



CVCWA

Central Valley Clean Water Association

Representing Over Fifty Wastewater Agencies

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ED CROUSE – TREASURER, RANCHO MURIETA CSD

April 22, 2013

Submitted Via Electronic Mail

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

Re: Comments on the Tentative Waste Discharge Requirements Order R5-2013-XXXX, City of Redding Stillwater Wastewater Treatment Facility, Shasta County

Dear Stacy:

The Central Valley Clean Water Association (CVCWA) appreciates the opportunity to submit comments on the tentative Waste Discharge Requirements for the City of Redding (City) Stillwater Wastewater Treatment Facility (Tentative Order). CVCWA is a non-profit association of public agencies located within the Central Valley region that provide wastewater collection, treatment and water recycling services to millions of Central Valley residents and businesses. We approach these matters with the perspective of balancing environmental and economic interests consistent with state and federal law. In this spirit, we provide the following comments regarding the Tentative Order's approach to dilution, toxicity and its justification for Biological Oxygen Demand and Total Suspended Solids effluent limitations.

Dilution

It is CVCWA's position that the proposed Tentative Order unreasonably restricts the amount of dilution granted in the derivation of numerous effluent limits. This stems from the use of projected future effluent quality as the basis for determining constituent by constituent dilution credits. It also stems from the notion that multiple mixing zones for each constituent will be adopted for a single discharge. CVCWA believes that these actions are inappropriate, for the reasons described below.

CVCWA representatives have been working with Regional Board staff to reach agreement on mixing zone issues and the derivation of effluent limits based on dilution. We have reached agreement on the following principles regarding any effluent limits utilizing dilution that are established:

1. Must protect beneficial uses
2. Must meet requirements of State Implementation Plan (SIP), as applicable
3. Must satisfy antidegradation policies
4. Must consider impacts of mixing zone decisions on assimilative capacity
5. Seek to avoid inappropriate permit violations resulting from unintentionally restrictive effluent limits

Working with Regional Water Board staff, CVCWA has developed an approach to the development of effluent limits that addresses antidegradation and assimilative capacity concerns. We are currently working to finalize agreement with Regional Water Board staff on that approach. The basis for this approach is that incremental increases that are less than 10% of the remaining assimilative capacity of the receiving water represent minimal risk to the receiving water. Protection of high quality waters in the case where ambient water quality is better than the criterion is discussed in a 2005 USEPA Memorandum.¹ Based on a four year process led by USEPA involving environmental groups, industry representatives and other experts, a consensus was reached that any individual decision to lower water quality for non-bioaccumulative chemicals that is limited to 10% of the available assimilative capacity (i.e., difference between the downstream ambient concentration and the WER adjusted copper WLA in this case) "represents minimal risk to the receiving water and is fully consistent with the objectives and goals of the Clean Water Act."

CVCWA has a remaining point of disagreement with Regional Water Board staff over the interpretation and implementation of the "mixing zone shall be as small as practicable" language in the SIP. Regional Board staff has interpreted this language to mean that dilution credit and size of mixing zone should be determined to provide "only what a POTW needs", i.e. should be based on current plant performance for every constituent with reasonable potential.

¹ E.S. King, Office of Science and Technology. Tier 2 Antidegradation Review and Significance Thresholds. Memorandum to Water Management Division Directors, Regions 1-10. August 10, 2005.

It is CVCWA's position, based on its reading of the SIP and support documents used to develop the SIP, and its analysis of supporting USEPA guidance, that the factors to be used in minimizing the size of a mixing zone, as described in SIP Section 1.4.2.2 A & B and are summarized as follows:

- No lethality to organisms passing through the mixing zone
- No significant human health risks
- The integrity of the water body shall not be compromised
- Passage of aquatic life shall not be restricted
- Biologically sensitive or critical habitats shall not be adversely impacted
- Shall not produce nuisance conditions
- Shall not dominate the receiving water or overlap with other mixing zones
- Shall not be near drinking water intakes

The Fact Sheet for the Tentative Order (pages F-23 through F-24), which evaluates the maximum possible mixing zone, states that an acute mixing zone 130 feet in length and a chronic mixing zone 230 feet in length satisfies all of these requirements. Therefore, these mixing zone dimensions are appropriate for use in the determination of effluent limits and satisfy the requirements of the SIP, as long as antidegradation is properly considered and addressed.

As stated above, a fundamental issue with the proposed Tentative Order is that it assumes that the SIP and USEPA guidance require the establishment of a separate mixing zone for each constituent that has reasonable potential (see Table F-8 on page F-26 of the Fact Sheet for the proposed Tentative Order). This approach is not consistent with the fundamental USEPA guidance and appears to be a misinterpretation of the language of the SIP.

USEPA guidance states, in referring to mixing zones, that "sometimes it is appropriate to allow for ambient concentrations above criteria in small areas near outfalls. These areas are called mixing zones...Mixing zones allowances will increase the mass loadings...to the waterbody, and decrease treatment requirements" (page 33, USEPA TSD, 1991).

USEPA permitting guidance in the Technical Support Document depicts mixing zones as follows: For a specific discharge, for aquatic life standards, a mixing zone is established for acute effects and a mixing zone is established for chronic effects (see page 33, Figure 2-1 of the USEPA TSD, 1991). For a specific discharge, for human health standards, a different mixing zone is established for human health effects. These three mixing zones pertain to all constituents in the discharge, to allow compliance with all standards. USEPA does not discuss the concept of setting constituent-specific mixing zones (i.e. the concept of multiple mixing zones for acute, chronic and human health for a single discharge).

