

To: Board of Directors
From: Norma J. Camacho, CEO

Chief Executive Officer Bulletin Week of November 24 - 30, 2017

Board Executive Limitation Policy EL-7:

The Board Appointed Officers shall inform and support the Board in its work. Further, a BAO shall 1) inform the Board of relevant trends, anticipated adverse media coverage, or material external and internal changes, particularly changes in the assumptions upon which any Board policy has previously been established and 2) report in a timely manner an actual or anticipated noncompliance with any policy of the Board.

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Board Governance Ends Policy Revision

At the October 24, 2017, Fiscal Year 2018-2019 board Strategic Priority Planning Session, the board approved revisions to Board Ends Policy-1, documenting the desire to include design sensitivity and aesthetics concepts into District Projects.

The Ends and Policy Revision sections of the Board's policies have been updated and communicated throughout the organization.

The board's Governance Policies are available on-line here:

<http://www.valleywater.org/About/BoardPolicies.aspx>

For further information, please contact Michele King at (408) 630-2711.

District Hosts Technical Tours of Hypolimnetic Oxygenation Systems for International Visitors

In response to recent requests, the district hosted two tours of its hypolimnetic oxygenation systems for international visitors on October 25, 2017, and November 7, 2017.

The systems are operated in the summer months to reduce the conversion of mercury to methylmercury, a dangerous type of mercury for living things, for reservoirs in the Guadalupe River watershed. These requests for tours demonstrate that the district's expertise and leadership in oxygenation system operation and associated mercury technical studies is recognized internationally.

The district provided a tour of the system, which is permanently installed at Calero Reservoir. The

tour included operating the Calero system to observe bubbles from the diffuser line, as well as a visit to the Winfield Yard to see the mobile oxygenation trailers used for Almaden, Guadalupe, and Stevens Creek reservoirs, currently stored for the winter.

The tour on October 25, 2017, included five staff from K-Water, a South Korean government-owned company and five staff from the City of Santa Cruz and their consultant Stephen McCord. K-Water provides drinking, and industrial water and manages water resources nationwide. They operate 100 aeration systems in reservoirs to control algae. K-water uses mostly air, but operates one system using pure oxygen. They are interested in oxygenation instead of their aeration systems because the aeration systems break lake stratification and lead to uniformly warm temperatures in reservoirs, causing changes in algae populations.

K-Water is very interested in oxygenation technology and provided the district with information related to remote operation of systems. The City of Santa Cruz operates Loch Lomond reservoir, which has various water quality challenges, including algal blooms. They are investigating installation of a hypolimnetic oxygenation system, possibly similar to the district's. The City of Santa Cruz was particularly interested in the district's unique use of the oxygenation trailers. The district shared its valuable lessons learned and experience with four systems.

The tour on November 7, 2017, included Dr. Anne Hansen, a graduate student from the Mexican Institute of Water Technology, and Dr. Marc Beutel from University of California at Merced. Dr. Beutel and Stephen McCord previously collaborated on an evaluation of the effectiveness of the Calero System for the district. Dr. Beutel is currently a technical reviewer for the district's mercury studies.

Drs. Hansen and Beutel are jointly researching strategies to address nutrient pollution in the Valle de Bravo reservoir, a large water supply reservoir serving Mexico City that receives untreated sewage and agricultural pollution from its upstream watershed. The reservoir is utilized for contact recreation and the water quality is deteriorated in a manner that will prevent recreational and drinking water uses.

The reservoir's nutrient loading can lead to anaerobic, i.e., no oxygen, conditions in the bottom of the reservoir that can lead to release of pollutants, such as phosphorus, ammonia, and mercury. A hypolimnetic oxygenation system may be one of the strategies to address the water quality issues in this reservoir.

Valle de Bravo is about 30 meters deep and much larger than any of the district reservoirs, so the oxygenation system would have to be at a much larger scale. The district shared insights into the technology as well as district practices for source control upstream of reservoirs.

Contact information was shared with both groups of visitors and the district looks forward to maintaining on-going scientific dialogue.

For further information, please contact Afshin Rouhani at (408) 630-2616.
