

ITEM: 22

SUBJECT: University of California Davis, Main Wastewater Treatment Plant, Solano and Yolo Counties

BOARD ACTION: *Consideration of a NPDES Permit Renewal*

BACKGROUND: The University of California Davis (Discharger) owns and operates a municipal wastewater treatment plant (WWTP) that serves a population of approximately 45,000, and discharges up to 2.7 million gallons per day of tertiary-treated effluent to the North and South Forks of Putah Creek, tributaries to the Sacramento River. The WWTP receives 40 percent of its funds from University student fees and the remainder from the State's general fund.

The discharge to both the South Fork and North Fork of Putah Creek is currently regulated by existing Waste Discharge Requirements No. R5-2003-0003, Amendment No. 1 (NPDES permit) and Cease and Desist Order (CDO) No. R5-2003-0004. The existing NPDES permit authorizes a major discharge of 2.7 million gallons per day (mgd) to the receiving waters. A 20 October 2006 letter from Mr. Ken Landau, Regional Water Board Assistant Executive Officer, to the Discharger, clarifies that the Discharger is authorized to discharge tertiary-treated effluent to the North Fork of Putah Creek (also referred to as the Arboretum Waterway) in accordance with effluent limitations in the existing NPDES Permit, for purposes of freshening up the otherwise stagnate confined water body.

The tentative Permit proposes an increase in regulated flow from 2.7 mgd to 3.6 mgd based on the antidegradation analysis performed by the Discharger. The Permit also proposes new and/or more stringent final effluent limitations for aluminum, ammonia, cyanide, and selenium in which the Discharger is able to immediately comply. For aluminum, ammonia and chlorine residual, Regional Water Board staff implemented USEPA's National Recommended Ambient Water Quality Criteria for protection of aquatic life for the basis of the interpretation of the narrative objective and resulting effluent limitation calculations.

The tentative NPDES permit was issued for public comments on 25 September 2008. The Discharger, the California Sportfishing Protection Alliance (CSPA) and the Conaway Preservation Group/Reclamation District 2035 submitted public comments on the proposed Permit. Major public comments specific to the proposed Permit are summarized below. Further detail on all public comments received, including further CSPA comments raising issues common to other tentative NPDES permits, are included in Regional Water Board Staff Responses to Comments.

ISSUES:

Salinity: The existing NPDES Permit established a final average monthly effluent limitation for electrical conductivity (EC) of 900 µmhos/cm. Despite a recent facility upgrade, the replacement of the existing chlorination system with an ultraviolet light disinfection system, and the implementation of other best practicable treatment and control (BPTC) within its service area, the Discharger is unable to comply with the final EC limitation. Short of implementing reverse-osmosis treatment, the feasible compliance alternative is the augmentation of the existing water supply with other low-salinity water, such as the Sacramento River water. A water supply augmentation alternative will require at least five years to implement. The tentative Permit issued for public review contained an interim performance-based EC effluent limitation 1,400 µmhos/cm to cap the Discharger at the existing effluent EC level, and a requirement for a site-specific receiving water study to determine the appropriate EC level in Putah Creek to protect agricultural water supply uses.

Regional Water Board staff needs to further consider available information to address CSPA's public comments regarding the removal of the existing final EC effluent limitation and associated backsliding issues. A continued hearing with a limited scope of further proposed EC related discharge requirements may be necessary for adoption of this NPDES permit renewal.

Discharge from the Arboretum Waterway (North Fork of Putah Creek) to the South Fork of Putah Creek: Discharge Point No. 002 directly discharges into the Arboretum Waterway. The Arboretum Waterway also receives storm water and drainage from the University campus before discharging into the South Fork of Putah Creek. CSPA states that the discharge of Arboretum Waterway water into the South Fork of Putah Creek is a new discharge and requires an NPDES permit. The scope of the proposed NPDES permit is to regulate two point source discharges from the subject facility. The regulation of storm water discharge from the Arboretum Waterway to the South Fork of Putah Creek is outside the scope of this permit and would be regulated through the NPDES Storm Water Program.

Antidegradation Analysis: Regional Water Board staff determined the antidegradation analysis performed on South Putah Creek demonstrates that beneficial uses of the receiving water in South Putah Creek are maintained and degradation of the receiving water is limited through discharge of tertiary-treated Title 22-quality wastewater (implementation of Best Practicable Treatment or Control (BPTC)). Furthermore, Regional Water Board staff concluded that any degradation in the receiving water from the increase provides a social and economical benefit to the people of the State.

However, the antidegradation analysis for the North Fork of Putah Creek (Arboretum Waterway) was not conducted in conjunction with

the South Fork antidegradation analysis. Therefore, a discharge prohibition to the North Fork of Putah Creek, within three years from the adoption date, was added to the proposed Permit. The prohibition is proposed to go into effect if the Discharger fails to conduct an antidegradation analysis as required in the Special Provisions section of the permit.

Antibacksliding: The existing Waste Discharge Requirements, Order No. R5-2003-0003, Amendment No. 1 contained effluent limitations for aluminum, copper, dichloromethane, dioxin/furans, iron and lead. Based on the prescribed methodology in the State Water Board State Implementation Plan (or SIP), and using recent effluent and receiving water data, Regional Water Board staff determined that the discharge does not demonstrate reasonable potential to cause or contribute to an in-stream excursion above a water quality standard for copper, dichloromethane, dioxin/furans, iron, and lead. For aluminum the chronic criterion (87 µg/L) that is based on studies conducted on waters with low pH (6.5 to 6.8 pH units) and hardness (<10 mg/L as CaCO₃), which are conditions not commonly observed in Central Valley receiving waters like the Sacramento River, was deemed non-applicable. Therefore, the proposed aluminum effluent limitations are based on the 750 µg/L acute criterion. The availability of new information allows for the backsliding from the previous NPDES Permit.

Mgmt. Review _____
Legal Review LTO

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