



Truckee Donner Public Utility District

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TRUCKEE DONNER PUBLIC UTILITY DISTRICT 2019 PUBLIC HEALTH GOALS REPORT

Background

Provisions in the California Health and Safety Code specify that larger water utilities (>10,000 service connections) prepare a Public Health Goals Report every three years (due by July 1st) if water quality monitoring and testing results have exceeded Public Health Goals (PHGs). PHGs are non-enforceable goals established by the Cal-EPA's Office of Environmental Health Hazard Assessment (OEHHA). The regulation also requires that where OEHHA has not adopted a PHG for a contaminant, the water suppliers are to use the Maximum Contaminant Level Goals (MCLGs) adopted by the United States Environmental Protection Agency (USEPA). Only contaminants which have a California primary drinking water standard and for which either a PHG or MCLG has been set are to be addressed within the Public Health Goals Report.

There are various contaminants that are routinely detected in water systems at levels usually well below the drinking water standards for which no PHG nor MCLG have been adopted by OEHHA or USEPA including Total Trihalomethanes. Contaminants of this nature may be addressed in future reports once a PHG has been adopted.

This report shall satisfy the compliance requirements for the water quality monitoring and testing period taking place between 2016 and 2018. The regulation outlines in general terms what information is to be provided in the report. Minimum reporting standards require identification of qualifying contaminants, the 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 contaminant, the Best Available Technology (BAT) for removal or treatment to reduce the contaminant concentration level, and an estimated mitigation costs.

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 2013, and 2015 for purposes of determining compliance with drinking water standards was considered. This data was all summarized in our 2013, 2014, and 2015 Annual Water Consumer Confidence Reports which were posted on the District's website for customers to review by July 1st of each subsequent year.

Guidelines Followed

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

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 MCLG.

Arsenic: The MCL for arsenic is 10 parts per billion (ppb). The PHG and MCLG for arsenic is 0.004ppb (established in 2004). The District has detected arsenic in 7 of the 12 wells active groundwater wells including: Glenshire Drive Well at 9.4ppb, Martis Valley Well at 9.9ppb, Airport Well at 9.8ppb, Old Greenwood Well at 4.9ppb, Prosser Village Well at 2.5ppb, Sanders Well at 8.8ppb, and Northside Well at 4.0ppb.

The category of health risk associated with arsenic, and the reason that a drinking water standard was adopted for it, is that continuous long term exposures to drinking water containing arsenic levels above the MCL may increase the risk of cancer. The California Office of Environmental Health Hazard Assessment (OEHHA) has set the PHG at 0.004ppb. The calculated health risk for arsenic at the MCL (10ppb) is 2.5 per thousand. The PHG (0.004ppb) is based on a level that will result in not more than 1 excess cancer in 1 million people who drink 2 liters daily of this water for 70 years. The actual cancer risk may be lower or zero.

The BAT that we are using for this report to lower the level below the MCL to .004ppb is fixed bed adsorption system. The estimated cost to install and operate such a treatment system on all 6 Wells that would reliably reduce the Arsenic level to .004ppb would be approximately \$7,950,000 initial construction cost with additional estimated O&M cost of an \$6,800,000 per year. This would result in an assumed increased cost for each customer of approximately \$550 per year.

Lead: The MCL for Lead in drinking water is 15ppb, while the PHG and MCLG is 0.2ppb. The current PHG for Lead was established in 2009, lowered from the previous PHG of 2.0ppb established in 1997, based upon calculated carcinogenic health effects and neurobehavioral deficits. The District conducts sampling for the presence of lead every three years in accordance with the Lead and Copper Rule (LCR). Action levels for lead are based on 90th percentile concentration levels from first draw residential sample taps. The District's last LCR monitoring period and sample collection was in 2016, in which sample testing results indicated a 90th percentile level of 3.0ppb.

Levels of lead in surface and groundwater throughout the United States typically range between 5 and 30 ppb (OEHHA, 2009). In drinking water, the major source of lead is due to the leaching from residential plumbing and solder used in pipe joints. The leaching of lead from residential plumbing is of particular concern in circumstance where older plumbing infrastructure is exposed to aggressive water quality conditions.

Lead is listed as a carcinogen and as a reproductive and developmental toxic chemical under the Safe Drinking Water and Toxic Enforcement Act of 1986 (California Health and Safety Code). The calculated health risk for lead at the MCL (15ppb) is two per million. The calculated health risk at the PHG (0.2ppb) is not available.

BAT for drinking water systems exceeding the 90th percentile for the action level of lead concentrations (15ppb) is "optimized corrosion control". For systems in which the lead concentration levels are above the PHG of 0.2ppb, it is not clear what additional steps could be considered, particularly without causing other potential water quality problems. Without further comprehensive study, it is uncertain if a true assessment of the cost of mitigation for lead concentrations well below the action level can be determined with any degree of accuracy.

RECOMMENDATIONS FOR FURTHER ACTION

The drinking water quality of the Truckee Donner Public Utility District at this time meets all California State Water Resources Control Board 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 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 contaminant 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.

The money that would be required for these additional treatment processes might provide greater public health protection benefits if spent on other water system operation, surveillance, and monitoring programs.