AGENDA REPORT

Meeting Date:	October 3, 2013
Item Number:	D-1
To:	Honorable Mayor & City Council
From:	Trish Rhay, Utilities Manager
Subject:	PUBLIC HEALTH GOALS REPORT
Attachments:	1. City of Beverly Hills Water Utility Public Health Goals (PHG) Report

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INTRODUCTION

Pursuant to Section 116470(c) of the California Health and Safety Code, a public hearing is required concerning the City of Beverly Hills' 2013 Public Health Goal Report. The purpose of the hearing is to accept and respond to public comment on the City of Beverly Hills' 2013 Public Health Goal Report. All interested parties will have an opportunity to give written and oral comments. This public hearing is scheduled for the October 3, 2013, formal Council meeting. Public hearing notifications were published in the Beverly Hills Weekly, on September 26th and Beverly Hills Courier on September 27th.

DISCUSSION

Public water systems directly serving more than 10,000 service connections must prepare a brief, written report that provides information on the "detection" of any contaminants above the PHGs published by the State Office of Environmental Health Hazard Assessment (OEHHA). The report must also list the "detection" of any contaminant above the Maximum Contaminant Level Goals (MCLGs) set by the U.S. Environmental Protection Agency for all other contaminants for which OEHHA has yet to establish a PHG.

The Public Health Goals Report was reviewed and discussed by the Public Works commission at their September 12, 2013, meeting.

FISCAL IMPACT

No Fiscal impact as a result of this report.

George Chavez

Approved By

ATTACHMENT 1

City of Beverly Hills Water Utility Public Health Goal (PHG) Report

CITY OF BEVERLY HILLS WATER UTILITY
PUBLIC HEALTH GOAL REPORT

Background:

California Health and Safety Code Section 116470 (b) requires water utilities that serve more than 10,000 service connections to prepare a Public Health Goal (PHG) report every three years in addition to the annual Consumer Confidence Report (CCR). PHG reports should be completed by July 1, with a public hearing conducted some time afterwards.

What Are Public Health Goals (PHG's)?

California Office of Environmental Health Hazard Assessment (OEHHA) sets PHGs. PHGs are non-enforceable goals established by the Cal-EPA's Office of Environmental Health Hazard Assessment (OEHHA) and are not required to be met by any public water system. These goals are usually close to the Maximum Contaminant Levels (MCLs) and sometimes lower in levels than the Detection Limit for Reporting (DLR).

The code also requires that where OEHHA has not adopted a PHG for a constituent, the water supplier is to use the Maximum Contaminant Limit Goals (MCLGs) adopted by 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.

PHGs are set without taking into consideration practical risk-management factors used by the California Department of Public Health (CPDH) and USEPA such as analytical detection capability, treatment technology available, benefits and costs.

Water Quality Data Considered:

This report summarizes those tests results taken by the City of Beverly Hills between 2010 and 2012 This report also contains the following

- summarizes the constituents detected above the PHG or MCLG and its respective DLR and MCL
- numerical public health risks associated with the MCL, PHG and MCLG,
- the category or type of risks to health that could be associated with each constituent, the Best Available Treatment (BAT) technology that could be used to reduce the constituent level and
- an estimate of the cost to install that treatment if it's appropriate and feasible.

This data was all summarized in our 2010, 2011 and 2012 annual Consumer Confidence Reports, which were mailed to all of our customers by or before July 1 of each year.

Identification of Contaminants and Health Risks

The City of Beverly Hills has approximately 11,060 service connections, which serve the cities of Beverly Hills and a portion of West Hollywood. The following constituents were detected at or above the PHG or MCLG at our MWD sources or the City's reverse osmosis water treatment plant.

Section Safety Code Section 116470(b) (2) requires public water systems to disclose numerical public health risks for constituents that have an associated MCL5, Action Limits (AL), PHG5 and MCLG5. These numerical limits were developed by OEHHA for the constituents listed below. Only numerical risks associated with cancer- causing have been qualified by OEHHA. For those constituents that OEHHA has not established a PHG, the federal MCLG will be used for the purpose of complying with this report. MCLGs are the federal equivalent to PHGs.

1. **Total Coliform Bacteria** - Naturally occurring in the environment.
    - USEPA has determined that the health risk associated with the MCLG is zero

2. **Bromate** - By-product of ozonation disinfectant.
    - OEHHA has determined the health risk associated with the PHG is one excess case of cancer in a million people. The risk associated with the MCL is 1 excess case per ten thousand people over a long period of time.

3. **Gross Alpha** - Erosion of natural deposits. Naturally occurring in groundwater and it occurs in virtually all rocks, soils, water, plants and animals.
    - OEHHA has no PHG for gross alpha. The health risk associated with the MCL is one excess case of cancer in one thousand people drinking two liters of water every day for 70 years.

4. **Gross Beta** - Erosion of natural and man-made deposits. Naturally occurring in groundwater and it occurs in virtually all rocks, soil, water, plants and animals.
    - OEHHA has no PHG for gross beta. The health risk associated with the MCL is two excess case of cancer in one thousand people drinking two liters of water every day for 70 years.

5. **Uranium** - Erosion of natural deposits. Naturally occurring in groundwater.
    - OEHHA has determined the health risk associated with the PHG is one excess case of cancer in a million people. The risk associated with the

MCL is one excess case of cancer in a million people; the risk associated with the MCL is 5 per hundred thousand people over a long period of time.

6. **Arsenic** - Naturally occurring in the environment.
   - OEHHA has determined the health risk associated with the PHG is one excess case of cancer in a million people. The risk associated with the MCL is 2.5 per thousand people over a long period of time.

