



CVCWA Central Valley Clean Water Association

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September 28, 2007

VIA FACSIMILE AND EMAIL

Ms. Diana Messina, Senior Engineer
Regional Water Quality Control Board
Central Valley Region
11020 Sun Center Drive, #200
Rancho Cordova, CA 95670

SUBJECT: Tentative Waste Discharge Requirements for City of Yuba City
Wastewater Treatment Facility

Dear Ms. Messina:

The Central Valley Clean Water Association (“CVCWA”) appreciates the opportunity to provide comments on the *Tentative Order for the City of Yuba City Wastewater Treatment Facility* (“WWTF”), prepared by the Regional Water Quality Control Board (“Regional Water Board”) staff. CVCWA is familiar with the history of this permit and therefore appreciates the complex nature of the issues associated with the Yuba City permit. Overall, CVCWA appreciates the Regional Water Board staff’s diligent efforts towards resolving many of the complex issues associated with the Yuba City permit. We understand from the City of Yuba City that many of the major issues originally identified have been resolved satisfactorily for both parties. Please be assured, it is not CVCWA’s intent to undermine or negate the diligent efforts that have occurred. However, CVCWA finds it necessary to express concern with regard to two major policy issues for which CVCWA has commented previously. In general, CVCWA continues to be concerned with the Regional Water Board’s continued use of the U.S. EPA ambient criteria for aluminum, the application of an agricultural water quality goal without considering site-specific conditions, and the application of California Toxics Rule (CTR) constituent compliance schedule deadlines for non-CTR constituents. Our comments on these three issues are provided below.

U.S. EPA Recommended Ambient Criteria for Aluminum

The Regional Water Board proposes effluent limits for aluminum based on an interpretation of the narrative toxicity objective in the Basin Plan and use of best professional judgment. The Regional Water Board relies on and applies the U.S. EPA Section 304(a) *National Recommended Water Quality Criteria for Aluminum - 2002*¹ in the derivation of the proposed effluent limits in the Tentative Order. These U.S. EPA criteria were developed to protect aquatic life uses. Aluminum is not a priority pollutant and is not included in the California Toxics Rule (“CTR”). Also, a numeric aquatic life-based water quality objective for aluminum is not included in the Central Valley Basin Plan.

The U.S. EPA *National Recommended Criteria for Aluminum* include an acute value of 750 µg/L, and a chronic value of 87 µg/L. There are three footnotes associated with the chronic criterion, which are excerpted below:

G. This value is based on a 304(a) aquatic life criterion that was derived using the 1985 Guidelines (Guidelines for Deriving Numerical National Water Quality Criteria for the Protection of Aquatic Organisms and Their Uses, PB85-227049, January 1985) and was issued in one of the following criteria documents: Aluminum (EPA 440/5-86-008); Chloride (EPA 440/5-88-001); Chlorpyrifos (EPA 440/5-86-005).

I. This value for aluminum is expressed in terms of total recoverable metal in the water column.

L. There are three major reasons why the use of Water Effect Ratios might be appropriate. (1) The value of 87 µg/L is based on a toxicity test with the striped bass in water with pH – 6.5-6.6 and hardness <10 mg/L. Data in “Aluminum Water-Effect Ratio for the 3M Plant Effluent Discharge, Middleway, West Virginia” (May 1994) indicate that aluminum is substantially less toxic at higher pH and hardness, but the effects of pH and hardness, are not well quantified at this time. (2) In tests with the brook trout at low pH and hardness, effects increased with increasing concentrations of total aluminum even though the concentration of dissolved aluminum was constant, indicating that total recoverable is more appropriate measurement than dissolved, at least when particulate aluminum is primarily aluminum hydroxide particles. In surface waters, however, the total recoverable procedure might measure aluminum associated with clay particles, which might be less toxic than aluminum associated with aluminum hydroxide. (3) EPA is aware of field data indicating that many high quality waters in the U.S. contain more than 87 µg aluminum/L, when either total recoverable or dissolved is measured.

¹ USEPA 2002. *National Recommended Water Quality Criteria: 2002*. Office of Water, Office of Science and Technology. EPA-822-R-02-047. November.

As the footnotes above indicate, the development of the chronic criterion was based on specific receiving water conditions where there are low pH levels (below 6.5) and low hardness levels (below 10 mg/l as CaCO₃). This finding is corroborated in a letter from Charles Delos of U.S. EPA to Richard McHenry at the Regional Water Board. According to Mr. Delos, the chronic aluminum criterion of 87 µg/L “is expected to be overly protective when applied to waters of moderate hardness and pH.” Such conditions are not generally applicable to Central Valley waterways.

A number of communities in the Central Valley have embarked on preliminary water effect ratio studies for aluminum in response to (or in anticipation) of aluminum effluent limits adopted (or to be adopted) by the Regional Water Board. The City of Yuba City is one of those cities, along with the Cities of Manteca and Modesto, that has performed preliminary water effects ratio testing in accordance with U.S. EPA testing protocols. Preliminary results from Yuba City’s study as well as the other indicate that site-specific aluminum criteria based on observed WER values in local waters greatly exceed the U.S. EPA 304(a) criteria for protection of aquatic life uses. The calculated WER values and projected aquatic life criteria from these studies are listed in Tables 1 and 2, respectively.

