

Central Valley Regional Water Quality Control Board
February 3, 2011 Board Meeting

Response to Comments
for the
City of Auburn
Wastewater Treatment Plant
Tentative Order Amending
Waste Discharge Requirements R5-2010-0090 (NPDES No. CA0077712) and
Cease and Desist Order R5-2010-0091

The following are Regional Water Quality Control Board, Central Valley Region (Central Valley Water Board) staff responses to comments submitted by interested parties regarding the tentative Order Amending Waste Discharge Requirements Order R5-2010-0090 (NPDES Permit No. CA0077712) and Cease and Desist Order R5-2010-0091 for the City of Auburn (Discharger), Wastewater Treatment Plant (Facility). Public comments regarding the proposed Order were required to be submitted to the Central Valley Water Board by 3 January 2011 in order to receive full consideration.

The Central Valley Water Board received comments regarding the proposed Order by the due date from the following interested parties:

- California Sportfishing Protection Alliance (CSPA)

The submitted comments were accepted into the record, and are summarized below, followed by Central Valley Water Board staff responses.

CALIFORNIA SPORTFISHING PROTECTION ALLIANCE (CSPA) COMMENTS

Request for Designated Party Status. CSPA requested designated party status for the Central Valley Water Board hearing scheduled for 2, 3, and 4 February 2011 with regard to the proposed Order amending the NPDES permit for the City of Auburn Wastewater Treatment Plant. The commenter will be granted designated party status for the subject hearing.

CSPA Comment No. 1. CSPA comments that, the State Water Board Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California (also referred to as the State Implementation Plan, or SIP) established procedures for establishing water-effect-ratios (WERs) in California. However, aluminum is not a priority pollutant and is not subject to the terms, requirements and, in this case, exemptions of the SIP. According to US EPA's interpretation of the Clean Water Act, the derivation of WERs establishes a site-specific water quality criterion subject to EPA review and approval. Site-specific objectives must comply with federal regulations 40 C.F.R. section 122.44 (d) and Water Code section 13241.

RESPONSE: Central Valley Water Board staff does not concur. In the proposed Order, the United States Environmental Protection Agency's (USEPA) Recommended National Ambient Water Quality Criteria (NAWQC) for aluminum is used to implement the Basin Plan's narrative toxicity objective. The use of a WER for aluminum is not used to establish a site-specific water quality standard. In its 1999 National Recommended Water Quality Criteria – Correction, USEPA suggests the use of a WER may be appropriate for implementation of its recommended chronic criterion for aluminum. One of the reasons that USEPA presents in footnote L in the 1999 Correction is that "EPA is aware of field data indicating that many high quality waters in the U.S. contain more than 87 ug aluminum/L, when either total recoverable or dissolved is measured." Due to uncertainties with the NAWQC chronic criterion, the Discharger conducted studies to evaluate the toxicity of aluminum in Auburn Ravine. On 16 November 2010, the Discharger submitted a report titled, "City of Auburn Aluminum Toxicity Study", prepared by Stantec Consulting Services, Inc., that presented information that may be used to develop a site-specific WER for aluminum. A site-specific aluminum WER for Auburn Ravine was calculated to be >12.4. The study showed that aluminum concentrations in excess of 5,000 ug/L had no significant effects on the tested species¹. Application of the site-specific aluminum WER results in a chronic aluminum water quality criterion of >1079 ug/L.

The City of Auburn Aluminum Toxicity Study followed USEPA's Interim Guidance on Determination and Use of Water-Effect Ratios for Metals, USEPA, February 1994. No significant effects were shown in samples containing extremely high aluminum concentrations, so only one testing event was conducted after consultation with Central Valley Water Board staff. This means that a complete WER study was not performed. However, the information provided in the City of Auburn Aluminum Toxicity Study is sufficient for use in interpreting the Basin Plan's narrative toxicity objective. Based on the information, the site-specific chronic criterion for aluminum was demonstrated to be greater than the acute criterion recommended by USEPA's NAWQC. Therefore, the appropriate criterion to implement the Basin Plan's narrative toxicity objective for the protection of the aquatic beneficial use is the acute criterion of 750 ug/L. The maximum effluent concentration (MEC) for aluminum is 720 ug/L, which is less than the acute aquatic life criterion of 750 ug/L. Therefore, there is no reasonable potential to cause or contribute to an exceedance of the Basin Plan's narrative toxicity objective, which ensures protection of the aquatic life beneficial uses. The next most stringent criterion for aluminum is the Department of Public Health Secondary Maximum Contaminant Level of 200 ug/L. The amended final effluent limitation for aluminum is 200 ug/L, implemented as an annual average. The amended aluminum effluent limitation will concurrently be protective of the aquatic life beneficial uses.