The size of the mixing zone is limited to that which is required to allow the constituent requiring the largest mixing zone to meet standards at the edge of the mixing zone, i.e. by

determining which pollutant “most limits the allowable discharge” (page 33, TSD). Under such an approach, all other constituents in the discharge will achieve compliance with standards at the edge of the designated mixing zone. USEPA permitting guidance regarding mixing zones speaks about keeping mixing zones as small as practicable to avoid having aquatic life mixing zones which are based on complete mix with the receiving water at critical low flow. This would not allow any zone of passage for fish and would utilize the full assimilative capacity of the receiving water. This is an example of what is meant by minimizing the size of mixing zones, per USEPA guidance.

CVCWA has discussed the arguments with Regional Water Board staff against the “as small as practicable” interpretation being linked to plant performance for every constituent. Specifically CVCWA has examined available information (USEPA guidance, SIP documentation) to determine if plant performance (other than for the controlling constituent) was to be considered or used in the determination of dilution credit or effluent limits. In fact, the approach used in the proposed Tentative Order is not specified in the SIP, was not addressed in the documentation for the SIP, is not mentioned in the CTR, is not mentioned in the current Basin Plan language regarding mixing zones, and is not stated in USEPA guidance on mixing zones or in USEPA permitting guidance.

The City provided to the Regional Water Board the documentation necessary to justify mixing zones and dilution credit in its report, Application for Dilution Credits and Antidegradation (Dilution Credit Application).² This report describes the results of the City’s mixing zone study and how the results meet Federal and State requirements. The report discusses the results of the mixing zone study and how the mixing zones meet the guidelines in the SIP and in the TSD that are discussed above. In addition to meeting regulatory requirements for mixing zones, the Dilution Credit Application also addresses how the requested mixing zones meet antidegradation policies.

The City evaluated changes in assimilative capacity based on the requested mixing zones and effluent limits. For constituents where a change greater than 10% of the assimilative capacity was calculated, the City performed a complete anti-degradation analysis to demonstrate that any degradation was in the best interests of the people of the State. While the analysis performed by the City does not mirror the approach that CVCWA would advocate for the analysis of antidegradation and assimilative capacity, CVCWA does believe that the conclusions reached by the City adequately address each of these issues.

The Tentative Order’s approach to assigning dilution based on performance has resulted in unnecessarily restrictive effluent limits for the human health based criteria, in particular, despite the fact that SIP mixing zone requirements have been satisfied and antidegradation policies have

² Waterworks Engineers. City of Redding Stillwater Wastewater Treatment Plant, DRAFT Technical Memorandum No. 2: Application for Dilution Credits and Antidegradation Analysis (FINAL DRAFT). December 2, 2011.

been adequately addressed. Therefore, there is no basis for limiting mixing zones for either aquatic life or human health criteria based on performance.

CVCWA understands that the Regional Water Board's concern is that effluent quality will deteriorate if higher effluent limits are adopted. One approach that has been discussed is the use of an intermediate trigger value, somewhere between the existing effluent quality and the SIP-allowable effluent limit, that would cause the Permittee to submit information to the Regional Board to explain increases above the trigger concentration. This would provide flexibility not afforded by unnecessarily stringent permit limits. CVCWA recommends that the Regional Water Board grant the City its requested mixing zones and discuss with the City the use of a trigger in the final permit.

Toxicity

In Section VI.C.2.a.iii, the chronic toxicity monitoring trigger is 2 TUc. This does not take into account the full chronic dilution of 14:1 that would occur at the edge of a 230 foot mixing zone, but again bases the trigger on treatment plant performance. This is unnecessarily stringent. As noted on p. F-63 of the Tentative Order, dilution has been granted. Therefore, based on a more appropriate chronic dilution of 14:1 the toxicity trigger should be 14 TUc. CVCWA has discussed the concept of an intermediate trigger value (a value less than 14 TUc), which could be used in the permit to address the Regional Board's concern that effluent quality will be allowed to deteriorate unchecked. The trigger concept could be used to require submittal of information as to why the trigger was exceeded and would lead to an appropriate level of response. Such an approach would provide greater flexibility than the proposed 2 TUc value in avoiding unwarranted action in response to an effluent quality that is not indicative of adverse effects on beneficial uses. CVCWA recommends that this concept be discussed with the City and considered for incorporation in the final permit.

BOD and TSS Limitations

The Tentative Order includes final effluent limitations for BOD and TSS that are being carried over from the City's current permit. In the current permit, it explains that tertiary treatment was determined to be necessary to protect certain beneficial uses (which included municipal and domestic supply, agricultural and recreational beneficial uses. See discussion in Order No. R5-2007-0058 at pp. F-12). It then further explains that the final effluent limitations for BOD and TSS are based on the technical capability of the tertiary process (Order No. R5-2007-0058, p. F-11).

The Tentative Order proposes to depart dramatically from the previous reasons and explanations for including the final effluent limitations for BOD and TSS (see pp. F-48). Rather than relying on the previous reasons, which CVCWA believes have not changed, the Tentative

Order includes statements that allege that the BOD and TSS limits in the permit are necessary to ensure compliance with antidegradation policies. The reference to compliance with antidegradation policies here is unexplained and unsupported. Accordingly, CVCWA recommends that the Tentative Order be revised to mirror Order No. R5-2007-0058 with respect to the limits for BOD and TSS.

We appreciate your consideration of these comments and request that you revise the Tentative Order as suggested above. If you have any questions or CVCWA can be of further assistance, please contact me at (530) 268-1338 or eoofficer@cvcwa.org.

Sincerely,



Debbie Webster,
Executive Officer

c: (via email)
Pamela Creedon – Central Valley RWQCB
Bryan Smith – Central Valley RWQCB
Ken Landau – Central Valley RWQCB
Josh Keener – City of Redding