



**CITY OF HUNTINGTON BEACH
PUBLIC WORKS COMMISSION
REQUEST FOR ACTION**

Item No. PWC 10-25

SUBMITTED TO: Chairman Siersema and Members of the Commission
SUBMITTED BY: Travis K. Hopkins, PE, Director of Public Works 
DATE: August 18, 2010
SUBJECT: Public Hearing to Consider Acceptance of Public Works
Utilities Division Public Health Goals Report

Statement of Issue: SB 1307 (Calderone-Sher; effective 01-01-97) added new provisions to the California Health and Safety Code mandating that a report on Public Health Goals for the cities with more than 10,000 water service connections be prepared by July 1, 1998 and every three years thereafter if any water quality measurements have exceeded Public Health Goals. The report must be presented to the governing body and then be the subject of a public hearing to consider acceptance and hear public comment. The report was presented to the City Council via the attached memo.

Funding Source: Not applicable.

Recommended Action: Motion to:
Accept the Public Works Water Division Public Health Goals Report.

Alternative Action: Do not accept the report and instruct staff on how to proceed.

Analysis: SB 1307 (Calderone-Sher; effective 01-01-97) added new provisions to the California Health and Safety Code mandating that a report on Public Health Goals for the cities with more than 10,000 water service connections be prepared by July 1, 1998 and every three years thereafter if any water quality measurements have exceeded Public Health Goals. The report must be presented to the governing body and then be the subject of a public hearing to consider acceptance and hear public comment. The report was presented to the City Council via the attached memo.

Public Health Goals are **non-enforceable goals** established by the California EPA Office of Environmental Health Hazard Assessment (OEHHA). If OEHHA does not

establish a goal the Federal Maximum Contaminant Level Goal (MCLG) is used. These are not to be confused with Maximum Contaminant Levels (MCLs), which consider practical risk-management factors and are enforceable by law.

Information required in the report includes: (1) the health risk associated with the goal or standard, (2) the category or type of risk to health that could be associated with each constituent, (3) the best treatment technology available that could be used to reduce the constituent level, and (4) an estimate of the cost to install that treatment if it is appropriate and feasible. The following table provides a summary of results for the last 3-year period.

Constituent	PHG/MCLG	Actual	MCL/Action Level
Arsenic	0.004 ppb	ND to 7.2	10 ppb
Nickel	0.012 mg/l	ND to 0.015 mg/L	0.1 mg/L
Copper	0.3 mg/l	0.35 mg/l	1.3 mg/l
Uranium	0.43 pCi/l	1.54 to 9.18 pCi/l	20 pCi/l
Gross Alpha	0 pCi/l	ND to 10.70 pCi/l	15 pCi/l *

* Excluding Uranium and Radon content.

All City wells already meet all State and Federal drinking water standards set to protect public health. Treatment processes to reduce the levels of constituents shown above, which are well below the MCL, to the levels set forth in the public health goals, would cost millions of dollars annually. In addition, it is not certain these processes would be effective in reducing the already low levels to the PHG. Therefore, no action is proposed at this time.

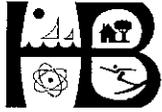
Attachments:

1. June 10, 2010 Memo to Mayor and City Council
2. 2010 Public Health Goals Report

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ATTACHMENT #1



CITY OF HUNTINGTON BEACH

INTER-DEPARTMENT COMMUNICATION

To: Honorable Mayor and City Council Members
Via: Fred Wilson, City Administrator
From: Travis K. Hopkins, Director of Public Works
Subject: Required Report on Public Health Goals
Date: June 10, 2010

SB 1307 (Calderone-Sher; effective 01-01-97) added new provisions to the California Health and Safety Code mandating that a report on Public Health Goals (PHGs) be prepared by July 1, 1998, and every three years thereafter. The attached report is intended to provide information to the public in addition to the annual Consumer Confidence Report mailed to each customer.

SUMMARY

The law requires that the governing body receive this report before July 1, 2010; as such, this memo serves that purpose. Once presented to the governing body, a public hearing must be held for the purpose of accepting and responding to public comment on the report. The City Attorney has opined that this matter may be delegated to the Public Works Commission. This was the procedure followed both in 2004 and 2007; therefore, a public hearing will be scheduled as part of the regular Public Works Commission meeting scheduled for August 18, 2010 and will be noticed as required for public hearings.

