California Water Boards

Governor

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Secretary for Environmental Protection

Central Valley Regional Water Quality Control Board

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State Water Resources Control Board

FROM: for Pamela C. Creedon
Executive Officer
CENTRAL VALLEY REGIONAL WATER QUALITY CONTROL BOARD

DATE: 15 June 2012

SUBJECT: COMMENTS TO A-2144 (a)(b) – JULY 18 BOARD WORKSHOP

The Central Valley Water Board appreciates the opportunity to comment on the State Water Resources Control Board (State Water Board) draft Water Quality Order (WQO). The WQO is in response to petitions filed by the Sacramento Regional County Sanitation District and the California Sportfishing Protection Alliance on Waste Discharge Requirements Order R5-2010-0114 (Adopted Order) and Time Schedule Order R5-2010-0115 for the Sacramento Regional Wastewater Treatment Plant. The State Water Board has requested comments on the draft WQO and will hold a workshop on 18 July 2012. This memorandum contains our comments on the issues raised in the draft WQO.

The Central Valley Water Board appreciates the effort of the State Water Board in reviewing numerous contentions and a voluminous administrative record of nearly 3000 documents. We also commend State Water Board staff for providing a draft WQO that gives clear and concise direction to the Central Valley Water Board.

In summary and as discussed in detail below, Central Valley Water Board staff concurs with the draft WQO with regards to pathogens and filtration, the denial of the ammonia mixing zone, and the calculation of ammonia limitations. As provided below, we urge the State Water Board to include additional grounds that are documented in the Central Valley Water Board's Adopted Order and are in the administrative record to further support the WQO findings.

With regard to nitrate, Central Valley Water Board staff does not concur with the findings of the draft WQO and respectfully requests the State Water Board to reconsider supporting the denial of a mixing zone for nitrate, or at minimum, remand this issue back to the Central Valley Water Board to clarify its basis for using its authorized discretion.

DISCUSSION AND COMMENTS

Pathogens and Filtration

Central Valley Water Board staff agrees with the draft WQO that supports the Adopted Order's findings to require the Sacramento Regional County Sanitation District (SRCSD) to provide disinfected tertiary-level treatment to its wastewater for protection of beneficial uses in the vicinity of discharge. The draft WQO properly concludes the Central Valley Water Board acted appropriately by finding that treatment equivalent to California Department of Public Health's (CDPH) Title 22-disinfected tertiary recycled water is necessary to protect the beneficial uses of the Sacramento River and the Sacramento-San Joaquin Delta (Delta). The beneficial uses include Municipal and Domestic Supply (MUN), Agricultural Supply (AGR) and Contact Recreation (REC-1). The Sacramento River is popular for direct-contact recreation and is a source of agricultural water supply, with intakes in close proximity of the discharge.

The draft WQO also properly concludes the site-specific health risk analysis in the "Estimated Risk of Illness from Swimming in the Sacramento River, Report for SRCSD", Charles P. Gerba, February 2010, provides the necessary information for the CDPH and the Central Valley Water Board's conclusion that tertiary filtration is necessary to protect recreational beneficial uses of the receiving water. The health risk analysis was based on actual data for *cryptosporidium* and *giardia* in SRCSD's secondary-treated effluent and the Sacramento River. The risk analysis shows a significant increase in pathogens downstream of the discharge.

Given the litigious nature of this matter, we respectfully request the WQO include the following additional findings contained in the Adopted Order that served as the basis for the Central Valley Water Board to appropriately establish pathogen effluent limitations, and equivalent to Title 22 treatment:

a) The CDPH recommends treatment to reduce the risk of infection to 1-in-10,000. The CDPH concluded that conformance with the United States Environmental Protection Agency's (USEPA) Recreational Water Quality Criteria does not provide adequate public health protection from the SRCSD discharge into the Sacramento River. The conclusion was based on the following:

> *"1. The Criteria [Beach Standards] are based on risks posed by ambient recreational waters, where the pathogens detected are from human and animal sources. In the case under consideration, the discharge appears to be contributing at least 30 percent of the pathogens detected in the receiving waters. The human origin of these pathogens renders them more hazardous to swimmers.*
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> *2. The discharge is a controllable source, and the risk it poses may be abated by additional treatment. This is not true of waters impacted by non-point sources.*
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> *3. The Criteria represent a trade-off between the public's desire to swim in natural waters, and the minimum level of risk that could reasonably be achieved in 1986. CDPH questions whether this represents a level of risk that is currently 'acceptable' to the public.*
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> *4. CDPH considers a 1 in 10,000 risk of infection to be an acceptable risk from exposure to treated sewage effluents, and used this as a basis for its Recycled Water Regulations. Dr. Gerba estimates that the average risk of infection from a single swimming exposure to the effluent is approximately one order of magnitude*

higher than this threshold. The estimated risk of infection from ten such exposures is two orders of magnitude higher" [1]

b) USEPA concurs filtration must be required for the SRCSD discharge to protect municipal and domestic water supply beneficial uses. The USEPA's response to the tentative Permit clearly indicated that treatment less than tertiary filtration will not meet water quality standards. The USEPA's public comments provide the following:

> "*We strongly object to the disinfection alternative [which would not provide tertiary disinfection]. The disinfection alternative removes the Title 22 tertiary filtration requirements and imposes secondary treatment effluent limitations for BOD, TSS, and less stringent total coliform limits. The Regional Board must require the Discharger to provide tertiary filtration, which is necessary for the protection of beneficial uses, specifically municipal and domestic water supply (MUN). Without this requirement, the permit will not meet water quality standards.*"[2]

c) Final effluent limitations for total coliform organisms comply with the State Water Board's Resolution 68-16 (Antidegradation Policy). The SRCSD discharge is a single controllable source of pathogens and available technology to remove pathogens is feasible and reasonable. The State Water Board Antidegradation Policy requires, "*any activity which produces or may produce a waste or increased volume or concentration of waste and which discharges or proposes to discharge to existing high quality waters will be required to meet waste discharge requirements which will result in the best practicable treatment or control of the discharge necessary to assure that (a) a pollution or nuisance will not occur and (b) the highest water quality consistent with maximum benefit to the people of the State will be maintained.*"

In establishing an effluent limit for total coliform organisms the Central Valley Water Board complied with the Antidegradation Policy by establishing a discharge requirement that will result in the best practicable treatment or control (BPTC) of the discharge by treating the waste with tertiary treatment technology. The Sacramento River and Delta have waters of exceptional recreational, economical, and ecological significance to the people of the State of California. With the exception of the Sacramento Regional Wastewater Treatment Plant (SRWTP), all major municipal dischargers to the Delta are currently treating municipal wastewater to Title 22-tertiary level standards. These municipal treatment facilities include the Cities of Stockton, Manteca, Lodi and Tracy, which are similarly situated to the SRWTP.[3]

Tertiary treatment is commonly implemented by municipal dischargers in the Central Valley and statewide. The Central Valley Water Board appropriately concluded that tertiary treatment is a technology that is reasonable, feasible, available, and commonly used for treatment of municipal discharges in the Central Valley. Therefore, setting such requirements will result in the BPTC of the discharge from the SRWTP.

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[1] 15 June 2010 letter from Gary Yamamoto, CDPH to Ken Landau, Central Valley Water Board, (SRCSD_CORR_0573)

[2] USEPA letter to Pamela Creedon from Alexis Strauss dated 7 October 2010. (SRCSD_CORR_0942)

[3] In State Water Board Order WQ 2000-07, the State Water Board stated that, "...one factor to be considered in determining best practicable treatment and control would be the water quality achieved by other similarly situated dischargers and the methods used to achieve water quality".

Denial of Mixing Zone for Ammonia

Central Valley Water Board staff agrees the draft WQO properly finds the Central Valley Water Board appropriately denied an ammonia mixing zone to protect beneficial uses of the Sacramento River and the Delta. The draft WQO concludes the Central Valley Water Board acted appropriately with the following findings:

- Use of scientific literature that is the basis of the USEPA Ambient Water Quality Criteria Draft 2009 Update for Ammonia as "other relevant information" to deny a mixing zone is applicable;
- Evidence of impairment of *P. forbesi's* reproduction and juvenile life-stage survival by ammonia is relevant to denial of an ammonia mixing zone; and
- Ammonia toxicity to copepods is a likely factor that is adversely affecting candidate, threatened, or endangered species populations.

