



City of Santa Barbara

Public Works Department

Memorandum

DATE: May 16, 2019

TO: Water Commission

FROM: Catherine Taylor, PE, Water System Manager

SUBJECT: 2019 Public Health Goals Report

RECOMMENDATION:

That Water Commission receive a presentation on the 2019 Public Health Goals Report.

DISCUSSION:

Under the Calderon-Sher Safe Drinking Water Act of 1996, public water systems with more than 10,000 service connections are required to prepare a Public Health Goals Report every three years, listing contaminants that exceed their respective public health goals (PHGs) per Health and Safety Code Section 116470[b]. Please find the attached report, which is to be presented to the appropriate City Board and then submitted to the State Water Resources Control Board (SWRCB).

A PHG is the concentration of a contaminant in drinking water that poses no significant health risk if consumed for a lifetime. PHGs are goals, not regulations. PHGs are developed and published by the Office of Environmental Health Hazard Assessment (OEHHA) using current risk assessment principles, practices, and methods.

The Public Health Goals report is required to present the numerical health risk for a contaminant, along with the category of health risk (e.g., carcinogenicity or neurotoxicity), and a description of these terms. The cancer health risk, if any, is to be calculated at the PHG and at the California maximum contaminant level (MCL).

All constituents in the City's drinking water were measured at levels below the MCL, which are standards set by the U.S. Environmental Protection Agency (EPA) for drinking water quality. An MCL is the legal amount of a substance that is allowed in public water systems under the Safe Drinking Water Act. The amount is usually expressed as a concentration in milligrams or micrograms per liter of water.

The 2019 Public Health Goals Report pertains to the City's drinking water for the years 2016, 2017, and 2018. Constituents in the City's drinking water exceeding the PHGs set by OEHHA were arsenic, total coliform bacteria, lead, gross alpha particle activity, and uranium. Considering the best available technology, it would be cost prohibitive to reduce these constituents to below the PHG, representing an estimated annual cost per household ranging from \$268 to \$2,454. Moreover, the cancer risk associated with not

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meeting the PHG is very low, at 1 per 1,000,000 cancer occurrences for arsenic and uranium, and 3 per 100,000,000 cancer occurrences for lead. There is no stated cancer risk for total coliform bacteria or gross alpha particle activity at the PHG level.

In conclusion, while the City's drinking water does not meet all the PHGs set by OEHHA, the City's drinking water meets or exceeds all SWRCB and EPA drinking water standards and regulations.

**2019 PUBLIC HEALTH GOALS REPORT
CITY OF SANTA BARBARA**

CONSTITUENT	UNITS OF MEASUREMENT	MCL or AL	PHG or (MCLG) ^(c)	CONCENTRATION		HEALTH RISK CATEGORY ^(d)	CANCER RISK at PHG or MCLG ^(e)	CANCER RISK at MCL	BEST AVAILABLE TECHNOLOGY	AGGREGATE COST PER YEAR	COST PER HOUSEHOLD PER YEAR
				Average	Range						
MICROBIOLOGICAL Total Coliform Bacteria ^(a)	% Monthly Samples Test Positive	5	(0)	Highest % of positives: 0.06%	--	BI	NA	NA	D	[b]	[b]
LEAD AND COPPER RULE Lead ^(b)	µg/L	AL, 15	0.2	90th % value: 3.2	--	C, N, CT	3X10 ⁻⁸	2X10 ⁻⁶	CC	[b]	[b]
INORGANIC CHEMICALS - SURFACE WATER Arsenic	µg/L	10	0.004	2.3	ND - 4.5	C	1 x 10 ⁻⁶	2.5 x 10 ⁻³	AA,C/F,IE,LS,RO	\$6,670,000 - \$8,165,000	\$268 - \$314
INORGANIC CHEMICALS - GROUNDWATER Arsenic	µg/L	10	0.004	0.9	ND - 1.3	C	1 x 10 ⁻⁶	2.5 x 10 ⁻³	AA,C/F,IE,LS,RO	\$6,670,000 - \$8,165,000	\$268 - \$314
RADIOLOGICAL - GROUNDWATER Gross Alpha Particle Activity	pCi/L	15	(0)	2.2	ND - 4.8	C	0	1 x 10 ⁻³	RO	\$40,710,000 - \$63,825,000	\$1,565 - \$2,454
Uranium	pCi/L	20	0.43	3.2	ND - 7.7	C	1 x 10 ⁻⁶	5 x 10 ⁻⁵	RO	\$40,710,000 - \$63,825,000	\$1,565 - \$2,454

^(a) The table shows the highest monthly percentage of positive samples as the detected value. Samples were collected in the distribution system.

^(b) The table shows the 90th percentile value of samples collected from household taps.

^(c) MCLGs, which are shown in parentheses, are provided only when no applicable PHG exists.

^(d) Health risk categories are hazard traits defined by OEHHA for California's Toxics Information Clearinghouse (online at: http://oehha.ca.gov/multimedia/green/pdf/GC_Regtext011912.pdf). For parameters with MCLGs, the health risk categories are based on the U.S. EPA MCLG document or California MCL document.

^(e) Cancer Risk = Upper estimate of excess cancer risk from lifetime exposure. Actual cancer risk may be lower or zero. 1x10⁻⁶ means one excess cancer case per million people exposed.

Legend

MCL = Maximum Contaminant Level

AL = Action Level

PHG = Public Health Goal

MCLG = Maximum Contaminant Level Goal

NA = Not Applicable or Not Available

ND = Not Detected

mg/L = milligrams per liter or part per million

µg/L = micrograms per liter or parts per billion

pCi/L = picoCuries per liter

HEALTH RISK CATEGORIES

BI (Bacterial Indicator) = A group of bacteria that indicates the possible presence of disease-causing organisms.

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

N (Neurotoxicity) = A substance that harms the nervous system.

CT (Cardiovascular Toxicity) = A substance that is capable of causing high blood pressure.

I (Immunotoxicity) = A substance that harms the immune system.

TREATMENT/CONTROL TECHNOLOGIES

AA = Activated Aluminum

C/F = Coagulation/Filtration

CC = Corrosion Control Optimization

D = Disinfection

GAC = Granular Activated Carbon

IE = Ion Exchange

LS = Lime Softening

P/F = Precipitation/Filtration

PTA = Pack Tower Aeration

RO = Reverse Osmosis

Notes

[a] The table shows highest monthly percentage of positive samples as the detected value samples were collected in the distribution system

[b] Cost could not be estimated.

[c] Estimated cost to remove Arsenic using ion exchange.

[d] Estimated cost to remove gross alpha particle activity using reverse osmosis, which also removes combined radium and uranium.

[e] Assumes treating all water production by RO, which can remove all contaminants listed in the above table, except total coliform, which can be introduced and detected anywhere in the distribution system.