



Public Health Goals Report on Water Quality

June 2022

HELIX WATER DISTRICT

PUBLIC HEALTH GOALS REPORT ON WATER QUALITY

SECTION 1: BACKGROUND INFORMATION.....3

History.....3

What Are Public Health Goals?.....3

Reporting Requirements4

Water Quality Data Considered.....4

Best Available Treatment Technology and Cost Estimates4

SECTION 2: CONSTITUENTS DETECTED THAT EXCEED A PHG.....4

Radiological: Uranium.....6

SECTION 3: RECOMMENDATIONS FOR FURTHER ACTION.....5

REFERENCES7

SECTION 1: BACKGROUND INFORMATION

History

California Health and Safety Code Section 116470 (attached) specifies that larger (more than 10,000 service connections) water utilities prepare a special report by July 1, 2022, if their water quality measurements have exceeded any Public Health Goals (PHGs). PHGs are non-enforceable goals established by the California Office of Environmental Health Hazard Assessment (OEHHA). The law also requires that where OEHHA has not adopted PHGs for a constituent, the water suppliers are to use the Maximum Contaminant Level Goals (MCLGs) adopted by the U.S. Environmental Protection Agency (USEPA). Only constituents which have a California primary drinking water standard and for which either a PHG or MCLG has been set are to be addressed.

The Association of California Water Agencies (ACWA) developed guidelines for water utilities to use in preparing these newly required reports. Therefore, the April 2022 ACWA guidelines were used in the preparation of Helix Water District's report. No guidance was available from state regulatory agencies.

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 nor MCLG has yet been adopted by OEHHA or USEPA. An example of this is total trihalomethanes. These are addressed in the district's annual water quality report, also known as the Consumer Confidence Report (CCR). The law specifies what information is to be provided in this annual report.

If a constituent was detected in the district's water supply between 2019 and 2021 at a level exceeding an applicable PHG or MCLG, this report provides the information required by the law. Included is the numerical public health risk associated with the MCL and the PHG or MCLG, the category or type of risk to health that could be associated with each constituent, the best treatment technology available 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?

Public Health Goals are set by the California OEHHA, and are based solely on public health risk considerations. None of the practical risk-management factors that are considered by the USEPA or the State Water Resources Control Board Division of Drinking Water, which sets standards for MCLs in drinking water, is considered in setting the PHGs. These factors include analytical detection capability, available treatment technology, benefits and costs. PHGs are non-enforceable and are not required to be met by any public water system. MCLGs are the federal equivalent to PHGs.

Reporting Requirements

The purpose of this report is to inform consumers of the district's drinking water PHGs that were exceeded during 2019, 2020 and 2021, pursuant to California Health and Safety Code Section 116470(b). In addition, this report provides information about the cost of achieving a water quality level that does not exceed the PHGs. For general information about the quality of the water delivered by the district, please refer to the district's CCR, also known as the annual water quality report. An online version of the 2021 annual water quality report and prior reports can be found at www.hwd.com. Included in this report is information about MCLs and the PHGs, the health risk associated with each constituent, the best available treatment technology that may reduce the constituent level, and an estimate of the cost to install such treatment.

Water Quality Data Considered

All water quality data collected by the district's water system between 2019 and 2021 for purposes of determining compliance with drinking water standards was considered. This data was summarized in the district's 2019, 2020 and 2021 annual water quality reports. The report is electronically delivered or mailed to all district customers annually in June.

For each regulated contaminant, the State Water Resources Control Board Division of Drinking Water establishes detection limits for the purposes of reporting (DLRs). DLRs are the minimum levels at which any analytical result must be reported to DDW. Results indicated below the DLRs cannot be quantified with any certainty. In some cases, PHGs are set below the DLR. Any contaminant reported below the DLR will be considered zero for the purpose of this report. This approach is accepted by the State Water Resources Control Board Division of Drinking Water.

Best Available Treatment Technology and Cost Estimates

Both the USEPA and State Water Resources Control Board Division of Drinking Water adopt Best Available Technologies (BATs), which are the best methods of reducing contaminant levels to below the MCL. Costs can be estimated for such technologies; however, since many PHGs and MCLGs are set much lower than the MCL, it is not always possible or feasible to determine what treatment is needed to further reduce a constituent to or near the PHG or MCLG, many of which are set at zero. Estimating the costs to reduce a constituent to zero is difficult, if not impossible because it is not possible to verify by analytical means that the level has been lowered to zero. In some cases, installing treatment to try and further reduce very low levels of one constituent may have adverse effects on other aspects of water quality.

SECTION 2: CONSTITUENTS DETECTED THAT EXCEED A PUBLIC HEALTH GOAL

Radiological: Uranium

Uranium is a naturally occurring radioactive element that is ubiquitous in the Earth's crust. Uranium is found in ground and surface waters due to its natural occurrence in geological formations. The national average uranium concentration in drinking water is between one and four picocuries per liter.