¹ In fact, no significant effects were experienced in any test up to the maximum aluminium concentration. This is the reason for establishing the WER as greater than 12.4.

CSPA Comment No. 2. CSPA comments that the US Fish and Wildlife Service and National Marine Fisheries Service have been highly critical of USEPA's WER procedures as not being protective of aquatic life. On 24 March 2000 the US Fish and Wildlife Service and National Marine Fisheries Service issued a final biological opinion on the effects of the final promulgation of the California Toxic Rule (CTR) on listed species and critical habitats in California. In the opinion, USEPA's WER procedures were described as inaccurate and under-protective by the Services.

RESPONSE: The biological opinion was submitted in the context of a federal rulemaking, and was considered by USEPA when it developed the WER procedures. Therefore, these comments by CSPA are directed at the CTR, not the tentative NPDES Permit.

CSPA Comment No. 3. The proposed permit amendment does not specify the procedures used to develop the WER and therefore the Fact Sheet does not contain the basis for the limitation as required by 40 C.F.R. section 124.8.

RESPONSE: Central Valley Water Board staff have changed the Fact Sheet to address the issue. The changes better describe the aluminum toxicity study completed by the Discharger. In the Fact Sheet, Section IV.C.3.d.i for aluminum was modified to provide additional clarification regarding the procedures used to interpret the appropriate aluminum criteria for implementation of the Basin Plan's Narrative Toxicity Objective for the protection of the aquatic life beneficial use.

CSPA Comment No. 4. CSPA comments that "The proposed aluminum limitation is established at 200 ug/l as an annual average. According to USEPA's ambient criteria for the protection of aquatic life acute toxicity can occur based on a one hour average concentration. The one-hour average water quality criteria for aluminum is 750 ug/l. The maximum effluent concentration (MEC) from the wastewater treatment plant for aluminum was 720 ug/L. Using USEPA's statistical procedures from the Technical Support Document for Water Quality Based Toxics Control (TSD) the projected maximum effluent concentration would exceed 750 ug/l. An annual average limitation for aluminum of 200 ug/l would statistically allow for one-hour peak concentrations above the acute criterion and would, according to USEPA, cause acute toxicity."

RESPONSE: Central Valley Water Board staff does not concur that there is reasonable potential for the discharge to exceed 750 µg/L for aluminum. Based on 77 effluent samples for aluminum, collected from 2005 through 2009, the MEC was 720 µg/L, with a minimum of non-detect (<27 µg/L). The data was statistically evaluated and it was determined that the data best fits a normal distribution. The average effluent aluminum concentration was 188 µg/L and the standard deviation was 134 µg/L. Based on the distribution of the data, the 99.9th percentile is

640 µg/L¹. Considering the statistical evaluation of the data, there is no reasonable potential for the discharge to exceed the aquatic life criterion of 750 ug/L. Furthermore, during this same four-year period, the discharge never exhibited acute toxicity in the effluent as confirmed by 100% compliance with the acute toxicity effluent limit.

CSPA Comment No. 5. CSPA states that, "The proposed Permit amendment, page 5, states that: 'Although analysis of the effluent data shows that the MEC of 720 ug/L and the maximum observed annual average effluent concentration of 232 ug/L is greater than the applicable WQBELs Secondary MCL, the Facility is able to immediately comply with the final aluminum effluent limitation.' An effluent aluminum concentration of 232 ug/l cannot comply with a limit of 200 ug/l. The Regional Board's conclusion makes no sense, except that the conclusion must be made in order to avoid the issuance of an accompanying enforcement order. It is frankly amazing that technical staff is apparently willing to state that 232 is less than 200 in order to avoid a proper enforcement order.

RESPONSE: Analysis of the effluent data shows that the effluent calendar annual average aluminum concentration only exceeded 200 µg/L once in the past six years (2005-2010), therefore, the Discharger asserts that the Facility is able to immediately comply with the final aluminum effluent limitation and has not requested a compliance schedule. As proposed, the Discharger is required to immediately comply with the annual average effluent limitation for aluminum and would be subject to enforcement, including the assessment of mandatory minimum penalties in accordance with Water Code section 13385, should a violation occur.

¹ The 99.9th percentile represents a 1-in-3 year occurrence. USEPA's National Ambient Water Quality Criteria for Aluminum states that, "...freshwater aquatic organisms and their uses should not be affected unacceptably, when the...one-hour average concentration does not exceed 750 ug/L more than once every three years on the average." As demonstrated, the 1-in-3 year maximum effluent concentration for aluminum does not exceed the USEPA recommended acute criterion.