

WEST BASIN MUNICIPAL WATER DISTRICT

AUGUST 4, 2004 - Water Resources
 McDonald, Little
AUGUST 23, 2004 - Board Meeting
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INFORMATION CALENDAR

PERCHLORATE UPDATE

SUMMARY:

Regulatory Status

Staff reported to the Board in March on the regulatory status of developing a maximum contaminant level (MCL) for perchlorate in California. After passage of a public health goal (PHG) for perchlorate in March of six (6) parts per billion (ppb), the California Department of Health Services (DHS) initiated their process to develop the MCL.

The Office of Environmental Health and Hazard Assessment (OEHHA) agreed to revisit the PHG again this Fall if results from an independent National Academy of Science (NAS) panel assessing the health risks of perchlorate reveal contradictory information. The NAS panel review is not expected until December 2004, but criticism has already erupted.

A toxicologist serving on the NAS panel was a former paid expert for a law firm representing Lockheed Martin, who has been responsible for perchlorate pollution in California. The toxicologist claims that he consulted on other chemicals, not perchlorate.

Furthermore, this same toxicologist also worked on a study that the University of California (UC) Irvine Urban Water Research Center recently released that concludes perchlorate is not harmful to humans at levels above six (6) ppb. This study reviewed a lot of the same information OEHHA used to select a PHG, and determined humans could safely be exposed up to 100 ppb. A copy of the report is being provided to DHS to assist in the MCL development.

Given these two involvements, the toxicologist was viewed as having a conflict of interest and being biased toward the chemical. Due to the awkwardness of the situation, the toxicologist was forced to resign. There is no news of when NAS will complete their review, if a replacement will be named to the panel, or how this affects the PHG or pending MCL.

Perchlorate Compliance Costs Based on Various Possible MCL's

Kennedy Jenks recently completed a study evaluating the costs of compliance for various perchlorate MCL's. The costs, in millions of dollars, are summarized in the table below:

MCL (µg/L)	Total Capital	Total Annual	20 Year Project
18	\$43	\$17	\$340
12	\$69	\$25	\$510
10	\$86	\$30	\$600
8	\$111	\$38	\$760
6	\$155	\$50	\$1,000
4	\$253	\$75	\$1,500

Disneyland

Perchlorate is a main ingredient in fireworks, and Disneyland holds a nightly fireworks show in Anaheim. Residents close to Disneyland requested that the fireworks show be suspended because the perchlorate in the fireworks explosion is somehow making its way into the local groundwater resources. District staff is following this issue.

Perchlorate in Milk

Recent news stories are reporting that perchlorate has been found in samples of cow's milk. The Environmental Working Group conducted a study to determine if perchlorate in the Colorado River used to water alfalfa, which is fed to cows, can appear in the cow's milk. Thirty-two samples from Southern California grocery stores revealed an average level of 1.3 ppb. A similar study done earlier in the year by the California Department of Food and Agriculture detected an average level of perchlorate at 5.8 ppb in 32 samples from raw milk silos in California. Both agencies have noted that these were not health studies, nor a comprehensive look at perchlorate in milk, and have encouraged consumers to continue to drink milk as part of their diet despite the low levels of perchlorate.

Metropolitan Water District (MWD) Perchlorate Task Force

The MWD perchlorate task force that was recently formed has continued to meet regularly to help remediate existing perchlorate contamination in the MWD service area, as well as protect future contamination. The goals of the task force are:

- Seek external funding;
- Assist in legislative and regulatory strategies;
- Assist in comparing cost-effectiveness of remediation alternatives;
- Develop strategies to recover costs; and
- Focus on perchlorate, then other contaminants.

Within the MWD service area, perchlorate has been detected in 219 wells ranging from <2 ppb to 300 ppb, affecting 16 member agencies and 33 retail agencies. Forty-four wells were closed due to higher perchlorate levels, resulting in 77,000 acre-feet per year (AFY) of lost production, and an increased demand on MWD water of 46,000 AFY. Most member agencies and retail agencies are using blending to manage perchlorate contamination, but others have drilled new wells, installed reverse osmosis, or utilized ion exchange technology.

In support of perchlorate funding opportunities, MWD recently provided input to Proposition 50 criteria for Chapter 4 projects.

Department of Defense Perchlorate-Related Activities

The current Department of Defense (DOD) policy regarding perchlorate contaminated sites is that until a state or national standard regulating perchlorate exists, DOD will evaluate the need for action on a site by site basis. Once a perchlorate standard is set, DOD will comply with

those regulations. In the interim, DOD is involved in many perchlorate activities on a pro-active front.

DOD finalized a sampling policy for DOD property in June. The policy outlines requirements for when and where to sample for perchlorate. A decision tree will be used to reach the necessary decisions, using such criteria as current perchlorate impacts, and proximity to drinking water wells. The data will be compiled in a database that will be shared with state agencies.

DOD has also submitted various reports to Congress on perchlorate, and is involved in a number of workgroups from the state to federal level for broad involvement on the issue, and is interested in sharing information in a treatment technology forum.

Henderson, Nevada Perchlorate Clean-Up Program

There are two main perchlorate contaminated plumes in the Henderson, Nevada area currently in remediation - Kerr-McGee and Pepcon.

The Kerr-McGee perchlorate plume was first discovered in 1997; on-site capture began in 1998 and treatment first started in 2000. The original treatment technology utilized was ISEP-PDM, similar to a water softener system using regeneration. This system produced brine contaminated with perchlorate, and eventually failed to be effective. It was discontinued in 2002. Ion Exchange was then implemented until 2003 when the current treatment system was installed. A Full-Scale Fluidized Bed Reactor Biological Treatment System now treats 1,000 gallons per minute and reduces perchlorate from approximately 250 parts per million to 18 ppb. After processing through sand and carbon filled reactors, the water goes through dissolved oxygen, coagulation, filtration, and ultraviolet before being discharged into the Las Vegas Wash. It has taken almost one year to get the treatment system working in top condition and work out all the operational issues. Although the plant has not consistently put out the high-quality water desired, perchlorate levels have remained around 18 ppb in the output. All parties involved are fine-tuning the treatment plant to achieve the desired water quality.

Pepcon bought out Kerr-McGee's perchlorate customer base in 1998, and is now the only domestic producer of perchlorate in the United States. Since 1998, contamination has been detected from Pepcon at a much larger scale than with Kerr-McGee; however, it doesn't reach the Las Vegas Wash like the Kerr-McGee contamination does. Agencies are cooperatively working on design of a full-scale treatment facility for the Pepcon contamination after a successful pilot plant was tested using biodegradation technology. Sometime in 2005, a treatment facility is expected to be on line after several technical issues are worked out.

FISCAL IMPACTS:

None.

ENVIRONMENTAL COMPLIANCE:

Not applicable.

COMMITTEE STATUS:

This item was reviewed by the Water Resources Committee on August 4, 2004 and agendaized to the August 23, 2004 Board meeting as information for discussion.

RECOMMENDED MOTION:

This item is for information only.

EXHIBITS:

None.

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