

Regional Water Quality Control Board  
North Coast Region

Executive Officer's Summary Report  
8:30 A.M., Thursday, December 6, 2012  
Santa Rosa

- ITEM: 6
- SUBJECT: **Public Hearing** on Order No. R1-2012-0097, to consider adoption of Waste Discharge Requirements to renew NPDES permit in the matter of **City of Ferndale Wastewater Treatment Plant**, WDID No. 1B83136OHUM, NPDES Permit No. CA0022721, Humboldt County (*Lisa Bernard*)
- BOARD ACTION: The Board will consider the adoption of Waste Discharge Requirements Order No. R1-2012-0097.
- BACKGROUND: The City of Ferndale (hereinafter Permittee) is currently discharging pursuant to Order No. R1-2009-0036 and National Pollutant Discharge Elimination System (NPDES) Permit No. CA0022721. On August 7, 2011, the Permittee submitted a request for modification of final copper effluent limitations and supporting documentation entitled *Aquatic Toxicity Testing Results for Effluent – A Water Effects Ratio Study for Discharges of Copper, February/March 2012*. The Permittee submitted additional monitoring information for reasonable potential consideration on August 30, 2012.
- The Permittee completed construction and began operating a new wastewater treatment facility (WWTF) in late 2011. The WWTF serves a population of 1,400 residential and commercial users and discharges an average dry weather flow (ADWF) up to 0.55 million gallons per day (mgd) and a peak wet weather flow (PWWF) up to 0.95 mgd of tertiary treated effluent. The WWTF includes a wet-weather flow equalization basin, headworks with an influent lift station, three surge pumps (one used for redundancy), a bar screen; a selector tank, four extended aeration basins, two rectangular clarifiers, two aerobic sludge digesters, disc filtration, an ultraviolet disinfection system, and a holding basin for temporary storage of treated effluent.
- From May 15 through September 30, treated wastewater is applied to agricultural land via Discharge Point 002. From October 1 through May 14, treated wastewater is discharged at Discharge Point 001 to Francis Creek near its confluence with the Salt River; both are waters of the United States and tributary to the Lower Eel

River. In addition, given the new WWTF's effluent quality and in accordance with Basin Plan criteria, Order No. R1-2009-0036 allows for discharges of tertiary-treated effluent from Discharge Point 001 up to one hundred percent of the receiving water flow (1:1).

ISSUES:

Order No. R1-2009-0036 included provisions allowing the Permittee to conduct a water effects ratio (WER) study to determine the site-specific toxicity of copper in the receiving water at the point of discharge to Francis Creek. The Permittee conducted a WER study in accordance with applicable USEPA guidance for Streamlined Procedure EPA-822-R-01-005 and concluded that a site specific WER of 3.2 for total recoverable copper applies to the discharge.

Using the worst-case measured hardness from the receiving water (110 mg/L as CaCO<sub>3</sub>), the USEPA recommended dissolved-total translator of 0.96, and the site-specific WER, the criterion for protection of aquatic organisms under chronic exposure conditions is adjusted to 32.39 ug/L, as total recoverable copper. The maximum effluent concentration measured for total copper in the City of Ferndale's effluent is 3.1 ug/L, based on samples collected during the discharge season from November 2011, through May 2012, since the new WWTF went online. Applying the new WER information, effluent copper concentrations do not demonstrate reasonable potential to exceed water quality criteria for copper when compared to criteria for the most sensitive beneficial use to be protected.

Effluent limitations are established for all pollutants discharged at levels that have the reasonable potential to cause or contribute to an exceedance of a water quality standard, including numeric and narrative objectives within a standard. During development of Order No. R1-2009-0036, a reasonable potential analysis (RPA) demonstrated reasonable potential for discharges from the Ferndale wastewater treatment facility to cause or contribute to exceedances of applicable water quality criteria for copper; lead; mercury; nickel; zinc; 2,3,7,8-TCDD; chlorodibromomethane; dichlorobromomethane; bis(2-ethylhexyl)phthalate; alpha-BHC; and heptachlor epoxide.

During development of draft Order No. R1-2012-0097, new information from the upgraded WWTF was used to develop the RPA, which specifically incorporated new effluent data for copper, lead, mercury, nickel, zinc, chlorodibromomethane,

dichlorobromomethane, bis(2-ethylhexyl)phthalate, alpha-BHC and heptachlor epoxide and excluded receiving water data more than eight years old. No new data was available for 2,3,7,8-TCDD.

Had this information been available at the time of permit issuance, no effluent limitations for copper, lead, mercury, nickel, zinc, chlorodibromomethane, dichlorobromomethane, bis(2-ethylhexyl)phthalate, alpha-BHC and heptachlor epoxide would have been included in Order No. R1-2009-0036.

Therefore, Order No. R1-2012-0097 does not include effluent limitations for these constituents. However, because data from the historic wastewater treatment facility showed reasonable potential for 2,3,7,8-TCDD and there is no new data to refute that potential, the effluent limitation for 2,3,7,8-TDCC has been retained. The protection afforded under the proposed draft Order will result in a level of protection for beneficial uses equal to the previous permitted conditions.

RECOMMENDATION:            Adopt Order R1-2012-0097 as proposed.

SUPPORTING DOCUMENTS:

1. Hearing Procedure
2. Proposed Order R1-2012-0097
3. Comment Letter from the City of Ferndale
4. Response to Comments
5. Public Notice