

**Regional Water Quality Control Board
Central Valley Region
Board Meeting – 7/8 October 2009**

**Response to Written Comments for
The City of Manteca – Wastewater Quality Control Facility
Tentative Waste Discharge Requirements
17 September 2009**

At a public hearing scheduled for 7/8 October 2009, the Regional Water Quality Control Board, Central Valley Region (Central Valley Water Board) will consider adoption of a renewed National Pollutant Discharge Elimination System (NPDES) permit and Time Schedule Order (TSO) for the City of Manteca Wastewater Quality Control Facility. A tentative NPDES permit and TSO were issued on 10 August 2009. This document contains Central Valley Water Board staff responses to written comments received from interested persons. Written comments from interested persons were required to be received by the Central Valley Water Board by 10 September 2009 for the tentative Orders in order to be included in the record. Comments were received by the due date from the following parties:

1. City of Manteca (City or Discharger),
2. California Sportfishing Protection Alliance (CSPA), and
3. San Luis & Delta-Mendota Water Authority (Authority) and Westlands Water District (Westlands)

Written comments are summarized below, followed by Central Valley Water Board staff responses.

CITY OF MANTECA COMMENTS

The Discharger submitted a comment letter with “major issues” and an attachment with comments referred to as “technical comments and clarifying changes.” The Discharger’s “major issues” are addressed first followed by the “technical comments and clarifying changes.”

DISCHARGER’S MAJOR ISSUES

DISCHARGER COMMENT #1: The proposed Effluent Limitations for Electrical Conductivity are Inconsistent with the State Water Resources Control Board (State Water Board) Order Governing Manteca’s Discharge.

Response: Staff agrees that Water Quality Order (WQO) 2005-005 (Manteca Order) was controlling for the Manteca facility as of 2005. The Discharger states that it has already taken steps to reduce salinity to meet its current effluent limitations. The State Water Board agreed in the Manteca Order that reverse osmosis was not a reasonable alternative to reduce the Discharger’s salinity levels.

However, some of the factors supporting the State Water Board's conclusions have changed since adoption of the Manteca Order in 2005.

First, the 2005 Manteca Order relied on the fact that the effective date for the south Delta salinity objectives had repeatedly been postponed, and the objectives had not yet taken effect and were under review. At that time, the Bureau of Reclamation and Department of Water Resources were not yet required to meet the objectives, so it was unknown whether additional assimilative capacity would become available through actions by those agencies. The State Water Board updated the Bay-Delta Plan in 2006. The 2006 Bay Delta Plan confirmed the 700/1000 $\mu\text{mhos/cm}$ objectives, and added provisions to the Implementation Plan clarifying the applicability of those objectives to POTWs and clarifying that the objectives apply throughout the southern Delta. Although the State Water Board is still actively reviewing the objectives, and has been doing so since 2005, the recent State Water Board Order WQ 2009-0003 for the City of Tracy (Tracy Order) concludes that the Clean Water Act requires compliance with existing Bay Delta Plan water quality objectives for the south Delta pending the development of long-term or interim regulatory solutions such as revisions to existing water quality standards, a Total Maximum Daily Load (TMDL), variances, site specific objectives, or an offset policy (Tracy Order, p. 10 and p. 17).

Second, the Manteca Order stated that "although discharge of treated wastewater to the Delta or its tributaries under an NPDES permit can affect EC in the southern Delta, previous State Board decisions and water quality control plans do not discuss treated effluent discharges as a source of salinity in the southern Delta. Similarly, previously adopted implementation programs for complying with the EC objectives in the southern Delta have focused primarily on providing increased flows and reducing the quantity of salts delivered to the Delta and its tributaries by irrigation return flows and groundwater." (Manteca Order, p. 10.) The Tracy Order and the 2006 Bay Delta Plan supersede these conclusions. Although the State Water Board apparently still does not believe that reverse osmosis is a reasonable approach to wastewater treatment, the Tracy Order clearly requires compliance with the Bay Delta Plan's objectives unless the Water Boards allow another compliance alternative through a basin planning action.

Third, the Manteca Order concludes, "Without prejudging the question of possible revisions to the southern Delta EC water quality objectives, or the question of the possible conditions that may eventually be imposed on the City's permit or other permits in order to comply with water quality objectives for EC in the San Joaquin River and southern Delta, the State Board concludes that establishing an effluent limitation in the City's permit of 700 $\mu\text{mhos/cm}$ EC for April through August at this time is not supported by the record. ... Our conclusion is based on the unique background and facts in this case, and this order shall not be regarded as precedential with respect to other proceedings *or with respect to*

actions that may be appropriate at a future time.” (Manteca Order, pp. 14-15 [emphasis added; footnote omitted].)

