



Long Beach Water
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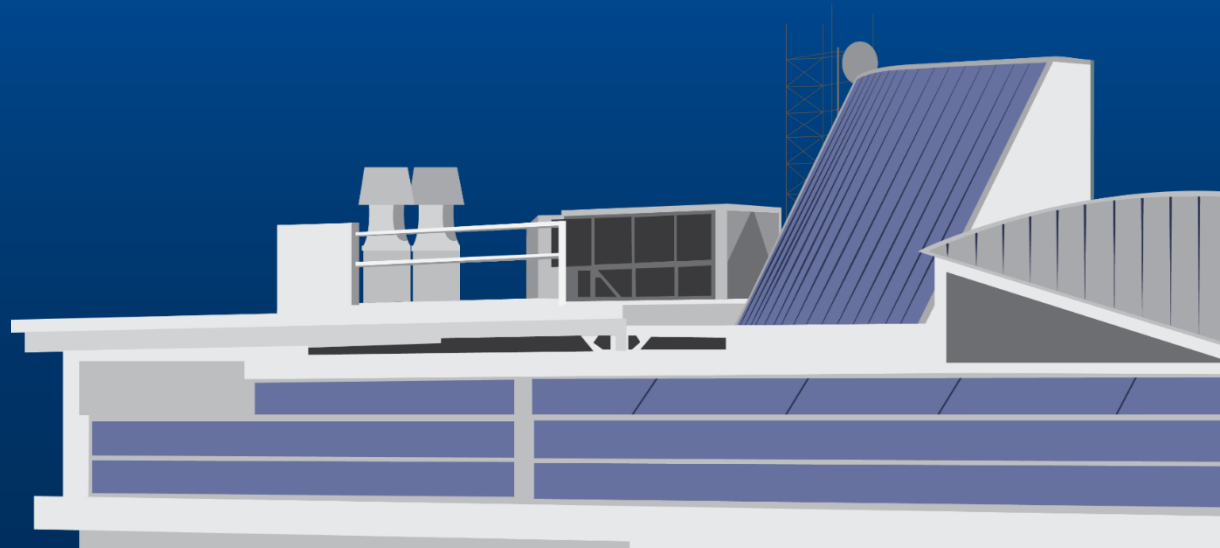
BOARD OF WATER COMMISSIONERS
August 8, 2019

PUBLIC HEARING

2019 REPORT PUBLIC HEALTH GOALS

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Presentation Outline

- 💧 Background
- 💧 Report Requirements
- 💧 Water Quality Data
- 💧 Best Available Technology
- 💧 Recommendations

Background

- 💧 California Health and Safety Code (Section 116470 (b)) (SB 1307, Calderon-Sher) dictates reporting Public Health Goals (PHGs)
- 💧 Utilities with $> 10,000$ service connections; exceeding any PHGs or Maximum Contaminant Level Goals (MCLGs)
- 💧 Provide consumers access to information of constituents with levels below the enforceable MCLs
- 💧 Only constituents with a California primary drinking water standard (MCL), and for which PHGs or MCLGs have been set, are addressed in this report

Background

- 💧 PHGs/MCLGs – Non-enforceable goals, NOT required to be met by public water systems
- 💧 PHGs – established by Cal-EPA/OEHHA based on health risk considerations (not considered: MDLs, ATT, benefits & costs)
- 💧 MCLGs – Federal equivalent to PHGs, but not identical
- 💧 First reported PHGs: July 1, 1998 and every three years
- 💧 Last reported PHGs: January 5, 2017



Report Requirements*

- 💧 Constituents with MCL, PHG, and/or MCLG
- 💧 Numerical public health risk associated with these numbers
- 💧 Category of risk to public health associated with each constituent
- 💧 Best available technology (BAT) to possibly reduce constituent level
- 💧 Cost estimate to install BAT (if appropriate and feasible)

*ACWA2/2019



Water Quality Data

Detected Constituents: 2016 – 2018

Constituent	Max Detected	MCL/(AL)	PHG/(MCLG)	DLR	Water Source
Coliform (%)	0.7	5	0	NA	Blended
Arsenic (µg/L)	2.4	10	0.004 / (0)	2	MWD
Bromate (µg/L)	5.9	10	0.1 / (0)	1	MWD
Gross Alpha (pCi/L)	5.6	15	(0)	3	MWD
Gross Beta (pCi/L)	5.9	4mrem/yr*	(0)	4	MWD
Uranium (pCi/L)	2.6	20	0.43 / (0)	1	MWD
Lead (µg/L) 90 th percentile	<5	(15)	0.2 / (0)	5	Blended