Table 1: Estimated Aluminum WER values in the Central Valley (Preliminary)

Test Species	Manteca	Modesto	Yuba City
<i>Daphnia magna</i>	---	211	> 53.5
<i>Ceriodaphnia dubia</i>	22.7	79.6	> 53.5
<i>Rainbow trout</i>	---	229	> 53.5

Table 2: Projected Site specific Aluminum Criteria for Protection of Aquatic Life Uses (Preliminary)

Permittee	4-day average chronic criterion (µg/L) (a)
Manteca	1,975
Modesto	6,925
Yuba City	4,655

(a) Based on minimum WER value for permittee X 87 µg/L

Thus, the tests performed by Yuba City and the other communities confirm that aluminum toxicity is not an issue of concern in Central Valley receiving waters or effluents. This is supported by the U.S. EPA 304(a) criteria information, which indicates that aluminum toxicity is not anticipated at the higher hardness and pH values generally encountered in the Central Valley. Because the preliminary testing results overwhelmingly confirm that aluminum toxicity is not an issue of concern, CVCWA questions the Regional Water Board’s practice of continuing to apply the recommended criteria unless an expensive water effects ratio study is completed and accepted by Board staff. The Regional Water Board has the discretion to use best professional judgment to

determine that recommended criteria are not applicable based on results of the preliminary studies; just as the Regional Water Board used its best professional judgment to apply the criteria in the first place.

In lieu of requiring the development of expensive water effects ratio studies, CVCWA encourages the Regional Water Board to allow Central Valley dischargers the option of conducting preliminary studies to show the anticipated impact of aluminum of toxicity. If the preliminary studies overwhelmingly indicate that aluminum toxicity is not an issue, as is in the cases of Yuba City, Modesto and Manteca, the Regional Water Board should use its discretion and exercise its best professional judgment to no longer apply the recommended ambient criteria for aluminum. Such an approach is consistent with the *Policy for Application of Water Quality Objectives*, which requires the Regional Water Board to evaluate if numeric criteria “are relevant and appropriate to the situation at hand and, therefore, should be used in determining compliance with the narrative objective.” (Basin Plan at p. IV-17.00.)

Effluent Limitation for Molybdenum

The tentative order contains an effluent for molybdenum that is based on the agricultural water quality goal as contained in the *Water Quality for Agriculture, Food and Agriculture Organization of the United Nations – Irrigation and Drainage Paper No. 29, Rev. 1* (R.S. Ayers and D.W. Westcot, Rome, 1985) (“UN Report”). According to the fact sheet for the tentative order, the agricultural water quality goal has been applied without the consideration of site-specific conditions as directed by the State Water Resources Control Board (“State Water Board”) in its *City of Woodland* decision. (Order WQO 2004-0010.)

The State Water Board’s decision in *City of Woodland* precludes the practice of using the agricultural water quality goal from the UN Report without first consider site-specific considerations:

“The UN Report makes it clear that site-specific considerations are important in assessing irrigation water suitability. The preface to the report states that the guidelines can indicate potential problems and use restrictions with a water supply. ...

“With this caveat in mind, it is obvious that the 700 umhos/cm EC value cannot be interpreted as an absolute value. Rather, the Regional Board must determine whether site-specific conditions applicable to Woodland’s discharge allow some relaxation in this value. Chief among them is leaching.”

(Order WQO 2004-0010, at p. 7.)

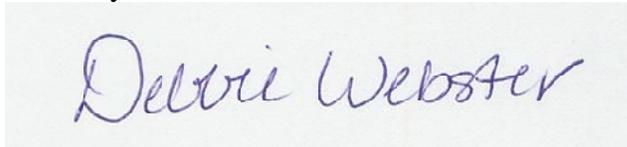
In its application of the UN Report’s agricultural water quality goals, the Regional Water Board staff did not consider site-specific conditions. Thus, CVCWA recommends that the Regional Water Board eliminate the effluent limitation for molybdenum until such time that the Regional Water Board can properly consider site-specific factors to determine if the molybdenum agricultural water quality goal is applicable to the City of Yuba City’s discharge.

Compliance Schedules for Aluminum and Iron

The tentative order contains compliance schedules for aluminum and iron that are based on the compliance schedule provisions for California Toxic Rule (“CTR”) constituents as is contained in the Code of Federal Regulations for CTR pollutants. The tentative order contains a final compliance date of May 18, 2010 for these two constituents. CVCWA is concerned with the implication of such a final compliance date for two non-CTR constituents. The compliance schedule provisions in the CTR apply only to CTR constituents and are not applicable to non-CTR constituents. For non-CTR constituents, the Regional Board must apply the compliance schedule provisions as contained in the Water Quality Control Plan for the Sacramento River and San Joaquin River Basins (“Basin Plan”). Under the Basin Plan provisions, the Regional Board must establish a final compliance date that is based on the shortest practicable time required to achieve compliance. Compliance schedules under this provision are therefore as short as practicable but may not exceed ten years in length. CVCWA encourages the Regional Board to properly identify the appropriate authority for establishing compliance schedules for aluminum and iron within the tentative order.

If you have any questions regarding our comments, please do not hesitate to contact me at (530) 268-1338.

Sincerely,

A rectangular box containing a handwritten signature in blue ink that reads "Debbie Webster".

Debbie Webster, Executive Officer

c: Bill Lewis (electronic copy)