Therefore, considering the 2006 Bay Delta Plan and the Tracy Order issued by the State Water Board¹, water quality-based effluent limitations for electrical conductivity have been included in the proposed NPDES Permit based on the Bay-Delta Plan.

DISCHARGER COMMENT #2: The City’s Ponds and Land Application Activities are exempt from Title 27.

Response: The Discharger contends that the Secondary Effluent Equalization Pond (SEEP) is unconditionally exempt from Title 27 pursuant to Section 20090(a) (sewage exemption), because it is a necessary part of the Facility’s wastewater treatment system. The SEEP is used only to store secondary-treated effluent prior to tertiary treatment, and is therefore part of the Facility’s treatment train. Central Valley Water Board staff agrees and has modified the findings in the proposed NPDES Permit.

The Discharger contends that the Food Processing Wastewater Pond is exempt from Title 27 pursuant to Section 20090(h) (reuse exemption). The City of Lodi Order does not address ponds that store fully treated effluent that will be used for recycling. The City of Lodi Order suggests that the *use* of recycled water is exempt under the reuse exemption. The reuse exemption (unlike the unconditional sewage exemption) does not include “... storage facilities associated with” reuse. The reuse exemption only covers “recycling or other use of materials ...” Therefore, the Food Processing Wastewater Pond is not “recycling.” However, whether or not the reuse exemption applies, the Food Processing Wastewater Pond is exempt from Title 27 under both the conditional sewage exemption and the wastewater exemption.

Discharges to the Food Processing Wastewater Pond do not go through the treatment plant and therefore do not qualify for the unconditional sewage exemption because they are not “associated with” the treatment facility. However, the food processing wastewater is pretreated by screening, DAF system, and pH neutralization before discharging to the Facility. Therefore, the Food Processing Wastewater Pond may be exempt from Title 27 either under the conditional sewage exemption, which applies to “treated effluent”, or under the wastewater exemption of section 20090(b). The Food Processing Wastewater Pond is lined; therefore, considering the characteristics of the wastes in the pond and the fact that it is lined, the waste will not discharge from the pond in

¹ See *also*, Draft Order for the City of Stockton, SWRCB/OCC File Nos. A-1971, A-1971(a), A-1971(b) (Sept. 17, 2009), available at http://www.waterboards.ca.gov/board_decisions/tentative_orders/a1971/docs/a1971ab_revorderltr091709.pdf. The State Water Board expects to issue the Stockton Order before the Regional Water Board adopts the Manteca permit.

quantities that could cause or contribute to groundwater degradation or the exceedence of groundwater objectives. The operation of the pond meets the requirements of the Basin Plan. Therefore, the Food Processing Wastewater Pond meets all preconditions of the Title 27 sewage exemption for treated effluent, and the Title 27 wastewater exemption.

The Discharger also contends that the Secondary Effluent Storage Pond (SESP) is exempt from Title 27 pursuant to Section 20090(h) (reuse exemption). Central Valley Water Board staff disagrees. Although the pond is used in the reuse operation, discharges to the pond constitute storage of fully treated effluent subject to the conditional sewage exemption. One of the preconditions of this exemption is that the discharge must be in compliance with the Basin Plan. The SESP, however, is unlined. Therefore, considering that secondary effluent exceeds water quality objectives for some constituents (e.g., salinity), the Discharger has not demonstrated that all preconditions have been met and has not added findings that the SESP is exempt from Title 27. The proposed NPDES Permit includes groundwater limitations. If the Discharger can demonstrate that the SESP is not causing violations of the applicable water quality objectives, the Central Valley Water Board can find in a future permit amendment or renewal that the SESP is exempt from Title 27 based on the sewage exemption. A five year compliance schedule is provided in the proposed NPDES Permit for compliance with the groundwater limitations and to allow additional information to be submitted to the Board for a determination regarding Title 27 exemption for the SESP.

The Discharger also contends that the application of the treated wastewater on the Land Application Area for irrigation purposes is considered reuse and should be exempt from Title 27 pursuant to Section 20090(h) (reuse exemption). Central Valley Water Board staff agrees and have modified the proposed NPDES Permit accordingly.

DISCHARGER COMMENT #3: The Groundwater Limitation for Total Ammonia is an Improper Interpretation and Application of the Basin Plan's Narrative Taste and Odor Objective. According to the Tentative NPDES Permit, the ammonia groundwater limitation is based on a study contained in the Journal of Applied Toxicology by Amoores and Hautala.