The requirement for radiological monitoring, including uranium, is four consecutive quarters every four years. The district's radiological results are from the year 2021. The California MCL for uranium is 20 pCi/L. The district is well below this level with uranium results that averaged 1.3 pCi/L.

The PHG for uranium is 0.43 pCi/L. The numerical health risk for uranium based on the PHG is 1×10^{-6} . This means one excess cancer case per million population. The health risk category for uranium is carcinogenicity; chronic toxicity (cancer, human data; kidney toxicity). Carcinogenic risk means capable of producing cancer. *Note: Cancer Risk – Theoretical 70-year lifetime excess cancer risk at a statistical confidence limit. Actual cancer risk may be lower or zero.* Chronic toxicity risk means there may be adverse effects that usually develop gradually from low levels of chemical exposure and that persist for a long time.

The BAT cited in literature to remove uranium is reverse osmosis. Cost estimating guidelines from USEPA, American Water Works Association Research Foundation, American Water Works Association, and the American Society of Civil Engineers were used in determining the cost to implement the BAT. Assuming about 57,000 service connections, the estimated cost to install and operate such a treatment system at the R.M. Levy Water Treatment Plant would result in an increased cost for each customer of approximately \$359 - \$686 per service connection per year. These values were assessed using ACWA's February 2012 'Suggested Guidelines' for reverse osmosis treatment technology and include annualized capital and operating and maintenance costs indexed to 2021. The study referenced was Malcolm Pirnie's "RO estimate for CA Urban Water Agencies, large surface water treatment plants treating water from the SWP to meet State 2 D/DBP and bromate regulation, 1998," and does not include other potential costs and risks, including site location and conditions issues, brine disposal, increased corrosion risks, and increased water waste due to brine creation.

SECTION 3: RECOMMENDATIONS FOR FURTHER ACTION

The district's drinking water quality meets all State Water Resources Control Board Division of Drinking Water and USEPA drinking water standards set to protect public health. To further reduce the levels of the constituents identified in this report that are already significantly below the health-based MCLs established to provide "safe drinking water," additional costly treatment processes would be required. The effectiveness of

the treatment processes to provide any significant reductions in constituent levels at these already low values is uncertain. The health protection benefits of these further hypothetical reductions are not at all clear and may not be quantifiable. Therefore, no action is proposed.

REFERENCES

Health and Safety Code Section 116470

As a condition of its operating permit, every public water system shall annually prepare a consumer confidence report and mail or deliver a copy of that report to each customer, other than an occupant, as defined in Section 799.28 of the Civil Code, of a recreational vehicle park. A public water system in a recreational vehicle park with occupants as defined in Section 799.28 of the Civil Code shall prominently display a copy of the report on a bulletin board at the entrance to or in the office of the park, and make available upon request.

On or before July 1, 1998, and every three years thereafter, public water systems serving more than 10,000 service connections that detect one or more contaminants in drinking water that exceed the applicable Public Health Goal, shall prepare a brief written report in plain language that does all of the following:

1. Identifies each contaminant detected in drinking water that exceeds the applicable Public Health Goal.
2. Discloses the numerical public health risk, determined by the office, associated with the maximum contaminant level for each contaminant identified in paragraph (1) and the numerical public health risk determined by the office associated with the Public Health Goal for that contaminant.
3. Identifies the category of risk to public health, including, but not limited to, carcinogenic, mutagenic, teratogenic, and acute toxicity, associated with exposure to the contaminant in drinking water, and includes a brief plainly worded description of these terms.
4. Describes the Best Available Technology, if any is then available on a commercial basis, to remove the contaminant or reduce the concentration of the contaminant. The public water system may, solely at its own discretion, briefly describe actions that have been taken on its own, or by other entities, to prevent the introduction of the contaminant into drinking water supplies.
5. Estimates the aggregate cost and the cost per customer of utilizing the technology described in paragraph (4), if any, to reduce the concentration of that contaminant in drinking water to a level at or below the Public Health Goal.
6. Describes briefly what action, if any, the local water purveyor intends to take to reduce the concentration of the contaminant in public drinking water supplies and the basis for that decision.
7. Requires public water systems to prepare a report pursuant to subdivision (b) and shall hold a public hearing for the purpose of accepting and responding to public

comments on the report. Public water systems may hold the public hearing as part of any regularly scheduled meeting.

8. Does not require a public water system to take any action to reduce or eliminate any exceedance of a Public Health Goal.
9. Enforcement of this section does not require the department to amend a public water system's operating permit.
10. Pending adoption of a Public Health Goal by the Office of Environmental Health Hazard Assessment pursuant to subdivision (c) of Section 116365, and in lieu thereof, public water systems shall use the national Maximum Contaminant Level Goal adopted by the U.S. Environmental Protection Agency for the corresponding contaminant for purposes of complying with the notice and hearing requirements of this section.
 - 10.1. This section is intended to provide an alternative form for the federally required consumer confidence report as authorized by 42 U.S.C. Section 300g-3(c).