UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
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San Francisco, CA 94105

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Return Receipt Requested

February 16, 2012

Bryan J. Smith
Supervising Water Resource Control Engineer
Central Valley Regional Water Quality Control Board
415 Knollcrest Drive, Suite 100
Redding, CA 96002

Re: Tentative Order/Draft NPDES Permit for Clear Creek Community Services District Water Treatment Plant (NPDES Permit No. CA0083828)

Dear Mr. Smith:

Thank you for the opportunity to review and comment on the tentative order/draft permit (NPDES Permit No. CA0083828) for the discharge from the Clear Creek WTP to Clear Creek, which was public noticed on January 17, 2012. We were not afforded the opportunity to review and comment on a preliminary draft version of this permit provided only one day before the permit was public noticed. We have concerns about the draft permit that need to be addressed to ensure the permit effectively protects water quality and complies with NPDES requirements. Specifically, we are concerned with the use of the Arid West recalculation procedure to implement alternative aluminum criteria for the narrative toxicity standard and that applicable wasteload allocations have not been included in the permit. Pursuant to 40 CFR 123.44, we reserve the right to object to issuance of this permit if our concerns are not addressed.

A. Aluminum

As numeric criteria for aluminum are not included in the Basin Plan or California Toxics Rule, the Central Valley Water Board (Regional Board) implements the Basin Plan's narrative toxicity standard with other "relevant numerical criteria and guidelines developed and/or published by other agencies and organizations" (*Water Quality Control for the Sacramento and San Joaquin River Basins* (Basin Plan), p. IV-17.00). In the past, the Regional Board used EPA's National Recommended Water Quality Criteria for aluminum to implement the narrative standard, since the chronic criterion is the most stringent of applicable aluminum criteria. Other criteria that may be applicable are included in the State Water Resources Control Board's (State Board) *Compilation of Water Quality Goals* searchable online database, which includes State and federal

drinking water standards (primary and secondary maximum contaminant levels), agricultural water quality goals, and EPA's National Recommended Water Quality Criteria. The Basin Plan references this compilation of criteria for use in implementing the narrative water quality standards.

For a couple of years, dischargers in the Central Valley have been contesting the use of the EPA criteria for aluminum in implementation of the narrative standard. The dischargers contest the use of the 87 ug/l chronic criterion for the protection of aquatic life due to information included in a footnote to the criteria, which recommends a Water Effects Ratio be developed for three reasons:

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 a 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 g aluminum/L, when either total recoverable or dissolved is measured."

Antibacksliding and antidegradation concerns arise when the previous permit contains effluent limits for aluminum based on the EPA criteria and the Regional Board implements less stringent criteria in a reissued permit. EPA raised these concerns in our June 24, 2010 letter regarding the Placer County SMD 1 WWTP permit. EPA also expressed these concerns at the September 22, 2010 Board meeting regarding both the Placer County SMD 1 WWTP and the City of Auburn WWTP permits. Since then, the Regional Board has been implementing the next most stringent criteria (the secondary MCL of 200 ug/l) when there are no previous permit limits and the hardness of the receiving water is substantially greater than 10 mg/l.

Additionally, the State Board remanded the El Dorado Irrigation District Deer Creek WWTP permit to the Regional Board based on a petition by the California Sportfishing Protection Alliance regarding the implementation of appropriate criteria for aluminum (*CA SPA v. CRWQCB, Case #34-2009-80000309*). The December 2, 2010 decision concluded that the Regional Board did not sufficiently justify the use of the secondary MCL in lieu of EPA's chronic aluminum criterion for the protection of aquatic life.

In the Clear Creek WTP draft permit, the Regional Board decided that the EPA chronic aluminum criterion was overly stringent based on the following:

1. The hardness of Clear Creek ranges from 29 – 39 mg/l, which is greater than the hardness used to develop the EPA criteria (<10 mg/l).

2. The pH of Clear Creek ranges from 4.2 – 7.7 S.U., which is different than the pH range used in the development of the EPA criteria (6.5 – 6.6 S.U.).
3. The chronic criterion calculated with the Arid West recalculation procedure and the minimum Clear Creek hardness (29 mg/l) is 325 ug/l.
4. The City of Auburn study, performed with hardness and pH similar to Clear Creek, resulted in an aluminum criterion of 1,079 ug/l.