Response: The Amoores and Hautala study cites concentrations in water that are associated with threshold air odor concentrations, calculated via equilibrium partitioning. They represent thresholds in water that could cause water to smell bad. The Discharger has not provided a better, more direct criterion that can be used to apply the Basin Plan's narrative objective. In the absence of other information, this reference provides a criterion that implements the narrative objective.

The Policy for Application of Water Quality Objectives states, in part:

"To evaluate compliance with the narrative water quality objectives, the Regional Water Board considers, on a case-by-case basis, direct evidence of beneficial use impacts, all material and relevant information submitted by the discharger and other interested parties, and relevant numerical criteria and guidelines developed and/or published by other agencies and organizations (e.g., State Water Board, California Department of Health Services, California Office of Environmental Health Hazard Assessment, California Department of Toxic Substances Control, University of California Cooperative Extension, California Department of Fish and Game, USEPA, U.S. Food and Drug Administration, National Academy of Sciences, U.S. Fish and Wildlife Service, Food and Agricultural Organization of the United Nations). In considering such criteria, the Board evaluates whether the specific numerical criteria, which are available through these sources and through other information supplied to the Board, are relevant and appropriate to the situation at hand and, therefore, should be used in determining compliance with the narrative objective. **For example, compliance with the narrative objective for taste and odor may be evaluated by comparing concentrations of pollutants in water with numerical taste and odor thresholds that have been published by other agencies.** This technique provides relevant numerical limits for constituents and parameters which lack numerical water quality objectives." (emphasis added)

The 1.5 mg/L limit is a calculated odor threshold in water. It is therefore relevant and appropriate for determining compliance with the narrative tastes and odors objectives, which state for groundwater:

"Ground waters shall not contain taste- or odor-producing substances in concentrations that cause nuisance or adversely affect beneficial uses."

DISCHARGER COMMENT #4: The Monitoring Frequencies for Chronic Whole Effluent Toxicity (WET) Investigation Should Be Reduced.

Response: The Discharger requests that the accelerated monitoring requirements for chronic whole effluent toxicity (Special Provisions VI.C.2.a.iii.) be reduced to three monthly samples. Central Valley Water Board staff disagrees. The accelerated monitoring requirements specified in the proposed NPDES Permit are based on USEPA guidance from the *Technical Support Document for Water Quality-based Toxics Control*, EPA/505/2-90-001, March 1991 (TSD). In the Fact Sheet, page F-77, the following rationale is provided for the accelerated monitoring frequency:

"The provision requires accelerated monitoring consisting of four chronic toxicity tests in a six-week period (i.e., one test every two weeks) using the species that exhibited toxicity. Guidance regarding accelerated monitoring

and TRE initiation is provided in the *Technical Support Document for Water Quality-based Toxics Control*, EPA/505/2-90-001, March 1991 (TSD). The TSD at page 118 states, '*EPA recommends if toxicity is repeatedly or periodically present at levels above effluent limits more than 20 percent of the time, a TRE should be required*'. Therefore, four accelerated monitoring tests are required in this provision. If no toxicity is demonstrated in the four accelerated tests, then it demonstrates that toxicity is not present at levels above the monitoring trigger more than 20 percent of the time (only 1 of 5 tests are toxic, including the initial test)."

Based on the guidance in the TSD, the accelerated monitoring requirements in the proposed NPDES Permit are appropriate and necessary. The Discharger's suggestion of three monthly WET tests is not adequate.

The Discharger also suggests that the Numeric Toxicity Monitoring Trigger (specified in Special Provisions VI.C.2.a.ii.) be increased from 1 chronic toxicity unit (TUc) to 2 TUc. Central Valley Water Board staff disagrees. The basis for the Discharger's comment is that there must be a certain level of toxicity in order to conduct a successful toxicity identification evaluation (TIE). Central Valley Water Board staff agrees that a certain level of toxicity must be present to successfully identify a toxicant in a TIE. However, this is not the purpose of the Numeric Toxicity Monitoring Trigger. The trigger and the accelerated monitoring requirements, discussed above, are used to determine if the discharge exhibits a pattern of toxicity. If the discharge exhibits a pattern of toxicity exceeding the Numeric Toxicity Monitoring Trigger, a toxicity reduction evaluation (TRE) must be initiated. The TRE is conducted in accordance with the Discharger's TRE Workplan, which includes the process to remove/reduce the toxicity of the discharge. A TIE is only one step in the TRE process. The toxicity threshold for initiating a TIE is where the Discharger has discretion to implement the appropriate level of toxicity to conduct a successful TIE. This level of toxicity should be established in the TRE Workplan and may vary depending on the nature of the toxicity.