Again, due to the litigious nature of this matter, we respectfully request the WQO include additional findings contained in the Adopted Order that served as the grounds for the Central Valley Water Board's denial of an ammonia mixing zone in the Adopted Order. The suggested additional findings are as follows:

a) Ammonia inhibits nitrogen uptake by diatoms. The Delta estuary has one of the lowest primary production rates of any major estuary in the world[4] and is continuing in its long term decline. Lack of primary production is one factor hypothesized to explain the low fish production currently occurring in the estuary, and may also be contributing to the Pelagic Organism Decline.[5] Studies conducted by the Dugdale Laboratory at the Romberg Tiburon Center have demonstrated that ammonia concentrations in the Delta and in Suisun Bay are sufficiently elevated to a level that suppresses nitrogen uptake by diatoms.[6] The lack of available intracellular nitrogen for protein synthesis is the underlying physiological mechanism responsible for inhibiting algal growth. Field and laboratory results for Suisun Bay have been summarized in a set of peer-reviewed journal articles. In these studies, suppression of nitrate assimilation begins at ammonia concentrations of 0.014 mg of nitrogen per liter (N/L), and complete shutdown occurs at 0.056 mg N/L. Ammonia inhibition of nitrogen uptake at similar concentrations has been observed elsewhere in the Bay-Delta system.

b) Ammonia depletes oxygen in the Sacramento River. As ammonia is consumed by organisms in the natural environment of surface waters, it is oxidized to nitrite and nitrate. This oxidation process consumes dissolved oxygen in the surface water, thus creating an oxygen demand on the water body. For every pound of ammonia oxidized to nitrate, 4.18 pounds of oxygen are consumed.[7] Therefore, about 58 tons of dissolved oxygen in the Sacramento River is needed daily to fully oxidize the average 14 tons of ammonia

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[4] See Transcript at p. 126. (SRCSD_BM_13)
[5] American Fisheries Society: Collapse of San Francisco Bay Pelagic Fishes (SRCSD_OTHER_364)
[6] F. Wilkerson, R. Dugdale, V. Hogue, and A. Marchi, 2006. Phytoplankton blooms and nitrogen productivity in San Francisco Bay. Estuaries and Coasts 29(3): 401-416. (SRCSD_OTHER_367)
[6] R. Dugdale, F. Wilkerson, V. Hogue, and A. Marchi. 2007. The role of ammonium and nitrate in spring Bloom development in San Francisco Bay. Estuarine,Coastal and Shelf Science, 73:17-29. (SRCSD_OTHER_366)
[7] Nitrification and Denitrification, (SRCSD_OTHER_399)

discharged from the SRWTP. If the oxygen consumption rate exceeds the oxygen production of the water body, oxygen levels can drop below receiving water objectives and adversely affect aquatic life beneficial uses. The Basin Plan water quality objective for dissolved oxygen concentration in the Sacramento River, downstream of the discharge, is 7.0 mg/L. Based on information in the administrative record, the SRWTP's discharge currently is discharging ammonia at levels that cause violations of the water quality objective for dissolved oxygen.

c) Established Final effluent limitations for ammonia comply with the State Water Board's Antidegradation Policy. The SRCSD discharge of ammonia is adversely impacting and degrading the Sacramento River, Delta and downstream waterbodies. The State Water Board's Antidegradation Policy requires, "*any activity which produces or may produce a waste or increased volume or concentration of waste and which discharges or proposes to discharge to existing high quality waters will be required to meet waste discharge requirements which will result in the best practicable treatment or control of the discharge necessary to assure that (a) a pollution or nuisance will not occur and (b) the highest water quality consistent with maximum benefit to the people of the State will be maintained.*"

In establishing effluent limits for ammonia, the Central Valley Water Board complied with the Antidegradation Policy by establishing a discharge requirement that will result in the best practicable treatment or control (BPTC) of the discharge by treating the waste with nitrification treatment technology. With the exception of the SRWTP, all major municipal dischargers to the Delta are currently nitrifying municipal wastewater. These facilities are similarly situated to the SRWTP and are nitrifying municipal wastewater to similar levels.[8]

As nitrification treatment technologies are commonly used by municipal dischargers in the Central Valley and statewide, the Central Valley Water Board appropriately concludes that nitrification of the SRCSD wastewater is a reasonable, feasible, and available technology. Therefore, setting such discharge requirements for ammonia will result in the BPTC of the subject discharge.