City of Beverly Hills Results

Table 1 summarizes the constituents detected above the PHG or MCLG and its respective DLR and MCL.

Table 1: City of Beverly Hills Water Utility PHG Table

Constituent	DLR	MCL	PHG or (MCLG)	Range
Total Coliform		5%*	0	ND – 6.8%**
Bromate	5 ppb	10 ppb***	0.1 ppb	ND – 8.8 ppb
Gross Alpha	3 pCi/L	15 pCi/L	0	ND - 6.7 pCi/L
Gross Beta	4 pCi/L	50 pCi/L	0	ND - 6 pCi/L
Uranium	1 pCi/L	20 pCi/L	0.43 pCi/L	2.4 - 3.4 pCi/L
Arsenic	2 ppb	10 ppb	0.004 ppb	ND – 9.05 ppb

ppb: parts per billion or micrograms per liter.
pCi/L: picoCuries per liter
* Total coliform MCLs: No more than 5% of the monthly samples may be total coliform-positive.
** In 2012, there were 6 total coliform-positive samples in December 2012. As a result, 6.8% of the monthly sample was total coliform-positive. The MCL was violated.
***Bromate MCL: The MCL is based on the highest running annual average (RAA) and not on a single sample result. The highest RAA was 5.9 ppb which occurred in 2011.

Best Available Treatment (BAT) Technology and Cost Estimates:

Both the USEPA and CDPH adopted what are known as Best Available Treatment (BATs) technologies, which are the best known methods of reducing contaminant levels below the MCL. Costs can be estimated for such technologies and varies per each water utility. However, many PHGs and all MCLGs are set much lower than the MCL or Detection for Limit Reporting (DLR). This means it would be difficult to determine the

treatment's effectiveness if the lowest acceptable analytical detection limit is greater than the PHG or MCLG. It is also 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. Cost estimates to reduce a constituent to zero is difficult, if not impossible, because it is difficult to verify analytical results 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. Below is a description of any actions the City of Beverly Hills may intend to use in reducing the level or occurrences exceeding the PHG or MCL limits and the basis for that decision.

• Total Coliform Bacteria —

The City of Beverly Hills current utilizes best practices to minimize the chances of bacterial contamination by maintaining an adequate disinfectant level in the water system. The water we serve you already contains an adequate disinfectant residual; and it is maintained by having fresh water in our system. In addition, the water utility collects between 56 to 70 bacteria samples per month to assure the highest quality and safety of your water. We also collect weekly samples at the water treatment plant and monthly samples at our groundwater wells. By monitoring these locations, we demonstrate our commitment to providing you the safest water and also allow us to perform immediate mitigation activities if coliform is present in the water system.

As a result of the limit exceedance experienced in December 2012, Beverly Hills worked closely with CDPH to implemented several additional safety measures to better monitor and response to system fluctuations.

• Bromate —

One of the most effective Best Available Treatment (BAT) technologies for bromate reduction is reverse osmosis (RO). RO treatment reduces the natural occurring bromide in source water by reducing the natural organic matter (NOM) in water. When this is reduced, the demand for ozone decreases, therefore reducing bromate formation. Because the DLR for bromate (5 ppb) is greater than the PHG (0.lppb), it would be difficult to assess the effectiveness of RO treatment on reaching the PHG level.

Bromate in our water system comes from the treated MWD water. It would not be feasible for the City of Beverly Hills to lower bromate levels to the PHG and MCLG levels because it meets federal and state health-based standards. According to the Association of California Water Agencies (ACWA) Cost Estimates for Treatment Technology BAT, it would cost approximately $1.37-$2.62 per 1000 gallons to treat bromate using RO treatment. If MWD chooses to use RO as BAT, it would cost them between $374M to $716M per year in annualized capital and O&M costs to try to meet PHG levels.

• **Gross Beta, Gross Alpha and Uranium** Reverse osmosis treatment is one of the most effective BATs to reduce these radiological chemicals below their respective PHGs or MCLGs. There is no PHG for gross alpha or gross beta, the MCL are 15 pCi/L and 50 pCi/L and the Federal MCLG for both is zero. PHG uranium is 0.43 pCi/L, with the MCL at 20 pCi/L. It would be difficult to measure RO's effectiveness since the DLR of 1 pCi/L is greater than their PHG level.

Radiological chemicals in our water system come from the treated MWD water. It would not be feasible for the City of Beverly Hills to lower radiological levels to the PHG and MCLG levels because it meets federal and state health-based standards. According to the Association of California Water Agencies (ACWA) Cost Estimates for Treatment Technology BAT, it would cost approximately $1.37-$2.62 per 1000 gallons to treat using RO treatment. If MWD chooses to use RO as BAT, it would cost them between $374M to $716M per year in annualized capital and O&M costs to try to meet PHG levels.

• **Arsenic** –Reverse osmosis is one of the most effective BATs that are used to reduce levels below the MCL. It would be difficult to measure RO's effectiveness in meeting PHG levels because the DLR (2ppb) for arsenic is greater than the PHG limit (0.OO4ppb).

Beginning in 2011 the city began a blending program of the wells as a means to further reduce the arsenic level coming into the city's reverse osmosis water treatment plant prior to treatment.

Conclusion

The City of Beverly Hills currently uses several best available practices and resources to maintain high water quality in our drinking water system. Measuring and tracking our performance to the PHGs of all regulated constituents is valuable information for all. It is through understanding and tracking performance that we can adequately plan for current and potential future regulations.

For Additional Information:

Please contact Mr. David Hillyer, Water Quality Specialist at (310) 285-2498 or write to City of Beverly Hills Public Works and Transportation Department, 345 Foothill Road., Beverly Hills, CA 90210.