SANTA MARGARITA WATER DISTRICT
2013 PUBLIC HEALTH GOALS REPORT

Background:

Provisions of the California Health and Safety Code (Section 116470 (2)[b]) specify that water utilities with over 10,000 services connections prepare a special report by July 1, 2013. Public Health Goals (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 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 District's water supply between 2010 and 2012 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 (if applicable) 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.

The Association of California Water Agencies (ACWA) formed a workgroup which prepared guidelines for water utilities to use in preparing these required reports. The ACWA guidelines were used in the preparation of our report.

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 Health Services (CDHS) 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 2010 and 2012 for purposes of determining compliance with drinking water standards was considered. This data was all summarized in our 2010, 2011, and 2012 annual Consumer Confidence Reports which have been mailed to all of our customers. The pertinent PHGs are reported in Table 1.

Best Available Treatment Technology and Cost Estimates:

Both the USEPA and CDHS 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 MCL. Table 1 below is a summary of the constituents detected that exceed a PHG or MCLG.

Table 1:

During the 2010 - 2012 period, our supplier detected minor levels of Gross Alpha, Gross Beta, and Uranium activity, as indicated below:

Parameter	Units	State or Federal MCL	PHG or (MCLG)	Range Average	2010	2011	2012	PHG Report Required
Gross Alpha (particle activity)	pCi/L	15	(0)	Range	3.8 – 9.3	ND - 3	ND – 3	YES
				Average	5.6	3	3	
Gross Beta (particle activity)	pCi/L	50	(0)	Range	ND – 6.4	ND – 4	ND – 4	YES
				Average	4.3	ND	ND	
Uranium (particle activity)	pCi/L	20	0.43	Range	2.9 – 3.7	2	2	YES
				Average	3.3	2	2	
Arsenic	ppb	10	0.004	Range	ND – 2.7	ND	ND	YES
				Average	2.2	ND	ND	
Copper	ppb	1300	300	90th %			81.9	NO
Lead	ppb	5	2	90th %			ND < 5	NO

pCi/L = picocuries per liter ppb = parts per billion
ND = Not Detected

Lead and/or Copper:

There is no MCL for Lead or Copper. Instead the 90th percentile value of all samples from household taps in the distribution system cannot exceed an Action Level of 0.015 mg/L for lead and 1.3 mg/L for copper. The PHG for lead is 0.002 mg/L. The PHG for copper is 0.17 mg/L.

The category of health risk for lead is damage to the kidneys or nervous system of humans. 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.

Based on extensive sampling of our distribution system in 2012, our 90th percentile value for lead was <0.005 mg/L. The 90^{th} percentile for copper was 0.082 mg/L. Our water system is in full compliance with the Federal and State Lead and Copper Rule. Based on our extensive sampling, according to State regulatory requirements, we meet the Action Levels for Lead and Copper. Therefore, we are deemed by CDHS to have "optimized corrosion control" for our system.

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.

Since we are 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.

Radiological:

Most drinking water sources have very low levels of radioactive contaminants, which are not considered to be a public health concern. Most of the contaminations are naturally occurring, although contamination of drinking water sources from human-made nuclear materials can also occur. During the 2010-2012 period, our supplier detected minor levels of Gross Alpha and Gross Beta particle emitters, as indicated in Table 1.

The Public Health Goals (PHG) for Gross Alpha and Gross Beta was set at zero while Uranium was set at 0.43 as targets or goals by regulatory agencies. It is often not possible to remove or reduce a constituent to the PHG, especially when the PHG is set at zero, because the technology either does not exist or the cost of treatment would be so expensive that the tap water would be unaffordable.

Recommendations For Further Action:

The drinking water quality of the Santa Margarita Water District meets all State of California, Department of Health Services 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.