Final Ammonia Effluent Limitation Calculation

After review of the ammonia criteria used for the final ammonia effluent limitations in the Adopted Order, Central Valley Water Board staff concurs that the criteria discussed in the Fact Sheet and corresponding Attachment H calculations are incorrect. The correct acute and chronic criteria for a pH of 8.0 and temperature of 22.5°C, in accordance with the USEPA 1999 Update of Ambient Water Quality Criteria for Ammonia, are 5.62 mg/L and 1.45 mg/L, respectively. We are in agreement with the draft WQO, and the Adopted Permit should be remanded back to the Central Valley Water Board to: (1) correct the ammonia effluent limitations in the permit, and (2) provide corrected calculations using a pH of 8.0 and a temperature of 22.5°C in the Fact Sheet and corresponding attachments.

[8] In State Water Board Order WQ 2000-07, the State Water Board stated that, "...one factor to be considered in determining best practicable treatment and control would be the water quality achieved by other similarly situated dischargers and the methods used to achieve water quality".

Nitrate (Nutrients)

Central Valley Water Board staff respectfully disagrees with the draft WQO findings regarding a mixing zone for nitrate (as Nitrogen, or N). The draft WQO finds the Central Valley Water Board's acted inappropriately by denying a mixing zone for nitrate. For reasons stated below, Central Valley Water Board staff believes the Adopted Order provides sufficient basis to deny a mixing zone for nitrates, to protect the immediate and downstream receiving water bodies. We respectfully request the State Water Board revise its WQO to support the Central Valley Water Board denial of a nitrate mixing zone, or to direct the Central Valley Water Board, through remand, to revise the Order appropriately by clarifying its findings.

A primary concern is the State Water Board's challenge to the Central Valley Water Board's discretionary authority to deny a mixing zone. State and Federal Policy are very clear in this regard; the allowance of mixing zones is a discretionary action of the Regional Water Quality Control Board. The *Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California* (State Implementation Policy or SIP) clearly indicates in Section 1.4.2 that, "*The allowance of mixing zones is discretionary and shall be determined on a discharge-by-discharge basis.*" Section 1.4.2.2 B. Mixing Zone Conditions, additionally states, "*The RWQCB 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.*" USEPA also states that mixing zones are discretionary in its Water Quality Handbook, Section 5.1, "*The present water quality standards regulation allows States to adopt mixing zones as a matter of States' discretion.*" Because the allowances of mixing zones are discretionary, Central Valley Water Board staff asks the State Water Board to uphold the adopted Order for denial of a mixing zone for nitrates. If not, then our request is to remand the Order back to the Central Valley Water Board for additional clarification of the basis for denial.

The Central Valley Water Board's denial of a mixing zone for nitrates was based on the following three arguments:

1. The increased nitrate loading resulting from the proposed nitrification (conversion of ammonia to nitrates) increases the nutrient loading into the Sacramento River, Delta, and further downstream waters, threatening the integrity of the entire system by:

    - Adversely impacting biologically-sensitive or critical habitats,
    - Producing undesirable or nuisance aquatic life,
    - Producing objectionable taste and odor, and
    - Causing a nuisance.

    The *USEPA Technical Support Document for Water Quality-Based Toxics Control* (TSD) and the SIP established that mixing zones are not recommended or allowed where these conditions exists. Information in the administrative record demonstrates these conditions exist as a result of nitrogen in the discharge, and therefore provide the justified grounds to deny a mixing zone.

2. The municipal and domestic supply (MUN) beneficial use is impacted outside of any mixing zone due to taste and odor, and nuisance conditions. Nutrients, including nitrates, stimulate algal growth. Algal growth impacts municipal water supply uses by stimulating toxic and odorous algae and clogging water treatment plant filters. Additionally, algae increases total organic carbon (TOC) concentrations that can form

carcinogenic disinfection by-products. Therefore, increased nitrate loading from this discharge can impact downstream municipal water uses through stimulation of algal growth. Information in the administrative record, provided by the downstream Water Agencies, provides such basis.

3. Allowing a mixing zone for nitrates is not in accordance with the Antidegradation Policy. Allowing a mixing zone results in effluent limitations that allow an increased loading (volume) of nitrates to the Delta. This does **not** result in the implementation of best practicable treatment or control (BPTC) of the discharge necessary to assure pollution or nuisance will not occur, and does **not** provide that the highest water quality consistent with maximum benefit to the people of the State is maintained.

The administrative record contains evidence that excessive or increased algal growth in the receiving waters, as a result of high nutrient concentrations, causes adverse impacts and is a nuisance for drinking water uses. There currently is no numeric water quality objective for nitrate as a nutrient. To limit excessive or increased algal growth in the receiving water bodies, the tentative NPDES permit for the Adopted Order (that was issued for public review and comment) included a proposed nitrate limit of 0.26 mg/L. This limit was established based on information submitted by the SRCSD for the SRWTP.

