ITEM: 19

SUBJECT: City of Davis Wastewater Treatment Plant, Yolo County

BOARD ACTION: *Consideration of Order Amending Waste Discharge Requirements Order No. R5-2007-0132-01 and Time Schedule Order No. R5-2010-0029 (NPDES No. CA0079049)*

BACKGROUND: On 25 October 2007, the Central Valley Water Board adopted Waste Discharge Requirements (WDR) Order No. R5-2007-0132, prescribing waste discharge requirements for the City of Davis Wastewater Treatment Plant, Yolo County. The Discharger owns and operates a wastewater collection, treatment, and disposal system, and provides sewerage service to the City of Davis and serves a population of 65,000. The treatment system consists of a mechanical bar screen, an aerated grit tank, sedimentation tanks, a primary anaerobic digester, a secondary anaerobic digester, sludge lagoons, aeration ponds (typically used in winter), facultative oxidation ponds, a Lemna pond, an overland flow system, a chlorine contact tank, and restoration wetlands (used when discharging to Conaway Ranch Toe Drain). The Facility is permitted to discharge an average daily flow of 7.5 million gallons per day of treated municipal wastewater to Willow Bypass Slough (Discharge 001) and Conaway Ranch Toe Drain (Discharge 002), both are waters of the United States, and tributary to the Yolo Bypass within the Sacramento River watershed.

After adoption by the Central Valley Water Board, Order No. R5-2007-0132 was petitioned to the State Water Resources Control Board (State Water Board) by the California Sportfishing Protection Alliance. On 2 September 2008, the State Water Board adopted WQO No. 2008-0008 remanding the permit to the Central Valley Water Board for modifications. Subsequent to the State Water Board's adoption of WQO 2008-0008, the Central Valley Water Board amended Order No. R5-2007-0132 by adopting WDR Order No. R5-2007-0132-01 on 5 February 2009, and adopted Time Schedule Order No. 2010-0029 providing compliance schedules for California Toxic Rule constituent effluent limitations. The amendment (1) added a requirement for the Discharger to conduct a wastewater reuse feasibility study to examine the feasibility of delivering part or all of its secondary treated wastewater to neighboring lands owned by the Conaway Ranch Preservation Group, (2) extended the compliance due date for compliance with effluent limitations for biochemical oxygen demand, total suspended solids, turbidity, total coliform organisms, aluminum, ammonia, and iron, and (3) modified the Groundwater Monitoring and Best Practicable Treatment and Control (BPTC) Study requirements.

The proposed Order reopens and amends Order R5-2007-0132-01 to address the permit revisions required in WQO 2008-0008. Additionally, the proposed Order reopens and amends Order R5-2007-0132-01 based on new information provided by the Discharger and amends Time Schedule Order R5-2010-0029 to revise the final copper effluent limits.

ISSUES: Public comments were received by the California Sportfishing Protection Alliance (CSPA) and the Discharger. The following is a summary of the comments and Central Valley Water Board staff responses:

Ammonia Effluent Limits. The Discharger comments that the proposed permit amendment inappropriately determines ammonia effluent limits based on the downstream receiving water pH and temperature for a discharge that does not receive dilution and the receiving water is out of their control: Central Valley Water Board Staff does not concur. The City discharges ammonia to the receiving water, the aquatic toxicity of ammonia varies based on pH and temperature. The Discharger may not be able to control the downstream pH and temperature conditions, but the effluent ammonia concentrations can be controlled. Based on the information provided by the Discharger, the conservative approach used in the permit to establish the ammonia effluent limitations is necessary to protect the beneficial uses of the receiving water.

Receiving Water Limits. CSPA comments that the proposed Permit Amendment allows for a defacto mixing zone absent any mixing zone analysis for temperature and turbidity. CSPA states that the proposed permit has been modified to state that compliance with the receiving water limitations for temperature and turbidity will be based on the differences between upstream and downstream receiving water sampling locations. Central Valley Water Board staff does not concur. The receiving water limitations in question are to limit <u>changes</u> to temperature and turbidity in the receiving water caused by the discharge (e.g., for temperature, the permit requires that the discharge shall not cause, "The natural temperature to be increased by more than 5°F."). The proposed permit amendment simply clarifies how compliance will be determined for the changes in temperature and turbidity from the upstream receiving water conditions. This in no way allows a mixing zone, which are used to establish water quality-based <u>effluent</u> limitations.

Metals Translators. CSPA comments that the proposed Permit amendment utilizes metals translators that result in discharge limitations that are not protective of aquatic life, because the metal translator study performed by the Discharger may not have been conducted in the receiving stream during critical conditions. Central Valley Water Board Staff does not concur. As described in section IV.C.2.b of the permit Fact Sheet, the metals translators for copper, lead, and nickel were based on the findings the Discharger's January 2007, "Metals Translator Monitoring Study-Copper, Lead, and Nickel", which was conducted in accordance with USEPA guidance. The Discharger's Study developed translators based on the effluent only and based on an effluent/receiving water mixture. A mixing zone has not been allowed in the permit. Therefore, site-specific translators based on the mixed downstream receiving water monitoring data were considered to not be appropriate and were not used. Instead, the site-specific translators based on the effluent data were used for development of end-of-pipe water quality-based effluent limits. Therefore, CSPA's

contention that the critical receiving water conditions were not considered in the Discharger's study is irrelevant.

Copper Water Quality Criteria. CSPA comments that the proposed Permit amendment fails to utilize USEPA recommended criteria for copper and instead utilizes an outdated water quality standard and water effects ratio in developing and effluent limitation for copper. Central Valley Water Board Staff does not concur. CSPA provides a discussion of the Biotic Ligand Model (BLM), which is a metal bioavailability model that uses receiving water body characteristics to develop site-specific water quality criteria. However, to use the BLM, a Basin Plan amendment allowing the adjustment of criteria using results from a BLM must be completed or USEPA must modify the California Toxics Rule (CTR). CSPA's comments are directed at the CTR, not the proposed permit amendment, which must comply with the final CTR. Central Valley Water Board Staff properly applied the CTR when establishing water quality based effluent limitations (WQBELs) for the CTR metals with hardness-dependent criteria.

Mgmt. Review _____
Legal Review _____

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