Central Valley Clean Water Association
Representing Over Fifty Wastewater Agencies

MICHAEL RIDDELL– CHAIR, CITY OF RIVERBANK
JEFF WILLETT – SECRETARY, CITY OF STOCKTON
TERRIE MITCHELL – SACRAMENTO REGIONAL CSD
ED CROUSE – TREASURER, RANCHO MURIETA CSD

August 27, 2011

Via Electronic Mail Only

Stacy Gotham
Regional Water Quality Control Board,
Central Valley Region
364 Knollcrest Drive, Suite 205
Redding, CA 96002
sgotham@waterboards.ca.gov

Re: Comments on the Tentative Waste Discharge Requirements for the City of Mt. Shasta Wastewater Treatment Plant

Dear Ms. Gotham:

The Central Valley Clean Water Association (CVCWA) appreciates the opportunity to submit these comments on the tentative waste discharge requirements (Tentative Order) for the City of Mt. Shasta and U.S. Department of Agriculture, Forest Service's (collectively, "City") City of Mt. Shasta Wastewater Treatment Plant (WWTP). CVCWA is a non-profit organization that represents more than 50 publicly owned treatment works (POTWs) throughout the Central Valley Region in regulatory matters affecting surface water discharge, land application, and water reuse. We approach these matters with a perspective that balance environmental and economic interests consistent with state and federal law.

Upon review of the Tentative Order, and for the reasons described in more detail below, we respectfully request that you revise the Tentative Order to: (1) retain the existing final effluent limitations for biochemical oxygen demand (BOD) and total suspended solids (TSS) and delete the related compliance schedules; (2) provide dilution credits for ammonia and chronic toxicity; (3) delete the requirement to conduct an aluminum study; (4) remove the final effluent

limitation for temperature, or, alternatively, add appropriate findings in support of the limitation; and, (5) make the reasonable potential findings regarding ammonia consistent with the state's Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California (SIP).

A. The Tentative Order Should Be Revised to Retain the Existing Final Effluent Limitations for BOD and TSS and Remove the Related Compliance Schedules

The Tentative Order includes final effluent limitations for BOD and TSS that apply the existing permit's "shoulder" (April 15-June 14 and September 16-November 15) limitations year-round. (Tentative Order at pp. 12, F-7, F-59.) These proposed new limitations are based on the new requirement to provide tertiary treatment. (*Id*. at pp. F-15 to F-16.) The stated purpose of these requirements is to protect irrigation and contact recreation uses, including fishing and a seasonal whitewater kayaking run. (*Id.* at pp. F-57, F-59 to F-60.) These proposed new requirements should be removed and the existing requirements retained. Applying the existing BOD and TSS limitations year-round is inconsistent with a recommended guideline of the California Department of Public Health (CDPH) and other permits issued by the Central Valley Regional Water Quality Control Board (Central Valley Water Board), which find that 20:1 dilution is protective of water contact recreation (REC-1) uses.

In a letter to the Central Valley Water Board dated April 8, 1999, CDPH stated that it will consider wastewater discharged to water bodies with identified beneficial uses of irrigation or contact recreation and where the wastewater receives dilution of more than 20:1 to be adequately disinfected if the effluent coliform concentration does not exceed 23 MPN/100 mL as a 7-day median or 240 MPN/100 mL more than once in any 30-day period. CDPH reiterated this advice in a letter dated July 1, 2003: "A filtered and disinfected effluent should be required in situations where critical beneficial uses (i.e., food crop irrigation or body contact recreation) are made of the receiving waters unless a 20:1 dilution ratio (DR) is available. In these circumstances, a secondary, 23 MPN discharge is acceptable."[1] The Tentative Order includes these recommended effluent limitations for total coliform organisms when dilution is more than 20:1. (Tentative Order at p. 13.) Further, the Central Valley Water Board routinely uses CDPH's 20:1 recommended guideline when issuing permits to POTWs. (See, e.g., City of Chico Order No. R5-2010-0019; Grizzly Lake Community Services District Order No. R5-2012-0046; City of Modesto Order No. R5-2012-0031.) Accordingly, applying the existing effluent limitations for BOD and TSS year-round is unnecessary and otherwise inappropriate.

[1] Letter dated July 1, 2003, to Thomas R. Pinkos, Executive Officer, Central Valley Water Board, from David P. Spath, Chief, Division of Drinking Water and Environmental Management.

