



FONTANA WATER COMPANY

2022 Public Health Goal Report

**in Response to
California Health and Safety Code
Sections 116365 and 116470**

JUNE 2022



2022 Public Health Goal (PHG) Report

Fontana Water Company

1.0 Introduction

California Health and Safety Code Sections 116365 and 116470 requires all public water systems in California serving more than 10,000 connections to prepare a report containing information on 1) the detection of any contaminant in drinking water at a level exceeding a Public Health Goal (PHG), 2) the estimated costs to remove detected contaminants to below the PHG using Best Available Technology (BAT), and 3) the health risk associated with each contaminant exceeding a PHG. The report must be updated and made available to the public every three years. The initial PHG report was due on July 1, 1998, and subsequent reports are due every three years thereafter.

The 2022 PHG Report has been prepared to address the requirements set forth in California Health and Safety Code Section 116470. It is based on water quality analyses performed during calendar years 2019, 2020, and 2021 or, if certain analyses were not performed during those years, the most recent data available. This 2022 PHG Report is designed to be as informative as possible, without unnecessary duplication of information contained in the Consumer Confidence Report, which is to be mailed to customers by July 1 of each year.

There are no regulations that explain the requirements or methodology for preparing PHG reports. A workgroup of the Association of California Water Agencies (ACWA) Water Quality Committee has prepared suggested guidelines for water utilities to use in preparing PHG reports. The ACWA guidelines were used in the preparation of this 2022 PHG Report and include tables of cost estimates for BAT. The State of California (State) provides ACWA with numerical public health risks (cancer risk values) and category of health risk (health effects or hazard traits) information for contaminants with PHGs. This health risk information is appended to the ACWA guidelines.

2.0 California Drinking Water Regulatory Process

California Health and Safety Code Section 116365 requires the State to develop a PHG for every contaminant with a primary drinking water standard and for any contaminant the State is proposing to regulate with a primary drinking water standard. A PHG is the level that poses no significant health risk if the contaminant is consumed for a lifetime. The process of establishing a PHG is a risk assessment based strictly on human health considerations. PHGs are recommended targets and are not required to be met by any public water system.

The California Environmental Protection Agency's Office of Environmental Health Hazard Assessment (OEHHA) is the State office responsible for developing PHGs. OEHHA submits the PHG to the State Water Resources Control Board, Division of Drinking Water (DDW) for use in revising or developing a Maximum Contaminant Level (MCL) in drinking water. The MCL is the highest level of a contaminant allowed in drinking water. State MCLs cannot be less

stringent than federal MCLs and must be as close as is technically and economically feasible to the PHGs. The DDW is required to take treatment technologies and cost of compliance into account when setting an MCL. Each MCL is reviewed at least once every five years.

Section 116470(b)(1) of the Health and Safety Code requires public water systems serving more than 10,000 connections to identify each contaminant detected in its drinking water that exceeds its applicable PHG. Section 116470(f) requires the Maximum Contaminant Level Goal (MCLG), the U.S. Environmental Protection Agency (USEPA) equivalent of PHG, to be used for comparison if there is no applicable PHG.

Two radiological contaminants (gross alpha particle and gross beta particle) have MCLs but do not yet have designated PHGs. If any of these contaminants have been detected in drinking water, the Maximum Contaminant Level Goal (MCLG), the USEPA equivalent of PHG, is used in this 2022 PHG Report.

3.0 Identification of Contaminants

Fontana Water Company (FWC) provides water service through approximately 46,970 service connections. From 2019 to 2021, FWC's water supplies included State Water Project water, local groundwater, and local surface water. A portion of these supplies was treated at FWC's Summit Treatment Plant. FWC also operates three ion exchange treatment plants for the treatment of perchlorate in the local groundwater, and one granular activated carbon (GAC) treatment plant for the treatment of volatile organic chemicals (VOCs) in the local groundwater. The following contaminants were detected at one or more locations in FWC's water system at levels that exceeded the applicable PHGs or MCLGs.

- **Perchlorate** is a result of industrial contamination in local groundwater.
- **Gross Alpha Particle Activity** (gross alpha) occurs naturally in local groundwater.

Table 1 shows the applicable PHG or MCLG, and MCL for each contaminant identified above and includes the maximum, minimum, and average concentrations of each contaminant in the water supplied by FWC during calendar years 2019 through 2021.

4.0 Numerical Public Health Risks

Section 116470(b)(2) of the Health and Safety Code requires disclosure of the numerical public health risk associated with each MCL, PHG, and MCLG determined by OEHHA. OEHHA has only quantified numerical risks associated with cancer-causing chemicals. Available numerical health risks developed by OEHHA for the contaminants identified above are shown on Table 1.

Perchlorate – OEHHA has not established a numerical health risk for perchlorate because PHGs for non-carcinogenic chemicals in drinking water are set at a concentration at which no known or anticipated adverse health risks will occur, with an adequate margin of safety.

Gross Alpha – OEHHA has not established a PHG. USEPA has established an MCLG of 0. USEPA has determined risk associated with the MCL for the most potent alpha emitter is 1 excess case of cancer in 1,000 people over a lifetime exposure.

5.0 Identification of Risk Categories

Section 116470(b)(3) of the Health and Safety Code requires identification of the category of risk to public health associated with exposure to the contaminant in drinking water, including a brief, plainly worded description of those terms. The risk categories and definitions for the contaminants identified above are shown on Table 1.

6.0 Description of Best Available Technology (BAT)

Section 116470(b)(4) of the Health and Safety Code requires a description of the BAT, if any is available on a commercial basis, to remove or reduce the concentrations of the contaminants identified above. The BATs are shown on Table 1.