Considering the facility's maximum effluent concentration of aluminum was 139 ug/l, the Regional Board found no reasonable potential to exceed the 200 ug/l secondary MCL or the 325 ug/l recalculated criteria, and therefore, no effluent limit for aluminum was imposed.

Although there are no backsliding issues because the previous permit did not include an effluent limitation for aluminum, the Regional Board has not provided sufficient justification for the use of the secondary MCL or the Arid West recalculated criteria in determining reasonable potential and establishing effluent limitations. EPA has not formally changed its recommended aluminum criteria and the appropriate aluminum criteria for higher hardness situations remains uncertain. EPA's criteria apply to a large pH range of 6.5 – 9.0 S.U. The footnote to EPA's criteria recommends a water effects ratio be conducted, but this footnote does not invalidate the current recommended criteria. It appears that the discharger would meet EPA's chronic criteria for aluminum at least some of the time, as the effluent concentration varies between 29 - 139 ug/l, and since the discharger uses poly-aluminum chloride in the treatment process, the control of aluminum in the discharge is important.

It is inappropriate to assume the Arid West recalculation procedure is valid for use in the Central Valley. The procedure addresses arid ecoregions in the southwest and the species list has not been demonstrated to be appropriate for the Central Valley. It is our understanding that the Regional Board is drafting a white paper that fully evaluates the applicability of the Arid West procedure to the Central Valley; however, this report has not been provided prior to implementing the procedure in permits. The Arid West Report specifically states that, "it is strongly recommended that local state and regional USEPA staff should be consulted prior to using these findings to support or propose regulatory change" (p. ii, *Evaluation of the EPA Recalculation Procedure in the Arid West Technical Report*, Arid West Water Quality Research Project, May 2006). We have not been consulted on use of this procedure prior to its implementation in permits and we were not provided sufficient time to review and comment on the pre-public notice draft of the Clear Creek WTP permit, as agreed to in our NPDES Memorandum of Agreement with the California State Board.

The State Board decision on the El Dorado Irrigation District Deer Creek WWTP permit cited above states, "there is no evidence showing that the criteria calculated in the Arid West Report properly may be applied to other streams in the West." It also states, "it is not clear, for example, that the aquatic species resident to the "arid" West are representative of the contaminant sensitivity of species resident to the other areas in the West. In the absence of evidence that the conclusions of the Arid West Report can be extrapolated to other areas, the Court finds that the usefulness of the Report is limited.

The Report may provide guidance for the development of site-specific criteria, but it does not establish a new set of criteria applicable to all streams in the West region."

Lastly, it is inappropriate to use an incomplete water effects ratio study for a different waterbody (Auburn Ravine) as further justification to choose less stringent criteria for implementation of the narrative standard in other permits.

In conclusion, the Regional Board must provide adequate justification for this new approach to implementing the narrative toxicity standard. Since the white paper is not finalized, any permits that implement this approach and their associated fact sheets must describe, in detail, the applicability of the Arid West recalculation procedure to Central Valley waters, the details of the procedure, and how it is different than the EPA recalculation procedure. The EPA recalculation procedure can be found in Appendix L of EPA's Water Quality Standards Handbook:
http://water.epa.gov/scitech/swguidance/standards/upload/2002_06_11_standards_handbook_handbookappxL.pdf

We expect the Regional Board to reconsider the reasonable potential analysis for the Clear Creek WTP permit and consult with us on this new approach. We look forward to working with you to establish a technically and legally sound procedure in the white paper for determination of the appropriate numeric aluminum criteria to implement the narrative toxicity standard in the Basin Plan.

B. TMDL Wasteload Allocations

Based on the information included in the Fact Sheet, is unclear whether TMDLs developed in the Central Valley for mercury, chlorpyrifos and diazinon are applicable to the discharge. The Fact Sheet refers to the TMDL for diazinon, but should fully explain whether or not the TMDLs are applicable. If so, the permit must include water quality-based effluent limitations consistent with the wasteload allocations.

We appreciate the opportunity to provide input on the draft permit. If you would like to discuss these comments, please contact Elizabeth Sablad of my staff at (415) 972-3044.

Sincerely,

David Smith, Manager
NPDES Permits Office (WTR-5)