B. The Tentative Order Should Allow Dilution for Ammonia and Chronic Toxicity

The Tentative Order inappropriately denies dilution credits for ammonia and chronic toxicity. For the reasons described below, CVCWA requests that you revise the Tentative Order to allow dilution credits for ammonia and chronic toxicity.

1. Ammonia

The Tentative Order properly finds that acute and chronic aquatic life mixing zones of 75 feet (for each) comply with the SIP and the Water Quality Control Plan for the Sacramento and San Joaquin River Basins (Basin Plan). (Tentative Order at pp. F-28 to F-30.) However, the Tentative Order inappropriately denies dilution credits for ammonia "due to current Facility and receiving water conditions[.]" (*Ibid.*) According to the Tentative Order, concerns with current facility performance are because the WWTP "does not provide nitrification or otherwise provide for the removal of ammonia." (*Id.* at p. F-32.) In other words, Central Valley Water Board staff proposes that the Central Valley Water Board find that all wastewater treatment facilities within its jurisdictional area build new treatment facilities to remove ammonia. Such a finding is improper for many reasons, including: (1) facility type is an improper basis for denying mixing zones and dilution credits; (2) the proposed finding improperly dictates the manner of permit compliance; and (3) dictating treatment for ammonia removal and automatic denial of mixing zones and dilution credits is a regulatory determination that should be done pursuant to the state Administrative Procedure Act (APA), not on a permit-by-permit basis.

i. Facility Type Is an Improper Basis for Denying Mixing Zones and Dilution Credits

According to the SIP, a regional board "shall deny or significantly limit a mixing zone and dilution credit as necessary to protect beneficial uses, meet the conditions of this Policy, or comply with other regulatory requirements." (SIP at p. 17.) The SIP further states: "Such situations may exist based on the quality of the discharge, hydraulics of the water body, or the overall discharge environment (including water column chemistry, organism health, and potential for bioaccumulation)." (*Ibid*.) In essence, reasons for denial need to be related to water quality and impacts to the receiving water – not to the type of facility.

Further, "while regional boards have discretion in allowing mixing zones and dilution credits, they must explain the denial of a mixing zone based on the facts of the discharge." (*In the Matter of the Petition of Yuba City*, WQO 2004-0013, at p. 10.) The Tentative Order would deny mixing zone and dilution credits for ammonia because of the facility type and because the receiving water "supports a notable world-renown recreational fishing industry." (Tentative Order at pp. F-32 to F-33.) These reasons are superficial and not specifically related to the facts of the WWTP's discharge. The facts are as follows:

- The mixing zones (both for acute and chronic aquatic life) comply with the SIP and Basin Plan; the mixing zones are limited to 75 feet long and 24 feet wide;

- The minimum dilution ratios of 11:1 and 12:1 for acute and chronic criteria, respectively, are available year-round, while greater dilution is available at certain times of the year;

- Discharges are prohibited during the recreation period of June 15 through September 14;

- The City would conduct acute bioassays using 100% effluent; and,

- The width of the mixing zone is 27 feet in a water body that is approximately 40 feet wide. (Tentative Order at pp. 11, F-25 to F-30.)

Based on these facts, the granting of acute and chronic mixing zones and dilution credits for ammonia would not affect aquatic life or recreational beneficial uses in the receiving water. Thus, denial of such mixing zones is arbitrary and unsupported by the information in the record.

ii. The Tentative Order Impermissibly Attempts to Dictate the Manner of Permit Compliance

The Tentative Order's finding regarding facility type unlawfully equates to dictating the manner of permit compliance. Water Code section 13360(a) declares that no regional or state board order can "specify the design, location, type of construction, or particular manner in which compliance may be had . . . ." (Wat. Code, § 13360(a).) Although the Tentative Order does not directly mandate ammonia removal, the cumulative affect of denying mixing zones and finding reasonable potential (both based on facility type) results in the Central Valley Water Board dictating ammonia removal. Further, the Tentative Order specifically states that, "it [is] reasonable for the Discharger to make practicable efforts toward ammonia reduction at the Facility prior to considering granting a mixing zone for ammonia." (Tentative Order at p. F-33.) Collectively, these findings indicate that it is the Central Valley Water Board's intent to require the City to build ammonia removal facilities at its WWTP. Such findings constitute dictating the manner of compliance and are unlawful.