Attached for your information is the final report prepared by staff comparing our Utilities Division's drinking water quality with PHGs adopted by California EPA's Office of Environmental Health Hazard Assessment (OEHHA) and with maximum contaminant level goals (MCLGs) adopted by the USEPA. It is emphasized that these goals are targets for ultimate achievement rather than enforceable standards.

Attachments

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ATTACHMENT #2

CITY OF HUNTINGTON BEACH UTILITIES DIVISION 2010 REPORT ON THE CITY'S WATER QUALITY RELATIVE TO PUBLIC HEALTH GOALS

Background:

Provisions of the California Health and Safety Code Section 116470 (b) specify that public water systems serving more than 10,000 service connections must prepare a special report by July 1, 2010 if their water quality measurements have exceeded any Public Health Goals (PHGs). PHGs are non-enforceable goals established by the Cal-EPA's Office of Environmental Health Hazard Assessment (OEHHA). The law also requires that where OEHHA has not adopted a PHG for a constituent, the water suppliers are to use the Maximum Contaminant Level 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.

If a constituent was detected in the City's water supply between 2007 and 2009 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 PHGs?

PHGs are set by the California Office of Environmental Health Hazard Assessment (OEHHA), which is part of Cal-EPA, and are based solely on public health risk considerations. None of the practical risk-management factors that are considered by the USEPA or the California Department of Public Health (CDPH) in setting drinking water standards (MCLs) are considered in setting the PHGs. These factors include analytical detection capability, treatment technology available, benefits and costs. The PHGs are not enforceable and are not required to be met by any public water system. MCLGs are the federal equivalent to PHGs.

Water Quality Data Considered:

All of the water quality data collected by our water system between 2007 and 2009 for purposes of determining compliance with drinking water standards was considered. This data was all summarized in our 2007, 2008, and 2009 Annual Consumer Confidence Reports, which are mailed to all of our customers annually by July 1.

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Guidelines Followed:

The Association of California Water Agencies (ACWA) formed a workgroup that prepared guidelines for water utilities to use in preparing these newly required reports. The ACWA guidelines were used in the preparation for our report. No guidance was available from state regulatory agencies.

Best Available Treatment Technology and Cost Estimates:

Both the USEPA and CDPH adopt what are known as BATs or Best Available Technologies, which are the best-known methods of reducing contaminant levels to the MCL. Costs can be estimated for such technologies. However, since many PHGs and all MCLGs are set much lower than the MCL, it is not always possible nor feasible to determine what treatment is needed to further reduce a constituent downward 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.

Constituents Detected That Exceed a PHG or a MCLG:

The following is a discussion of constituents that were detected in one or more of our drinking water sources at levels above the PHG, or if no PHG, above the MCLG.

Arsenic:

Arsenic is an element that occurs in the earth's crust. Accordingly, there are natural sources of exposure. Exposure to arsenic at high levels can pose serious health effects, as it is known to cause skin cancer and other cancers of the internal organs. In addition, it has been reported to affect the vascular system and has been associated with the development of diabetes.

The PHG set by OEHHA for Arsenic is 0.004 parts per billion (ppb). The U.S. Environmental Protection Agency (USEPA) established a maximum contaminant level (MCL) for arsenic of 50 parts per billion in 1975. In January 2002, USEPA adopted a new standard for arsenic in drinking water that requires water suppliers to reduce arsenic to 10 parts per billion by January 2006. We have detected Arsenic in some of our wells at levels up to 7.2 ppb. The levels detected were below the MCL at all times.

The Best Available Technologies treatment for Arsenic to lower the level below the MCL is reverse osmosis. Since the level of Arsenic in each of the City wells is already below the MCL, the reverse osmosis treatment method would likely be used to attempt to lower the Arsenic level below the 0.004 ppb PHG. The U.S. EPA has estimated that a centralized treatment plant of this type would cost approximately \$28.4 Million per year, including initial construction costs and additional operations and maintenance costs. This would result in an assumed increased cost for each water customer of about \$580 per customer annually.

Copper:

Copper generally does not occur in significant amounts in source waters, but rather occurs as the result of corrosion copper plumbing materials in contact with the water. Since most copper bearing materials are located in household plumbing, State and Federal Regulations require public water systems to periodically collect a representative number of water samples at taps inside homes of residential customers.

There is currently no MCL for Copper. Instead, the CDPH has set a health-based advisory level called an Action Level. The 90th percentile value of all samples from household taps in the distribution system cannot exceed an Action Level of 1.3 mg/L for copper. If 10 percent of the tap water samples collected are over the Action Level, then treatment may be required to inhibit corrosion, or to adjust the mineral content of the water.

