Central Valley Regional Water Quality Control Board
4/5 December 2008 Board Meeting

Response to Comments for the Town of Discovery Bay
Community Service District
Tentative Waste Discharge Requirements
Revised 2 December 2008

The following are Regional Water Quality Control Board, Central Valley Region (Regional Water Board) staff responses to comments submitted by interested parties regarding the tentative Waste Discharge Requirements (NPDES Permit renewal) for the Town of Discovery Bay Community Service District Wastewater Treatment Plant (WWTP). Public comments regarding the proposed Orders were required to be submitted to the Regional Water Board by 5:00 p.m. on 27 October 2008 in order to receive full consideration.

The Regional Water Board received comments regarding the proposed NPDES Permit renewal by the due date from the Town of Discovery Bay, the California Sportfishing Protection Alliance (CSPA), the State Water Contractors (SWC), the California Urban Water Agencies, and the San Luis & Delta-Mendota Water Authority (Authority) and Westlands Water District (Westlands). The submitted comments were accepted into the record, and are summarized below, followed by Regional Water Board staff responses.

TOWN OF DISCOVERY BAY COMMENTS

General Discharger Comments - The Discharger requested several minor, non-substantive wording changes in its comment letter. Changes have been accepted and incorporated into the proposed NPDES permit.

Discharger Comment No. 1. Dry Weather Flow Limit - The Discharger has requested that the new Order contain a 3.0 million gallon per day (mgd) average dry weather flow (ADWF) limit with a 2.1 mgd interim limit until such time that the District submit for Executive Officer approval adequate engineering, CEQA, and anti-degradation analyses justifying the increased flow. In the event the ADWF cannot be adjusted within the permit, the Discharger requests that specific reopener language be provided to facilitate only reopening this specific matter.

> **RESPONSE:** The Discharger has not provided the necessary data and information for Regional Water Board staff to determine if a flow increase is appropriate. Therefore, the ADWF will remain as limited in the proposed permit (2.1 mgd). The approval of such an increase must be made by the Regional Water Board and not the Executive Officer. The proposed permit contains reopener provisions allowing changes to be made in the event of new information becoming available which was not existing or accessible during the development of the permit. Regional Water Board staff feels this reopener is sufficient in the event the new ADWF limit is increased and the Order modified. In the case of such a modification, mass limitations will also need to be modified as well as the

potential for other changes based on the results of the information and analyses provided by the Discharger.

Discharger Comment No. 2. Copper Effluent Limitations - The commenter requests that the copper limitations in the proposed permit be increased to the full amount available based on the mixing zone study conducted by the Discharger. The Discharger states that effluent copper is believed to be from the water supply system and that work in the community regarding copper pipe corrosion rates may result in an unknown impact in copper concentrations. The proposed permit contains an average monthly effluent limitation (AMEL) of 50 µg/L and a maximum daily effluent limitation (MDEL) of 70 µg/L. The Discharger is requesting an effluent copper limit AMEL of 172 µg/L and a MDEL of 323 µg/L.

RESPONSE: The effluent limitations for copper in the proposed permit are based on the 95th and 99th percentiles of effluent monitoring data, which represent the AMEL and MDEL, respectively. If the full dilution credit was applied (e.g. allowing the full assimilative capacity of the receiving water) the effluent limitations would be 3 to 4 times greater than the past treatment plant performance. This would not be consistent with State Water Resources Control Board Resolution 68-16 (Antidegradation Policy). Regional Water Board staff has determined that the proposed limits allow dilution to the extent that is in consistent with the Antidegradation Policy and the development of the proposed effluent limits are consistent with the manner in which limitations are calculated per the SIP and EPA's Technical Support Document[1] utilizing the 95th and 99th percentiles.

Discharger Comment No. 3. Compliance with Surface Water Limitations for Fecal Coliform - The Discharger would like a more complete discussion concerning compliance with the fecal coliform limitation contained in the proposed permit and the monitoring frequency.

RESPONSE: The language as found in the proposed permit is consistent with that found in most recent permits. The Discharger is only required to monitor to the extent specified in the Monitoring and Reporting Program.

Discharger Comment No. 4. UV Operating Specifications - The Discharger states that the facility has secondary treatment requirements for BOD_5, TSS, and total coliform effluent limitations. The Discharger does not believe the facility should be required to monitor UV transmittance on a continuous basis. They request that continuous turbidity monitoring and UV transmittance monitoring requirements be removed.

