

WEST BASIN MUNICIPAL WATER DISTRICT

NOVEMBER 8, 2001 – Water Resources
Smith – Conference Call – No Quorum
NOVEMBER 26, 2001 – Board Meeting

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INFORMATION CALENDAR

WATER QUALITY UPDATE – TETRACHLOROETHYLENE (PCE)BACKGROUND:

Tetrachloroethylene (PCE) is a synthetic, colorless, volatile organic liquid with a mild, chloroform-like odor. Its main uses are primarily in the textile and chemical manufacturing, aerosol propellants, and industrial cleaning. PCE production in the United States declined by half since the 1980's, to about 200 million pounds.

PCE's volatility allows for quick dispersion to the atmosphere; and will adsorb to soil particles and disperse into groundwater. PCE groundwater contamination is most prevalent in the southeastern and midwest portions of the country. California is not among the top ten states of PCE releases to groundwater or soil.

Regulation and Human Health Effects

PCE is regulated at the state and federal level based on human health risks, available treatment technologies, and cost/benefit concerns. The state and federal PCE Maximum Contaminant Level (MCL) is set at 5 micrograms per liter ($\mu\text{g/l}$, or parts per billion). The MCL is a regulatory standard based on human health risks, available treatment techniques and other technical information; and is the lowest level to which a water system can reasonably be expected to remove a contaminant.

There are also separate state and federal advisory levels for contaminants that are theoretically determined and are not enforceable as drinking water regulatory standards. They are set solely on public health considerations under the premise that there is no significant health risk to an individual consuming water through an entire lifetime. PCE's federal advisory level, known as the Maximum Contaminant Level Goal (MCLG) is zero. The California Office of Environmental Health Hazard Assessment (OEHHA) recently adopted a Public Health Goal (PHG) of $0.06 \mu\text{g/l}$. Laboratory instrumentation can reliably "see" PCE above $0.1 \mu\text{g/l}$; the state and federal legal reporting limit is $0.5 \mu\text{g/l}$.

No serious health effects are expected through drinking water consumption because of the low concentrations. Human health effects research is primarily from observations in occupational settings with abnormally high exposures. PCE is readily absorbed through the lungs and gastrointestinal tract, and to a lesser extent through the skin. Acute and chronic effects include neurological and liver/kidney problems, and an increased risk of some cancers.

Occurrence in West Basin Wells

Historically, no detectable levels of PCE were detected in drinking water wells in the West Basin service area. The Department of Health Services (DHS) tests wells in the West Coast groundwater basin to monitor for PCE and other volatile organic compounds (VOCs) every three years. Increased monitoring is required should a VOC be detected and confirmed in a well, and efficient treatment techniques exist to reduce or remove PCE.

Occurrence in MWD Water

No detectable levels of PCE have been detected historically in imported surface water from either the Colorado River or the State Water Project.

Impact

PCE and other VOCs continue to be a water quality problem in West Basin due to land usage and basin geology.

FISCAL IMPACTS:

None.

ENVIRONMENTAL COMPLIANCE

None.

COMMITTEE STATUS:

This item was reviewed at the Water Resources Committee by Alternate Director Smith on November 8, 2001 and was agendaized to the November 26, 2001 full Board meeting for review.

RECOMMENDATION:

This item is for information only.