Finally, the Discharger requests that laboratory control water be used as the dilution water rather than the receiving water. Central Valley Water Board staff agrees and has made the proposed changes to the agenda version of the permit.

DISCHARGER COMMENT #5: Bioaccumulation Equivalence Factors (BEFs) should be added to the Congener Toxicity Calculation for Dioxin and Furans.

Response: Section 3 of the SIP requires all major POTWs to sample the effluent for dioxin and its congeners once during dry weather and once during wet weather. The SIP requires that each congener be multiplied by the Toxic Equivalency Factor (TEF) listed in Table 4 of the SIP and reported to the regional board. The Discharger conducted the dioxin sampling, but failed to provide data

for the congeners using the TEFs. Therefore, the Discharger must comply with the SIP and submit this data as required in the proposed NPDES Permit. No changes to the tentative NPDES Permit are proposed, but the Discharger may also report the data using the BEF calculation.

TECHNICAL COMMENTS AND CLARIFYING CHANGES

DISCHARGER COMMENT #6: The Discharger suggests additional language be added to Finding II.C. to indicate that certain provisions and requirements in the proposed NPDES Permit only implement State law.

Response: The requested change is unnecessary. Finding II.S. (pg. 11) addresses the Discharger's comment regarding provisions that only implement State law. Finding S. states the following:

"S. **Provisions and Requirements Implementing State Law.** The provisions/requirements in sections IV.B, IV.C, V.B, and VI.C.4.a of this Order are included to implement state law only. These provisions/requirements are not required or authorized under the federal CWA; consequently, violations of these provisions/requirements are not subject to the enforcement remedies that are available for NPDES violations."

DISCHARGER COMMENT #7: The Discharger comments that Prohibition III.D. should be removed, because it is a duplicative requirement regarding the collection system in Special Provisions VI.C.5.f.

Response: Central Valley Water Board staff disagrees. Prohibition III.D. is not intended entirely for the proper operation of the collection system. The purpose of Prohibition III.D. is to also ensure pollutant free wastewater does not enter the wastewater treatment system that could diminish the system's capability to comply with the proposed NPDES Permit. Pollutant-free wastewater means rainfall, groundwater, cooling waters, and condensates that are essentially free of pollutants. The inflow and infiltration of rainfall and groundwater is a collection system maintenance issue. However, the other pollutant-free wastewaters, such as cooling waters and condensates, are not a maintenance issue.

DISCHARGER COMMENT #8: The Discharger requests additional language be added to the Reclamation Specifications in the proposed NPDES permit that allows the Executive Officer to authorize additional water reclamation users.

Response: The proposed NPDES Permit allows reclaimed water use for construction dust control and irrigation in its land application area. The

Discharger has requested language be added to the proposed NPDES Permit that allows the Executive Officer to authorize new water reclamation users. The proposed NPDES Permit only allows specific water reclamation uses based on the Discharger's report of waste discharge. To allow new water reclamation users the Discharger must submit a report of waste discharge requesting the addition of reclaimed water users and the permit must be amended by the Central Valley Water Board. To allow the changes that the Discharger has requested, the Central Valley Water Board must adopt Master Reclamation Waste Discharge Requirements in accordance with CWC Section 13523. If the proposed water reclamation is for landscape irrigation the Discharger should apply for coverage under the State Water Board's Statewide General Permit for Landscape Irrigation Uses of Municipal Recycled Water.

DISCHARGER COMMENT #9: The Discharger has requested that the proposed NPDES Permit specify the specific groundwater monitoring wells where the groundwater limitations apply and specify the time period for seasonal average reclamation specifications.

Response: Central Valley Water Board staff disagrees. The groundwater limitations apply to the groundwater downgradient of any treatment or disposal unit that may release wastes to groundwater. The Discharger currently has a groundwater monitoring well network that is used to determine compliance with these groundwater limitations. However, the groundwater monitoring network may change in the future. Therefore, it is not practical or necessary to specify the groundwater monitoring wells where the groundwater limitations apply. The Discharger also requests that the background/upgradient well be specified in the groundwater limitations. For the same reasons discussed above, this is not necessary.