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[1] Technical Support Document for Water Quality-based Toxics Control, EPA/505/2-90-001, March 1991 (TSD)

RESPONSE: It is necessary to monitor certain parameters within the UV disinfection process (e.g. turbidity, UV transmittance, etc.) to ensure proper operation of the system and lethality to pathogens in the effluent. The monitoring conditions are not being revised, because they are necessary to ensure proper disinfection occurs.

Discharger Comment No. 5. Compliance with Average Dry Weather Flow Effluent Limitations - The Discharger is seeking clarifying language for determining compliance with the Average Dry Weather Flow limitation.

RESPONSE: The Average Dry Weather Flow compliance language has been modified to be consistent with recently adopted Orders.

Discharger Comment No. 6. Attachments B and C - The Discharger provided more accurate topographic maps and flow schematics.

RESPONSE: The more recent attachments have been incorporated.

CALIFORNIA SPORTFISHING PROTECTION ALLIANCE COMMENTS

Designated Party Status. CSPA requested designated party status for the board hearing scheduled for 4/5 December 2008 with regard to the NPDES permit renewal for the Town of Discovery Bay. The commenter will be granted designated party status for the subject hearing.

Comment No. 1. The Wastewater Treatment Plant Utilizes Ultraviolet Light for Disinfection Despite Potential Interference Which Could Result in Inadequate Disinfection and Virus Inactivation – The commenter states that the Discharger is using ultraviolet light (UV) for disinfection purposes while operating a secondary treatment facility. The commenter wants the Discharger to be required to consult with the California Department of Public Health regarding the adequacy of the UV system to provide for proper disinfection.

RESPONSE: Regional Water Board staff has consulted with the Department of Public Health to ensure the operational and monitoring requirements are adequate to provide proper disinfection. The operational requirements along with continuous monitoring requirements for turbidity and UV transmittance will ensure adequate disinfection of the wastewater.

Comment No. 2. The Proposed Permit Fails to Include [Pathogen] Limitations that are Protective of the Municipal and Domestic Beneficial Uses of the Receiving Stream Contrary to Federal Regulations 40 CFR 122.4, 122.44(d) and the California Water Code, Section 13377 –

Response: Regional Water Board staff disagrees. The proposed permit is fully protective of the municipal and domestic water supply (MUN) beneficial use of the receiving water. The commenter claims that for pathogens, the most sensitive beneficial is MUN, due to the direct ingestion of the water, and the proposed permit only discusses protection of the contact recreation (REC-1) and agricultural water supply (AGR) beneficial uses with respect to pathogens.

There are no numeric water quality objectives applicable to the receiving water for pathogens for the protection of MUN. The only water quality objective that applies to surface waters is the bacteria objective in the Basin Plan, which states, "*In waters designated for contact recreation (REC-1), the fecal coliform concentration based on a minimum of not less than five samples for any 30-day period shall not exceed a geometric mean of 200/100 ml, nor shall more than ten percent of the total number of samples taken during any 30-day period exceed 400/100 ml.*" The proposed Order includes effluent limitations for pathogens based on recommendations by DPH for protection of REC-1 and AGR. These effluent limitations are also fully protective of the MUN use.

In 1987, the Department of Health Services (DHS) (now the Department of Public Health, or DPH) issued the "Uniform Guidelines for the Disinfection of Wastewater" (Uniform Guidelines), which included recommendations to the Regional Water Board regarding the appropriate level of disinfection for wastewater discharges to surface waters. The DHS provided a letter dated 1 July 2003 that included clarification of the recommendations. The letter states, "*A filtered and disinfected effluent should be required in situations where critical beneficial uses (i.e. food crop irrigation or body contact recreation) are made of the receiving waters unless a 20:1 dilution ration (DR) is available. In these circumstances, a secondary, 23 MPN discharge is acceptable.*" DHS considers such discharges to be essentially pathogen-free. (Letter from David P. Spath to Gary Carlton (16 September 1999) p. 3 and Enclosure to same, p. 6.) The proposed Order is consistent with these recommendations, considering site-specific factors. Title 22 is not directly applicable to surface waters; however, the Regional Water Board has found that it is appropriate to apply an equivalent level of treatment to that required by DPH's reclamation criteria when there is less than 20:1 dilution (receiving water:effluent) because the receiving water may be used for irrigation of agricultural land (AGR) and/or for contact recreation (REC-1) purposes.