7.0 Costs of Using Best Available Technologies and Intended Actions

Section 116470(b)(5) of the Health and Safety Code requires an estimate of the aggregate cost and cost per customer utilizing the BATs identified to reduce the concentration of a contaminant to a level at or below the PHG or MCLG. In many instances, a contaminant's PHG level is much lower than its Detection Limit for Purposes of Reporting (DLR). The DLR is a designated minimum level that if any analytical finding of a contaminant in drinking water is at or above shall be reported to DDW. Any analytical finding below the DLR is non-detect. In such instances, estimates will be based on removing contaminants to below their respective DLRs.

In addition, Section 116470(b)(6) requires a brief description of any actions the water purveyor intends to take to reduce the concentration of the contaminant and the basis for that decision.

Perchlorate – The BATs for removal of perchlorate in water are: ion exchange and biological fluidized bed reactor. FWC currently operates three ion exchange treatment systems to treat water with perchlorate from several wells. Perchlorate was detected below the MCL of 6 micrograms per liter ($\mu\text{g}/\text{l}$) but above the PHG of 1 $\mu\text{g}/\text{l}$ in several other FWC wells not included in the existing ion exchange treatment systems. The estimated cost to reduce perchlorate in the currently-untreated wells below the PHG using ion exchange was calculated based on cost estimates provided in the ACWA guidelines. Because the DLR for perchlorate is greater than the PHG, treating perchlorate to below the PHG level means treating perchlorate to below the DLR of 2 $\mu\text{g}/\text{l}$. There are numerous factors influencing the actual cost of reducing perchlorate levels below the DLR. Achieving the water quality goal for perchlorate using ion exchange could cost approximately \$547,000 to \$1,190,000 per year, or \$12 to \$25 per service connection per year.

Gross Alpha – The only BAT for the removal of gross alpha radioactivity in water for large water systems is reverse osmosis. Gross alpha was detected below the MCL of 15 picoCuries per liter (pCi/l) but above the MCLG of 0 pCi/l in local groundwater in several FWC wells. The

cost of providing treatment using reverse osmosis to reduce gross alpha levels in water supplied by FWC to the MCLG of 0 pCi/l was calculated, based on cost estimates provided in the ACWA guidelines. Because the DLR for gross alpha is greater than the MCLG, treating gross alpha below the MCLG means treating to below the DLR of 3 pCi/l. Achieving the water quality goal for gross alpha using reverse osmosis could range from \$3,340,000 to \$28,600,000 per year, or between \$71 and \$608 per service connection per year.

All Contaminants – A cost estimate was completed to treat all water supplied by FWC (excluding water currently treated by the existing ion exchange treatment systems) using ion exchange and reverse osmosis to remove all the contaminants detected above the PHG or MCLG. All of the contaminants listed in Table 1 can be removed to non-detectable levels by ion exchange and reverse osmosis. As shown on Table 1, achieving the water quality goals for all contaminants using ion exchange and reverse osmosis could range from \$3,890,000 to \$29,800,000 per year, or between \$83 and \$634 per service connection per year.

For additional information, please contact Mr. Eric Tarango, Water Quality Supervisor, at edtarango@fontanawater.com or call him at (909) 201-7330, you may also write to Fontana Water Company, P.O. Box 987, Fontana, CA 92334. This report is posted on Fontana Water Company's website at www.fontanawater.com.

**TABLE 1
2022 PUBLIC HEALTH GOAL REPORT
FONTANA WATER COMPANY**

PARAMETER	UNITS OF MEASUREMENT	PHG OR (MCLG)*	MCL	DLR	CONCENTRATION GROUNDWATER		CATEGORY OF RISK	CANCER RISK AT PHG OR MCLG	CANCER RISK AT MCL	BEST AVAILABLE TECHNOLOGIES	AGGREGATE COST PER YEAR	COST PER SERVICE CONNECTION PER YEAR
					AVERAGE	RANGE						
					INORGANIC CHEMICALS Perchlorate	µg/l						
RADIOLOGICAL Gross Alpha Particle Activity	pCi/l	(0)	15	3	ND	ND - 9.4	C	0	1 x 10 ⁻³	RO	\$3,340,000 - \$28,600,000 (b)	\$71 - \$608 (b)
ALL CONTAMINANTS	--	--	--	--	--	--	--	--	--	IE and RO	\$3,890,000 - \$29,800,000 (c)	\$83 - \$634 (c)

* MCLGs are shown in parentheses. MCLGs are provided only when no applicable PHG exists.

RISK CATEGORIES

C (Carcinogen) = A substance that is capable of producing cancer.

E (Endocrine Toxicity and Developmental Toxicity) = A substance that can affect the thyroid or cause neurodevelopmental deficits.

TREATMENT TECHNOLOGIES

BFBR = Biological fluidized Bed Reactor

IE = Ion Exchange

RO = Reverse Osmosis

NOTES

PHG = Public Health Goal

MCL = Maximum Contaminant Level

MCLG = Maximum Contaminant Level Goal

NA = Not Applicable or Available

ND = Not Detected

ug/l = micrograms per liter or parts per billion

pCi/l = picoCuries per liter

DLR = Detection Limit for Purposes of Reporting

(a) Estimated cost to remove perchlorate using IE.

(b) Estimated cost to remove gross alpha particle activity using RO.

(c) Assuming treating the entire production by IE and RO, which can remove all contaminants listed in the above table to below the detectable levels.