The Discharger also comments that Table 11, titled Interim Reclamation Discharge Specifications, includes a footnote #1 on the column titled "Seasonal Average", but the table does not include a footnote #1 below the table. The Discharger suggests that the footnote should indicate that the interim seasonal average reclamation specifications are to be determined based on data from 1 May through 30 November. Central Valley Water Board staff agrees and have modified the proposed NPDES permit accordingly.

DISCHARGER COMMENT #10: The Discharger requests the deletion of two provisions included in the Standard Provisions (Sections VI.A.2.i.(iii) and VI.A.2.o.).

Response: The Discharger has requested two changes to the State Standard Provisions. The proposed changes are not appropriate. The Standard Provisions in the Central Valley Water Board's NPDES permits apply to all

surface water discharges. Therefore, the standard provisions in the proposed NPDES permit have not been modified.

DISCHARGER COMMENT #11: The Discharger operates an Industrial Pipeline System (IPS) that currently is used by only one industrial user, Eckert Cold Storage. The Discharger has requested a provision to be allowed to the proposed NPDES Permit that allows the Executive Officer to authorize new or substitute dischargers to the IPS.

Response: The proposed permit does not prohibit new or substitute industrial users for the IPS. The proposed permit does not regulate the local connections into the collections system. No change is necessary.

DISCHARGER COMMENT #12: The Discharger has requested additional clarifications to the discussion of hardness and the analysis of metals with hardness-dependent CTR criteria in the Fact Sheet (Section IV.C.2.c., pages F-19 through F-27).

Response: Central Valley Water Board staff agrees with the suggested language changes and the addition of Table F-9 as proposed by the Discharger. The agenda version of the permit has been updated accordingly. The changes add additional clarification in the Fact Sheet. The clarification has no effect on permit conditions or requirements.

DISCHARGER COMMENT #13: The Discharger has requested several minor editorial corrections.

Response: Per the Discharger request, the appropriate corrections have been made to the proposed NPDES Permit.

CSPA COMMENTS, 9 September 2009

CSPA COMMENT #1: The Proposed Permit allows for an expansion of the Facility and an increase in the regulated flow from the currently permitted 9.87 million gallons per day (mgd) to 17.5 mgd, and therefore fails to comply with federal regulations at 40 CFR 122.4(i) that states "when a new [or expanded] source seeks to obtain a permit for a discharge of pollutants to a stream segment already exceeding its water quality standards for that pollutant, no permit may be issued." The southern portion of the Sacramento-San Joaquin Delta (Delta) Waterways is listed as a Water Quality Limited Segment, in part, for electrical conductivity. Because the Central Valley Water Board has not identified all dischargers of salinity to the Delta and has not issued compliance schedules for attainment of the salinity water quality objective, the Board may not allow the increase in regulated flow for this Facility.

Response: The cited provision only applies if a TMDL has been adopted for the impaired waterbody. CSPA does not cite the complete regulatory provision, which only applies to a “new source or new discharger,” and only applies when “the State or interstate agency has performed a pollutants load allocation for the pollutant to be discharged”, i.e., when a TMDL is in place. The Water Boards and EPA have not yet adopted a salinity TMDL for the San Joaquin River downstream of Vernalis (including Manteca). Even if it had, the provision applies only to “new sources” and “new dischargers.” Manteca is neither, despite its increased flow. (See, 40 CFR § 122.2.) *Friends of Pinto Creek v. EPA* (9th Cir. 2007) 504 F.3d 1007 involved a new discharger, not an existing discharger with an increase in flow.

CSPA COMMENT #2: The proposed Permit fails to adequately regulate the discharge of minimally treated industrial (food processing) wastes and discharges to agricultural fields in accordance with California Code of Regulations (CCR) Title 27.

Response: See Response to Discharger Comment No. 2.

CSPA comments that a time schedule is inappropriate to allow the Discharger to provide additional evidence to support a Title 27 exemption finding, and that immediate compliance is the only option. Staff disagrees. The City of Lodi Order specifically allowed a compliance time schedule in this situation, and does not require compliance with Title 27 in the interim. (Order WQ 2009-0005, pp. 20-21.) By definition, a time schedule provides a period of time during which a discharger does not yet meet applicable requirements. However, staff has clarified the draft order findings to remove the reference to a “temporary exemption.”

CSPA COMMENT #3: The proposed Permit includes Ultraviolet (UV) Disinfection System Operating Requirements for the newly installed disinfection system but fails to recognize that UV disinfection could result in an increased concentration of pollutants in the discharge; the waste characterization is considered incomplete.