iii. Automatically Denying Mixing Zones and Dilution Credits and Dictating Treatment to Remove Ammonia Is a Regulatory Determination and Requires Compliance With the APA

Based on the Tentative Order and other recent permit determinations, the Central Valley Water Board appears to be adopting a region-wide or basin-wide policy of requiring ammonia removal, or, at the very least, of denying mixing zones and dilution credits for ammonia. Specifically, beginning with its adoption of Order No. R5-2010-0081, the Central Valley Water Board has routinely denied mixing zones and dilution credits for ammonia, even in cases where a

mixing zone/dilution study has been provided and where acute and chronic dilution has been granted for other constituents. (See, e.g., City of Rio Vista Order No. R5-2010-0081; Sacramento Regional County Sanitation District Order No. R5-2011-0083; Tentative Order for City of Dunsmuir.) Further, the Central Valley Water Board has routinely determined that reasonable potential exists based on facility type. (See, e.g., Bear Valley Water District Order No. R5-2011-0053; City of Willows Order No. R5-2011-0072; City of Nevada City Order No. R5-2012-0033.)

Such a policy is a regulation that must be adopted pursuant to the applicable provisions of the APA – not on a permit-by-permit basis.[2] Under the APA, a regulation is defined to mean, "every rule, regulation, order, or standard of general application . . . adopted by a state agency to implement, interpret, or make specific the law enforced or administered by it or to govern its procedures." (Gov. Code, § 11342.600.) The Central Valley Water Board's proposed (and consistent) findings with respect to facility type, and its consistent practice of denying mixing zones and dilution credits for ammonia are a regulation because they collectively set forth a standard of general application. (See *Tidewater Marine Western, Inc. v. Bradshaw* (1996) 14 Cal.4th 557, 571 [". . . a rule applies generally so long as it declares how a certain class of cases will be decided."].)

Further, the Tentative Order's failure to provide fact-specific reasons for denial of mixing zones and dilution credits for ammonia in this case provides additional evidence that the Central Valley Water Board intends to makes this a determination of general application. Accordingly, the Central Valley Water Board must propose such a policy determination as a regulation and adopt it in accordance with applicable procedures. The Central Valley Water Board is subject to rulemaking provisions under the Water Code, Title 23 of the California Code of Regulations, and certain specified provisions of the Government Code. (See Wat. Code, §§ 185, 13222; Cal. Code Regs., tit. 23, § 649.1; see also Gov. Code, § 11353(b).)

2. <u>Chronic Toxicity</u>

The Tentative Order proposes that the numeric toxicity monitoring trigger for chronic toxicity be set at >1 TUc. (Tentative Order at p. 27.) Setting the chronic toxicity monitoring trigger at >1 TUc fails to include or account for the amount of chronic dilution that is available for this discharge. As discussed previously, the Tentative Order acknowledges that for chronic toxicity there is a maximum available dilution ratio of 12:1. (*Id.* at p. F-25.) There is a maximum available dilution ratio of 27:1 in the fall and 15:1 in the spring. (*Ibid.*) The Tentative Order also finds that the chronic aquatic life mixing zone of 75 feet complies with the SIP and the Basin Plan. (*Id.* at p. F-30.) However, without providing any justification, the Tentative Order fails to include any amount of dilution in setting the numeric toxicity monitoring trigger.

[2] See Gov. Code, § 11353(b)(1); see also Cal. Code Regs., tit. 23, § 649 et seq.

CVCWA recommends that Central Valley Water Board staff work with the City to determine what is an appropriate dilution credit for chronic toxicity, and include the dilution credit in setting the chronic toxicity monitoring trigger.

C. The Tentative Order Should Not Require the City to Conduct an Aluminum Study

Special Provision C.2.h of the Tentative Order requires the City to conduct a study to determine the appropriate aluminum chronic aquatic life criterion. (Tentative Order at p. 29.) The study is not necessary and should be removed from the Tentative Order. The Fact Sheet contains the rationale for not applying the USEPA 304(a) chronic national ambient water quality criteria (NAWQC) of 87 micrograms per liter (µg/L) of aluminum, including:

(1) The measured hardness and pH are greater than the range used in the studies to determine the NAWQC;

(2) Several toxicity studies conducted by Central Valley dischargers have confirmed the NAWQC generally is not applicable;

(3) The City's chronic toxicity tests with 100% effluent demonstrate no adverse effects; and,

(4) The City's acute toxicity tests with 100% effluent demonstrate no toxicity to rainbow trout. (Tentative Order at p. F-43.)

