Drips and Droplets (Spring, 2011)

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It is certainly a busy time on the California state front since the last issue. During the last quarter:

* CDPH lowered the Notification Level (NL) for 1, 4-Dioxane to 1 part per billion (ppb).
* Office of Environmental Health and Hazards Assessment (OEHHA) proposed revised Public Health Goals (PHG) for perchlorate at 1 ppb.
* OEHHA re-proposes chromium (VI) PHG at 0.02 ppb.
* Federal Department of Health and Human Services proposed a chang in optimal fluoridation dosage.

## 1, 4 Dioxane

Recently, CDPH lowered the Detection Limit for Reporting Purpose (DLR) for 1, 4-Dioxane from 3 ppb to 1 ppb. Since the NL for 1,4-Dioxane is based on the DLR, CDPH also lowered the NL to 1 ppb. Because the new NL, CDPH has requested some utilities to collect samples from wells that are considered vulnerable and have not being monitored for 1,4-Dioxane for several years. If the 1,4-Dioxane is detected (above 1 ppb), water utilities are required to notify governing bodies within 60 days. Water utilities also need to report these data in the Consumer Confidence Report.

## Perchlorate

The California Office of Environmental Health Hazard Assessment (OEHHA) proposed a revised Public Health Goal (PHG) for perchlorate in drinking water. The original perchlorate PHG established in 2004. However, new data on environmental exposures and possible effects of perchlorate, plus further consideration of infants as a susceptible population, have resulted in the present proposal to decrease the perchlorate PHG from 6 ppb to 1 ppb.

As we all know, the PHG is a level of drinking water contaminant at which adverse health effects are not expected to occur from a lifetime of exposure. The California Safe Drinking Water Act of 1996 requires OEHHA to develop PHGs based exclusively on public health considerations. PHGs published by OEHHA are considered by the California Department of Public Health (CDPH) in setting drinking water standards (Maximum Contaminant Levels, or MCLs).

The new MCL may hinge on what CDPH considers to be the reasonable DLR. Currently, the DLR for perchlorate is at 4 ppb. Some laboratories have developed capabilities to report levels as low as 1 ppb. The new MCL could be between 1 to 4 ppb. The main concern of water utilities in Southern California is whether the new MCL will be at a level that is lower than the perchlorate levels existing in the Colorado River Water. If the Colorado River Water requires treatment for perchlorate, the cost will be astronomical.

Currently, only two states, California and Massachusetts, adopted MCLs for perchlorate. The perchlorate MCL for Massachusetts is 2 ppb. Several other states, including Arizona, Maryland, Nevada, New Mexico, New York, and Texas have established non-enforceable, advisory levels for perchlorate. USEPA is considering whether to set a Federal MCL for perchlorate.

## Hexavalent Chromium

In the last issue, I mentioned that, at the request of stake-holders, the OEHHA commissioned a peer review of the proposed PHG for hexavalent chromium. According to OEHHA, the peer review concluded that the proposed PHG is based on good science and is now re-proposing the 0.02 ppb PHG.

However, one of the five reviewers raised the concerns about the proposed PHG. Dr. Toby Rossman, NYU Langone School of Medicine, expressed his concerns that a “threshold” for hexavalent chromium is not considered even though there are evidences and researches indicate that a threshold exists. He also said that the using of LED10 is overly conservative and couple with lack of threshold, an uncertainty factor of 3000 and an upper 95-percentile estimate of water intake, the results indicated 0.02 ppb for PHG is “unrealistically” low. This comment strikes at the heart of the process of development of a PHG. The process that without any cost-benefit constraint, that piles conservative assumption on top of conservative assumptions all in the name of protecting public health will inevitably result in “unrealistically” low numbers. Once the PHG for hexavalent chromium is finalized, CDPH will start a process of setting MCL.

## On the Federal front, several weeks ago, EPA Administrator Lisa P. Jackson committed to address hexavalent chromium in drinking water by issuing guidance to all water systems on how to assess the prevalence of the contaminant. The agency has issued guidance recommending how public water systems might enhance monitoring and sampling programs specifically for hexavalent chromium. The enhanced monitoring guidance provides recommendations on where the systems should collect samples and how often they should be collected, along with analytical methods for laboratory testing. Systems that perform the enhanced monitoring will be able to better inform their consumers about any presence of hexavalent chromium in their drinking water, evaluate the degree to which other forms of chromium are transformed into hexavalent chromium, and assess the degree to which existing treatment affects the levels of hexavalent chromium in drinking water.

## Fluoride

The Department of Health and Human Services (HHS) is seeking public comment on proposed new guidance which will update and replace the 1962 U.S. Public Health Service Drinking Water Standards related to recommendations for fluoride concentrations in drinking water. The U.S. Public Health Service recommendations for optimal fluoride concentrations were based on ambient air temperature of geographic areas and ranged from 0.7–1.2 mg/L. HHS proposes that community water systems adjust the amount of fluoride to 0.7 mg/L to achieve an optimal fluoride level. The optimal concentration of fluoride in drinking water is that concentration that provides the best balance of protection from dental caries while limiting the risk of dental fluorosis. The OEHHA is also working on PHG for fluoride.