Response: The Facility has undergone a significant upgrade, including nitrification/denitrification, Title 22-level tertiary filtration, and UV disinfection. Therefore, for constituents in which sufficient data is available, Central Valley Water Board staff based the reasonable potential analysis (RPA) on effluent data collected after the Facility upgrades. There was sufficient effluent data for inorganic constituents and conventional pollutants after completion of the Facility upgrades. However, for the majority of priority pollutants there was only one effluent data point after the Facility upgrades. One sample is not sufficient to conduct the RPA; therefore, effluent data collected prior to the Facility upgrades was used for these constituents. CSPA comments that since chlorine can oxidize pollutants, the change to UV disinfection could result in higher constituent concentrations and states that a constituent study should be performed

immediately. Central Valley Water Board staff disagrees that a constituent study is needed immediately. One sample of the effluent has been collected since the upgrades and did not show elevated concentrations. In fact, since the Facility upgrades also included Title 22-level tertiary filtration, most constituent concentrations have most likely been reduced. The proposed NPDES Permit requires a constituent study during the third year of the permit term for all priority pollutants and other constituents of concern. This is sufficient to further characterize the Facility effluent.

CSPA COMMENT #4: The proposed Permit moves Effluent Limitations for turbidity to a Special Provisions Section in an attempt to avoid mandatory minimum penalties as required by California Water Code (CWC) 13385.

Response: The details regarding how mandatory minimum penalties are to be implemented for permit requirements are an enforcement issue and need not be addressed in the permit provisions or requirements.

CSPA COMMENT #5: The proposed Permit contains language defining average dry weather flow that is ripe for misinterpretation.

Response: No change needed. The flow effluent limitations are for the average dry weather flow. The compliance determination language clarifies that compliance should be determined during periods that would best represent the average dry weather flow for the facility.

CSPA COMMENT #6: The proposed Permit establishes Effluent Limitations for metals based on the hardness of the effluent as opposed to the ambient upstream receiving water hardness as required by Federal Regulations, the California Toxics Rule (CTR, 40 CFR 131.389(c)(4)).

Response: Central Valley Water Board Staff disagrees. As explained in detail in the Fact Sheet (pages F-19 through F-27) the reasonable worst-case ambient hardness was used to calculate the CTR hardness dependent metals criteria. The downstream ambient hardness is appropriate and allowed by the *Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California* (SIP) and CTR.

The criteria for hardness-dependent metals must be based on the reasonable worst-case ambient hardness in accordance with the SIP², the CTR³ and State

² The SIP does not address how to determine the hardness for application to the equations for the protection of aquatic life when using hardness-dependent metals criteria. It simply states, in Section 1.2, that the criteria shall be properly adjusted for hardness using the hardness of the receiving water.

Water Board Order No. WQO 2008-0008 (Davis Order). The SIP and the CTR require the use of “receiving water” or “actual ambient” hardness, respectively, to determine effluent limitations for these metals. (SIP, § 1.2; 40 CFR § 131.38(c)(4), Table 4, note 4.) The CTR does not define whether the term “ambient,” as applied in the regulations, necessarily requires the consideration of upstream as opposed to downstream hardness conditions. Therefore, the State Water Board concluded that where reliable, representative data are available, the hardness value for calculating criteria can be the downstream receiving water hardness, after mixing with the effluent (Davis Order, p. 11).

In the Davis Order, the State Water Board points out that the requirements for selecting the appropriate hardness for calculating the CTR metals criteria is conflicting in the CTR and the SIP. The CTR requires that the hardness values used must be consistent with the design discharge conditions for design flows and mixing zones (e.g., 1Q10 and 7Q10 receiving water low flows). Whereas, the SIP’s steady-state method requires the selection of critical or worst-case parameters. These can be in conflict for hardness, because often in receiving waters the critical worst-case hardness conditions do not coincide with the design low flow conditions. The lowest hardness conditions typically occur during high river flows, due to the low hardness in surface runoff from precipitation or snowmelt⁴. The State Water Board concludes that, “Thus, the regional water boards have considerable discretion in the selection of hardness. Regardless of which method is used for determining hardness, the selection must be protective of water quality criteria, given the flow conditions under which the particular hardness exists.” (*Id.*, p.10.).

In the proposed NPDES Permit, the reasonable worst-case estimated downstream ambient hardness was used for calculating the CTR criteria. As shown in Tables F-5 through F-8, the calculated CTR criteria are protective under all discharge and flow conditions assuming worst-case conditions for upstream ambient hardness and metals concentrations.