*Equivalent to 50 pCi/L, California's MCL



Water Quality Data

Detected Constituents: 2016 – 2018

COLIFORM

Organism used to indicate potential presence of pathogens in water

💧 Standards

- ❄ MCL – not to exceed 5% positive in any month
- ❄ PHG – none
- ❄ MCLG – zero

💧 Sample Results

- ❄ Collected: 250 samples monthly average
- ❄ Highest amount detected: 0.7%

Water Quality Data

Detected Constituents: 2016 – 2018

ARSENIC

A naturally occurring element found in the earth's crust

💧 Standards

- * MCL – 10 parts per billion (ppb)
- * PHG – 0.004 ppb
- * MCLG – zero

💧 Sample Results

- * Collected: 288 samples
- * Highest amount detected: 2.4 ppb (supplied by MWD)



Water Quality Data

Detected Constituents: 2016 – 2018

BROMATE (BrO₃)

A disinfection by-product of ozonation (MWD purchased water)

💧 Standards

- ❄ MCL – 10 parts per billion (ppb)
- ❄ PHG – 0.01 ppb
- ❄ MCLG – none

💧 Sample Results

- ❄ Collected: 288 samples
- ❄ Highest amount detected: 5.9 ppb

Water Quality Data

Detected Constituents: 2016 – 2018

GROSS ALPHA PARTICLE ACTIVITY

Natural radioactive mineral (MWD purchased water)

Standards

- * MCL – 15 pico curies per liter (pCi/L)
- * PHG – none
- * MCLG – zero

Sample Results

- * Collected: 18 samples
- * Highest amount detected: 5.6 pCi/L



Water Quality Data

Detected Constituents: 2016 – 2018

GROSS BETA PARTICLE ACTIVITY

Natural radioactive mineral (MWD purchased water)

Standards

- * MCL – 4 millirems/yr (equiv: 50 pico curies per liter, CA MCL)
- * PHG – none
- * MCLG – zero

Sample Results

- * Collected: 18 samples
- * Highest amount detected: 5.9 pCi/L



Water Quality Data

Detected Constituents: 2016 – 2018

URANIUM

Natural radioactive mineral (MWD purchased water)

💧 Standards

- * MCL – 20 pico curies per liter (pCi/L)
- * PHG – 0.43 pCi/L
- * MCLG – zero

💧 Sample Results

- * Collected: 18 samples
- * Highest amount detected: 2.6 pCi/L



Water Quality Data

Detected Constituents: 2016 – 2018

LEAD

Primarily from materials and components associated with service lines and home plumbing

💧 Standards

- * AL – 15 parts per billion (ppb), 90th percentile
- * PHG – 0.2 ppb
- * MCLG – zero

💧 Sample Results

- * Collected: 149 samples
- * 90th percentile detected: 2.5 ppb; <RDL



Best Available Technology

Detected Constituents: 2016 – 2018

Constituent	Max Detected	MCL/(AL)	PHG/(MCLG)	BATs
Coliform (%)	0.7	5	0	NA
Arsenic (µg/L)	2.4	10	0.004 (0)	IX, Blending, RO, CF, GFO
Bromate (µg/L)	5.9	10	0.1 (0)	RCF
Gross Alpha (pCi/L)	5.6	15	(0)	RO
Gross Beta (pCi/L)	5.9	4mrem/yr*	(0)	RO
Uranium (pCi/L)	2.6	20	0.43 (0)	RO
Lead (µg/L) 90 th percentile	<5	(15)	0.2 (0)	NA

*Equivalent to 50 pCi/L, California's MCL

RCF – Reduction Coagulation Filtration, RO – Reverse Osmosis, GFO – Granulated Ferric Oxide, GAC – Granular Activated Carbon, UV – Ultra Violet, NA – Not Applicable



Best Available Technology

Reverse Osmosis Technology

- 💧 Addresses treatment of detected constituents
- 💧 Significant waste streams generated
- 💧 Significant water losses, up to 70% expected
- 💧 Impractical option for LBWD to treat purchased water
- 💧 Estimated costs
 - * \$1.82-\$6.8/1,000 gallons treated* or \$5-\$9 million annually
 - * Additional \$51-\$98 per service connection/life of system

Recommendations

- 💧 LBWD's drinking water quality meets or betters all California and USEPA drinking water standards set for the protection of public health
- 💧 Installing treatment to attempt reduction of very low levels of constituents may have adverse effects on other aspects of water quality
- 💧 The health protection benefits of these further hypothetical reductions are not clear and may not be quantifiable
- 💧 No further action is proposed at this time