Numerous comments on the tentative permit argued the proposed nitrate limit of 0.26 mg/L was too low and technically not achievable. The Central Valley Water Board revised the proposed nitrate limit to 10 mg/L based on the CDPH Primary Maximum Contaminant Level (MCL) for nitrate in drinking water. The Central Valley Water Board used this number of 10 mg/L because there is no other numeric water quality standard developed at this time and there is no reliable scientific study or research that could be used as a reference to develop a numeric value to interpret the narrative chemical constituent objective in the Basin Plan. The 10 mg/L is not only used as a water quality objective to protect human health, but given the best available information, it is a discharge standard that will result in BPTC of the discharge and is a reasonable standard with which a facility can comply.

Clearly State Water Board staff agrees the discharge of nutrients from the SRWTP is impacting the Delta as discussed on page 22 of the draft WQO as follows:

> "*The Central Valley Water Board was certainly justified in being concerned about total nutrient loading from the District's discharge even after full nitrification. Among the reasons for concern are: (1) the impairment by nutrients to the Suisun Marsh Wetlands; (2) data showing that the nutrient concentrations downstream of the discharge are more than double the upstream concentrations; and (3) data showing that the levels of total nitrogen and total phosphorus in the discharge consistently exceed U.S. EPA's recommended Aggregate Ecoregion 1 nutrient levels.*[9]"

[9] Ambient Water Quality Criteria Recommendations, Rivers and Streams in Ecoregion I (USEPA, Dec. 2001) (EPA 822-B-01-012). Ecoregion 1 includes the Central Valley and recommends a median concentration of 0.66 mg/L of total nitrogen and 0.055 mg/L of total phosphorus. USEPA developed these nutrient criteria recommendations with the intent that they serve as a starting point for states and Tribes to develop more refined criteria to reflect local conditions.

In addition, as stated on page 22 of the draft WQO, there is no assimilative capacity in Suisun Bay for additional nutrients:

> "*Downstream beneficial uses must be protected, and in this case those downstream uses are in the Delta and San Francisco Bay, as well as Suisun Bay. U.S. EPA's current Section 303(d) list of impaired water bodies lists the Suisun Marsh Wetlands as impaired for nutrients.*[10] *There is enough evidence in the record of cyanobacteria in the Delta, and phytoplankton blooms in the San Francisco Bay (including blooms of Heterosigma akashiwo) to demonstrate that biostimulation is occurring, even if diatom populations in Suisun Bay are not experiencing bloom conditions.*[11] *The District's outfall contributes substantial nutrients, nitrogen (currently as ammonia) and phosphorus, directly to the Delta.*"

Until the Central Valley Water Board has information available that demonstrates a level of nitrate greater than 10 mg/L is protective of all the uses in the receiving waters, it used its discretion to not grant a mixing zone. As the draft WQO states on page 13, the TSD provides guidance where adverse effects have been observed far downstream, rather than confined to a mixing zone. Mixing zones may be denied where such denial is used as a device to compensate for uncertainties in the protectiveness of water quality criteria[12]. Here the uncertainty is the lack of a numeric nitrate water quality objective that will limit biostimulatory substances which promote aquatic growths that cause nuisance or adversely affect beneficial uses.

The Nutrient Numeric Endpoint (NNE) framework for development of a nitrate limit for the Delta is at least six years from completion, yet the impacts of nutrient loading to the Delta are occurring now. Waiting until a NNE is developed plus the additional time for the SRCSD to construct treatment processes to reduce nitrogen (which could be another two decades) may have irreversible adverse impacts on the Delta and further downstream waters. Establishing a technically-achievable nitrate effluent limitation of 10 mg/L will be fully protective of drinking water use for human consumption of nitrates. Additionally it will reduce the potential for algal growth and will provide some reduction to impacts nutrients have to aquatic life in the Delta. Given limited data, it is not possible to quantify those reductions at this time.

Information is available that demonstrates the MUN beneficial use would be impacted outside a mixing zone due to increase nitrate loading. The Water Agencies[13] provided ample evidence in

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[10] While the Suisun Marsh is not within the legal boundaries of the Delta, it is hydrologically connected to Suisun Bay and is addressed within the Bay-Delta Conservation Plan. (See Progress Report on the Bay-Delta Conservation Plan (5th ed., Aug. 2, 2011), p. 56; compare Wat. Code, § 12220 with Pub. Resources Code, § 29101.)