The PHG for copper is 0.3 mg/L. The category of health risk for copper is gastrointestinal irritation. Numerical health risk data on lead and copper have not yet been provided by OEHHA, the State agency responsible for providing that information.

All of our source water samples taken from wells in 2007, 2008 and 2009 were less than the PHG for copper. Based on extensive sampling of our distribution system via household testing in 2009, our 90th percentile value for copper was 0.35 mg/L, which is well below the Action Level.

Our water system is in compliance with the Federal and State Lead and Copper Rule. Based on our extensive sampling, it was determined according to State regulatory requirements that we meet the Action Level for Copper. We will be conducting additional monitoring in the summer of 2012 to further demonstrate that our water system is "optimized corrosion control", as CDPH has continuously deemed our system in the past.

In general, optimizing corrosion control is considered to be the best available technology to deal with corrosion issues and with any lead or copper findings. We continue to monitor our water quality parameters that relate to corrosivity, such as the pH, hardness, alkalinity, total dissolved solids, and will take action if necessary to maintain our system in an "optimized corrosion control" condition.

When a water system is meeting the "optimized corrosion control" requirements, it is not prudent to initiate additional corrosion control treatment as it involves the addition of other chemicals and there could be additional water quality issues raised. Therefore, no estimate of cost has been included in this report.

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Nickel:

Nickel is an element that can occur from the erosion of natural deposits. Some people who drink water containing nickel in excess of the MCL over many years may experience liver and heart effects.

The PHG set by OEHHA for Nickel is 0.012 mg/L, and the CDPH has set the MCL for Nickel at 0.10 mg/L. We have detected Nickel at only one of our wells in only one sample at 0.015 mg/L. This level is well below the MCL and only slightly above the very conservative PHG of 0.012 mg/L.

All of our source water samples taken from wells in 2007, 2008, and 2009 did not detect any Nickel except for only 1 of the samples collected at one well. Since all of the City's sources clearly do not exceed the MCL and only 1 sample barely detected Nickel, no health risks or estimates of treatment are included in this report.

Uranium:

The PHG set by OEHHA for Uranium is 0.43 picocuries per liter (pCi/L), and the CDPH has set the MCL for Uranium at 20 pCi/L. We have detected Uranium in all of our wells at levels between 1.54 to 9.18 pCi/L. The levels detected were below the MCL at all times.

The category of health risk associated with Uranium and the reason that a drinking water standard was adopted for it, is that people who drink water containing Uranium above the MCL throughout their lifetime could experience an increased risk of cancer. CDPH says that "Drinking water which meets this standard (the MCL) is associated with little to none of this risk and should be considered safe with respect to Uranium."

The Best Available Technologies treatment for Uranium to lower the level below the MCL is Reverse Osmosis. Since the level of Uranium in each of the City wells is already below the MCL, the Ion Exchanged/Water Softening treatment method would likely be used to attempt to lower the Uranium level below the 0.5 pCi/L PHG. The U.S. EPA has estimated that a centralized treatment plant of this type would cost approximately \$28.4 Million per year, including initial construction costs and additional operations and maintenance costs. This would result in an assumed increased cost for each water customer of about \$580 per year. Since all of the City wells are at separate locations throughout the City, the cost to install multiple treatment plants at each of the well sites throughout the City would be much more expensive than the \$28.4 Million estimate.

Gross Alpha:

Gross Alpha is the measurement of radioactive particle activity for a group of radionuclides which include: Uranium, Combined Radium, and Radon. The CDPH has established the MCL for Gross Alpha as 15 pCi/L (excluding Uranium and Radon),

which is used as a screening standard to determine if further radionuclide monitoring is necessary.

There is no PHG set by OEHHA, but the USEPA has an MCLG for Gross Alpha of zero. We have detected Gross Alpha in some of our wells at levels up to 10.70 pCi/L. However, the level of Gross Alpha detected is mainly contributed to the Uranium content. After the Uranium content is deducted, the net Alpha is less than the minimum detectible level for regulatory reporting. Therefore, no health risks or estimates of treatment are included in this report.

Summary

Constituent	PHG/MCLG	Actual	MCL/Action Level
Arsenic	0.004 ppb	ND to 7.2	10 ppb
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* Excluding Uranium and Radon content.

RECOMMENDATIONS FOR FURTHER ACTION:

The drinking water quality of the City Utilities Division meets all California Department of Public Health 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 Maximum Contaminant Levels 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.

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