Current data from the WWTP and receiving water do not demonstrate reasonable potential under the 750 µg/L acute criterion or the 200 µg/L secondary maximum contaminant level (MCL). (Tentative Order at p. F-44.) Further, the facility has stopped using alum as a coagulant, which is expected to result in significant reduction in effluent aluminum concentrations. (*Ibid.*) Because there is no reasonable potential for aluminum, even under the 200 µg/L secondary MCL, there should be no studies necessary to determine the chronic toxicity of aluminum.

D. The Final Temperature Limitation Should Be Removed, or Appropriate Findings Should Be Added

The Tentative Order establishes a final effluent limitation for temperature that states "the discharge shall not exceed the natural receiving water temperature by more than 20°F." (Tentative Order at p. 12.) The Tentative Order's findings do not explain the basis for this limitation. This lack of explanation runs afoul of the legal requirement that a permit "must set forth findings to bridge the analytic gap between the raw evidence and ultimate decision or order." (*Topanga Association for a Scenic Community v. County of Los Angeles* (1974) 11 Cal.3d 506, 515; *Environmental Protection Information Center v. Cal. Dept. of Forestry and Fire*

Protection (2008) 44 Cal.4th 459, 516.) The purpose of this requirement is to "minimize the likelihood that the agency will randomly leap from evidence to conclusions" and is critical to ensure that the decision rendered is reasoned and equitable. (*Topanga* at p. 516.) As the California Supreme Court observed, clear articulation of "the relationships between evidence and findings and between findings and ultimate action" discloses "the analytic route the administrative agency traveled from evidence to action." (*Id.* at p. 515.) The Legislature "contemplated that the agency would reveal this route." (*Ibid.*) We therefore request that you remove the temperature limitation or revise the Tentative Order's findings as appropriate to support the limitation.

E. The Reasonable Potential Findings Regarding Ammonia Should Be Revised to Be Consistent With the SIP

CVCWA has concerns with the Tentative Order's reasonable potential findings for ammonia with regard to the SIP. The relevant portion of these findings state: "Per Section 1.3, Step 7 of the SIP, the facility type may be used as information to aid in determining if a water quality based effluent limitation is required." (Tentative Order at p. F-51.)

Based on Step 7 of the SIP and the WWTP's effluent data, the Tentative Order finds that the ammonia discharge has reasonable potential to cause or contribute to an excursion of the applicable water quality criteria. We are concerned with the inclusion of the quoted statement regarding Step 7 in the context of determining reasonable potential for ammonia. Relying on the information in the Fact Sheet, it appears that there is reasonable potential based on Step 4 of the SIP. (SIP at p. 6 [maximum effluent concentration greater than or equal to the criteria].) Because reasonable potential exists under Step 4, Step 7 does not apply. Step 7 of the SIP is the step where reasonable potential may be found based on "other information" to protect beneficial uses notwithstanding the analysis in Steps 1 through 6. (*Ibid.*) That is, a regional board may use Step 7 where reasonable potential does not exist under the other steps. Thus, the use of, and reference to, Step 7 is inappropriate here.

Further, Step 7 states that a regional board may use *other information* to determine if a water quality-based effluent limitation (WQBEL) is required. It does not state what the other information may include. However, based on a complete reading of Step 7, the other information must be reasonably related to the need for a WQBEL and the need for protecting the beneficial uses. Just because a facility may discharge ammonia does not automatically mean that the beneficial uses are at risk. To determine risk to beneficial uses, the Central Valley Water Board must evaluate the effluent quality, water quality, water quality criteria, and a number of other factors. It is inappropriate to conclude that a certain type of facility alone creates a risk to beneficial uses. Accordingly, the Tentative Order needs to be revised to remove the references with respect to Step 7 of the SIP and the discussion regarding the facility following the statement. Reasonable potential here should be based solely on Step 4 and the inclusion of other information is inappropriate.

We appreciate your consideration of our comments and requested revisions. Please do not hesitate to contact me at (530) 268-1338 or eofficer@cvcwa.org if I can be of further assistance.

Sincerely,

Debbie Webster

Debbie Webster,
Executive Officer

cc (*via electronic mail*):
Pamela Creedon, Central Valley Regional Water Quality Control Board
Rodney Bryan, City of Mt. Shasta
Jackie Brown, City of Mt. Shasta