[11] See Lehman, P.W., et al., *Initial Impacts of Microcystis aeruginosa Blooms on the Aquatic Food Web In the San Francisco Estuary* (Dec. 2009); Lehman, P.W., et al., *The Influence of Environmental Conditions on the Seasonal Variation of Microcystis Cell Density and Microcystins Concentration in the San Francisco Estuary* (2008); Dugdale, R.C., et al., *The Role of Ammonium and Nitrate in Spring Bloom Development in San Francisco Bay* (2007); Lehman, P.W., et al. *Phytoplankton Biomass, Cell Diameter, and Species Composition in the Low Salinity Zone of Northern San Francisco Bay Estuary* (2000).

[12] TSD, p. 34

[13] The Water Agencies include the following agencies; Alameda County Water District, Alameda County Flood Control and Water Conservation District, Zone 7, Contra Costa Water District, Kern County Water Agency, Metropolitan Water District of Southern California, San Luis & Delta Mendota Water Authority, Santa Clara Valley Water District, State & Federal Contractors Water Agency, State Water Contractors, and Westlands Water District.

the administrative record that Delta water that is transported via the State Water Project carries nutrients that stimulate algal growth including toxic and odorous bluegreen algae. Algae growth contributes to increases in total organic carbon (TOC) in drinking water intake that will impact municipal water supply uses. The Safe Drinking Water Act requires TOC reduction treatment at drinking water treatment plants to reduce disinfection byproducts when disinfection byproducts exceed federal and state regulations in drinking water distribution systems. Disinfection byproducts are formed when TOC in surface water sources react in the distribution system with chemical disinfectants, especially chlorine. Algal growth also creates a nuisance by clogging water treatment plant filters.

All of these conditions impact the MUN beneficial use of waters downstream of the discharge. Although numeric water quality objectives are not available, the Basin Plan includes narrative objectives to protect the MUN beneficial use that the allowance of a nitrate mixing zone would violate, including:

- *Biostimulatory Substances.* Water to contain biostimulatory substances which promote aquatic growths in concentrations that cause nuisance or adversely affect beneficial uses.

- *Taste and Odors.* Taste- or odor-producing substances to be present in concentrations that impart undesirable tastes or odors to fish flesh or other edible products of aquatic origin, or that cause nuisance, or otherwise adversely affect beneficial uses.

- *Chemical Constituents.* Chemical constituents to be present in concentrations that adversely affect beneficial uses.

The allowance of a nitrate mixing zone allows for a substantial increase in the total loading of nitrate to the receiving water, and does not comply with the Antidegradation Policy. In denying the mixing zone for nitrates, the Central Valley Water Board complied with the Antidegradation Policy by establishing a discharge requirement that will result in best practicable treatment or control (BPTC) of the discharge. Other municipal dischargers in the Delta that are similarly situated to the SRWTP are denitrifying municipal wastewater to similar levels to reduce nitrogen discharged to surface water.[14] As denitrification treatment technologies are commonly used by municipal dischargers in the Central Valley region and statewide, the Central Valley Water Board appropriately concluded that denitrification of the SRWTP wastewater is a reasonable, feasible, and available technology. Therefore, denying the mixing zone and setting a final nitrate effluent limit of 10 mg/L will result in the BPTC of the subject discharge.

For all the reasons stated above, we believe the Central Valley Water Board has provided adequate justification to deny a mixing zone for nitrates to protect the immediate and downstream receiving water bodies, and respectfully request the State Board to allow the Adopted Order to stand on its own merits.

[14] In State Water Board Order WQ 2000-07, the State Water Board stated that, "...one factor to be considered in determining best practicable treatment and control would be the water quality achieved by other similarly situated dischargers and the methods used to achieve water quality".

CONCLUSION

In closing, the Central Valley Water Board staff concurs with the draft WQO with regards to pathogens and filtration, the denial of the ammonia mixing zone, and the ammonia effluent limitation calculations. As discussed above, we urge the State Water Board to include the additional grounds that are documented in the Adopted Order and are in the administrative records, to further support the WQO findings.

With regard to nitrate, the Central Valley Water Board requests that the State Water Board reconsider supporting the Adopted Order's denial of a mixing zone for nitrate, or at minimum, remand this issue back to the Central Valley Water Board to clarify the basis for using its authorized discretion.

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