CSPA comments that since a lower effluent limit would be required using the minimum observed upstream ambient hardness to calculate the CTR criteria, that this means a mixing zone and dilution is required. This is not accurate. Although a lower effluent limit can be calculated, dilution is not necessarily needed. A mixing zone is a zone near the point of discharge where criteria are not met. A mixing zone is needed when the effluent exceeds criteria and requires mixing with the receiving water before the criteria are met. As shown in Tables F-5 through F-8 of the Fact Sheet, considering the known conditions and using worst-case assumptions, the effluent does not exceed the criteria and any mixture of

³ The CTR requires that, for waters with a hardness of 400 mg/L (as CaCO₃), or less, the actual ambient hardness of the surface water must be used. It further requires that the hardness values used must be consistent with the design discharge conditions for design flows and mixing zones.

⁴ This has been documented for the San Joaquin River near the Manteca discharge. The lowest receiving water hardness occurs during flood flows when there is massive dilution.

effluent and receiving water does not exceed the criteria. A mixing zone is therefore not necessary in this situation.

CSPA COMMENT #7: The proposed Permit allows for use of a “translator” for copper that are not sufficiently protective of threatened and endangered aquatic species.

Response: As explained in the Fact Sheet, the site-specific metals translators used in the proposed NPDES Permit were developed in accordance with Section 1.4.1 of the SIP. CSPA’s comments are objecting to the provisions of the SIP, not the proposed permit.

CSPA COMMENT #8: The proposed Permit contains an allowance for a mixing zone that does not comply with the requirements of the SIP or the Basin Plan.

Response: Central Valley Water Staff disagrees. The mixing zone in the proposed NPDES Permit for human health criteria fully meets the requirements of the SIP and Basin Plan. As stated in the Fact Sheet (pg. F-30) the human health mixing zone and dilution credit are based on a dilution study, *Dilution Analysis of the Manteca Wastewater Discharge*, Resource Management Associates, October 2006. Therefore, the dilution credit was established using the SIP procedures for an “incompletely-mixed discharge.”

CSPA COMMENT #9: The proposed Permit does not contain enforceable Effluent Limitations for chronic toxicity and therefore does not comply with the Basin Plan, Federal Regulations, at 40 CFR 122.44 (d)(1)(i) and the *Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California* (SIP).

Response: Central Valley Water Staff disagrees. The effluent limitation, special provision, and compliance determination requirement for chronic whole effluent toxicity (WET) are in accordance with State Water Board WQO 2003-0012 (Los Coyotes and Long Beach) and WQ 2008-0008 (City of Davis). In these water quality orders, the State Water Board requires the following when a discharge has reasonable potential to cause or contribute to an exceedance of the narrative toxicity objective based on chronic WET testing:

- a) a chronic WET narrative limit;
- b) chronic WET numeric benchmarks for triggering accelerated monitoring; and
- c) rigorous toxicity reduction evaluation/toxicity identification evaluation conditions.

The proposed NPDES Permit contains these requirements and fully complies with the State Water Boards' water quality orders.

CSPA COMMENT #10: The proposed Permit fails to contain an Effluent Limitation for bis(2-ethylhexyl)phthalate despite a clear reasonable potential to exceed waste quality standards in violation of Federal Regulations 40 CFR 122.44.

Response: Out of 12 samples obtained from September 2007 through August 2008, bis (2-ethylhexyl) phthalate (Bis-2) was estimated (J flagged) once in the effluent at 2 µg/L; and out of 17 ambient background monitoring samples obtained from April 2004 through October 2008, Bis-2 was also estimated (J-flagged) once in the receiving water at 2 µg/L. For both of these effluent and receiving water samples, the method detection level was 0.9 µg/L and the reporting level was 5 µg/L. Bis-2 is a common contaminant of sample containers, sampling apparatus, and analytical equipment, and sources of the detected bis (2-ethylhexyl) phthalate may be from plastics used for sampling or analytical equipment. The Discharger did not collect the samples using clean techniques for sampling and analysis to prevent contamination. Considering this information, the Central Valley Water Board staff finds the two estimated data points to be suspect due to questionable quality control/quality assurance practices. Section 1.2 of the SIP states that, "The RWQCB shall have discretion to consider if any data are inappropriate or insufficient for use in implementing this Policy." Staff is proposing the Central Valley Water Board use its discretion in this matter. The proposed NPDES Permit requires Bis-2 samples taken using clean sampling and analysis procedures and requires monthly effluent monitoring. The proposed NPDES Permit also includes a reopener provision should the water quality data demonstrate that the effluent discharge has reasonable potential, and an effluent limitation is to be added.

