be approximately \$2.59/1,000 gallons treated. This would result in an assumed increased cost for each service connection of \$170.05 per year.

COLIFORM BACTERIA

In July 2021, California's Revised Total Coliform Rule (rTCR) became effective. The revisions included a new coliform treatment technique requirement that replaced the Total Coliform Rule MCL. The rTCR is a "find-and-fix" approach for public water systems to investigate and correct the detections of coliforms within the distribution system. Coliform bacteria are an indicator organism that are ubiquitous in nature and are not generally considered harmful. They are used because of the ease in monitoring and analysis.

A water system must conduct a level 1 assessment within 30 days if any of the following occur:

1. A water system collects less than 40 routine and repeat samples per month and has more than one total coliform positive in a month.
2. A water system collects 40 or more routine and repeat samples per month and has more than 5.0% total coliform-positives in a month.
3. A water system collects a sample that is total coliform positive and fails to collect all required repeat samples.

In the month of November 2024, we collected 87 samples from our distribution system for coliform analysis and had more than 5.0% of coliform-positives in a month at one of our routine distribution sites. We were required to conduct one level 1 assessment to identify and correct the problem. We conducted four corrective actions and completed these actions.

HEXAVALENT CHROMIUM (CrVI)

The PHG for hexavalent chromium (CrVI) is 0.02 ppb and the California MCL is 10 ppb. The DLR is 0.1 ppb. CrVI is detected above the DLR and PHG without treatment in 2 active wells.

The category of health risk for chromium is carcinogenicity. The numerical health risk at the PHG is 1×10^{-6} , which means one excess case of cancer per one million people. The numerical health risk at the MCL is 5×10^{-4} , which means five excess cases of cancer per ten thousand people.

The BATs for treatment and removal of chromium are coagulation/filtration, ion exchange, lime softening, and reverse osmosis. The estimated cost to install and operate a treatment system that will reliably reduce the CrVI concentration to the PHG is approximately \$2.19/1,000 gallons treated. This would result in an assumed increased cost for each service connection of \$57.52 per year.

URANIUM

The PHG for uranium is 0.43 pCi/L (picocuries per liter) and the MCL is 20 pCi/L. The DLR is 1 pCi/L. Uranium is detected without treatment in 3 active wells.

The category of health risk associated with uranium and gross alpha particle activity is carcinogenicity. The numerical health risk for uranium at the PHG is 1×10^{-6} , which means one excess case of cancer per one million people. The numerical health risk for uranium at the MCL is 5×10^{-5} , which means five excess cases of cancer per 100,000 people.

The BAT for the treatment/removal of uranium and gross alpha is reverse osmosis. The estimated cost to install and operate a reverse osmosis treatment system that would reliably reduce the uranium and

gross alpha particle activity concentration is approximately \$5.31/1,000 gallons treated. This would result in an assumed increased cost for each service connection of \$209.18 per year.

RECOMMENDATIONS FOR FURTHER ACTION

The drinking water quality of the South San Francisco water system meets all State and Federal drinking water standards set to protect public health. Cal Water will continue to assure the protection of public health by researching and examining emerging treatment technologies on an ongoing basis while taking into account health protection benefits and cost.

REFERENCES:

- No.1 Excerpt from California Health & Safety Code: Section 116470 (b)
- No.2 Table of Regulated Constituents with MCLs, PHGs, or MCLGs
- No.3 South San Francisco Water System's 2022, 2023, 2024 Consumer Confidence Report
- No.4 Health Risk Information for Public Health Goal Exceedance Reports prepared by the Office of Environmental Health Hazard Assessment, California Environmental Protection Agency, February 2025
- No. 5 Suggested Guidelines for Preparation of Required Reports on Public Health Goals to satisfy requirements of California Health and Safety Code Section 116470(b), prepared by Association of California Water Agencies (ACWA), April 2025