CSPA COMMENT #11: The proposed Permit contains an Effluent Limitation for aluminum that is not protective of the beneficial uses of the receiving stream contrary to federal regulations 40 CFR 122.44.

Response: Central Valley Water Board staff disagrees. The Discharger conducted a site-specific water effects ratio (WER) study for aluminum in accordance with USEPA guidance. The WER study determined that a discharger-specific WER of 22.7 can be applied to the chronic criterion for aluminum and be protective of aquatic life. Using a discharger-specific WER is allowed by the SIP in Section 1.1. After applying the chronic WER, the acute criterion is more stringent than the chronic criterion and results in the more stringent water quality-based effluent limitations (WQBELs). The aluminum WQBELs in the proposed NPDES Permit are appropriate and fully protective of aquatic life.

CSPA COMMENT #12: The proposed Permit has an inadequate antidegradation analysis that does not comply with the requirements of Section 101(a) of the Clean Water Act, Federal Regulations 40 CFR 131.12, the State Board's Antidegradation Policy (Resolution 68-16) and California Water Code (CWC) Sections 13146 and 13247.

Response: Central Valley Water Board staff disagrees. The Discharger developed and submitted to the Central Valley Water Board a report titled, *City of Manteca Antidegradation Analysis for Proposed Wastewater Quality Control Facility Discharge Modification*, August 2008 (prepared by Larry Walker & Associates). This Antidegradation Analysis Report provided a complete antidegradation analysis following the guidance provided by State Water Board Administrative Procedures Update (APU) 90-004. Pursuant to the APU, the Report evaluated whether changes in water quality resulting from the proposed increase in discharge (17.5 mgd year-round tertiary treated discharge) (1) are consistent with the maximum benefit to the people of the state, (2) will not unreasonably affect beneficial uses, (3) will not cause water quality to be less than water quality objectives, and (4) provides protection for existing in-stream uses and water quality necessary to protect those uses. The satisfaction of the Antidegradation Requirement is discussed in detail in the Fact Sheet (pgs. F-57 through F-63).

With respect to land discharges, the proposed Order does not involve any increase in flow. All of the increased flow will be discharged to surface water. The land application flow will remain at 9.87 mgd. Additional flow cannot be land applied, because the agricultural area is completely built-out. By approving the land discharges in prior orders, the Board determined that these land discharges meet the requirements of Resolution 68-16. The proposed Order nevertheless includes groundwater limitations and study requirements to ensure that ongoing discharges do not unreasonably degrade groundwater and do not cause or contribute to groundwater degradation.

**SAN LUIS & DELTA-MENDOTA WATER AUTHORITY (AUTHORITY) AND
WESTLANDS WATER DISTRICT (WESTLANDS)**

AUTHORITY AND WESTLANDS COMMENT #1: The proposed time schedule order proposes an interim effluent limitation for salinity (electrical conductivity) that exceeds the Facility's maximum monthly average discharge. The Authority and Westlands question why the proposed interim effluent limitation exceeds the maximum monthly average EC concentration.

Response: The interim limit for EC in the proposed time schedule order was simply based on the current effluent limit in the NPDES permit. However, the Authority and Westlands make a good point that if the Discharger can meet more stringent limits based on the demonstrated performance of the Facility it may be

appropriate to require a more stringent performance-based limit. In evaluating effluent EC data for 2007 and 2008 during the irrigation season (1 April – 31 August) the projected maximum effluent concentration is 996 umhos/cm⁵. Coincidentally, this is the same as the interim limit proposed in the tentative TSO. The findings in the proposed TSO have been modified to clarify how the interim limit was established.

AUTHORITY AND WESTLANDS COMMENT #2: There is a growing concern with the effects of contaminants (including pharmaceuticals and endocrine disrupters) in the Delta on fish. The Authority and Westlands request the proposed NPDES Permit include monitoring for these constituents.

Response: The issue of pharmaceuticals and other emerging contaminants is a concern of the State and Regional Water Boards. However, the science is too uncertain at this point to require each publicly-owned treatment works to monitor for numerous constituents that have the potential to be found in the discharge. The State and Regional Water Boards are working to develop a coordinated regional monitoring program. Therefore, a reopener provision has been added to the proposed NPDES Permit that allows the permit to be reopened to make appropriate adjustments in permit-specific monitoring to coordinate with the Regional Monitoring Program.

⁵ The projected maximum effluent concentration for EC was determined as the 99.9th percentile of the data (i.e. mean plus three standard deviations). The value should not be in more than 2 significant figures considering the accuracy of the data. Therefore, this value should be stated as 1000 umhos/cm.