In site-specific situations[2] where a discharge is occurring to a stream with a nearby water intake used as a domestic water supply without treatment, the DPH

[2] For example, see Waste Discharge Requirements Order No. R5-2007-0133 (NPDES No. CA0079391) for the City of Jackson Wastewater Treatment Plant, Amador County.

has recommended the same Title 22 tertiary treatment requirements for the protection of MUN, as well as protecting REC-1 and AGR. However, DPH has recommended a 20:1 dilution ratio in addition to the Title 22 tertiary treatment requirement to protect the domestic water supply only where there are existing users of raw water near the treatment plant outfall. In this case, based on a review of the State Water Boards eWRIMS water rights database, there are no such known uses in the vicinity of the discharge, so tertiary treatment plus 20:1 dilution is not necessary to protect the MUN, REC-1 or AGR uses.

The chemical constituents narrative objective states, "Waters shall not contain chemical constituents in concentrations that adversely affect beneficial uses." The narrative toxicity objective states, "All waters shall be maintained free of toxic substances in concentrations that produce detrimental physiological responses in human, plant, animal, or aquatic life." When necessary, the Regional Water Board adopts numeric effluent limitations to implement these objectives. The *Policy for Application of Water Quality Objectives* states, "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."

In this case, however, there are no known users of raw water (i.e., existing uses of untreated domestic water) in the vicinity of the discharge, and there is no direct evidence of beneficial use impacts. For public water supplies, wastewater discharges do not require drinking water treatment plants to add any additional treatment, since state and federal law require residual chlorine and/or ultraviolet disinfection of surface water. (*See, e.g.,* Surface Water Treatment Rule, 40 C.F.R. Part 141, Subpart H; Cal. Code of Regs. Title 22, section 64447.) Wastewater discharges do not interfere with such treatment processes. In this case, moreover, there are no public drinking water intakes near the treatment plant outfall. Thus, a 20:1 requirement is not required. When 20:1 dilution is unavailable, treating pathogens to a level more stringent than tertiary treatment would produce a chlorine residual in the effluent that would be toxic to aquatic life in the receiving water. Pathogens are not bio-accumulative, so discharges at the

permitted levels do not threaten any potential uses of the receiving water for untreated domestic use. Therefore, the requirement to implement tertiary treatment only when 20:1 dilution is not available adequately protects beneficial uses and is appropriate for this site under the case-by-case approach described in the *Policy for Application of Water Quality Objectives*.

The State Water Board has already determined that tertiary treatment is not necessary when dilution exceeds 20:1. (Order WQ 2004-0010 (City of Woodland).) The City of Woodland order addressed REC-1 and not MUN, which was not an existing use of the receiving water. However, the State Water Board has twice concluded that it is appropriate for the Regional Water Board to rely on DHS (now DPH) guidance in determining the level of treatment necessary to protect human health. (*Id.,* p. 11; Order WQ 2002-0016 (City of Turlock), p. 11.)

In summary, there are no numeric water quality objectives for pathogens for the protection of MUN. Therefore, the Regional Water Board, when developing NPDES permits, implements recommendations by DPH for the appropriate disinfection requirements for the protection of MUN, as well as REC-1 and AGR. The disinfection requirements in the proposed Order implement the DPH recommendations and are fully protective of the beneficial uses of the receiving water.

Comment No. 3. The Proposed Permit Fails to Include Limitations that are Protective of the Contact Recreation and Irrigated Agricultural Beneficial Uses of the Receiving Stream Contrary to Federal Regulations 40 CFR 122.4, 122.44(d) and the California Water Code, Section 13377 –

RESPONSE: Based on flow date and dilution studies performed by the Discharger, the discharge receives greater than 20:1 dilution at all times. In a letter to the Regional Water Board dated 8 April 1999, the California Department of Health Services (now Department of Public Health) indicated that they consider wastewater discharged to water bodies with identified beneficial uses of agricultural irrigation or contact recreation and where the wastewater receives dilution of more than 20:1 to be adequately disinfected if the effluent coliform concentration does not exceed 23 MPN/100 mL as a 7-day median and if the effluent coliform concentration does not exceed 240 MPN/100 mL more than once in any 30 day period. Therefore, staff believes these effluent limitations to be appropriate, and were retained from the previous permit.

Comment No. 4. The Proposed Permit does not comply with the requirements of California Code of Regulations (CCR) Title 27 for the disposal of sludge and has possibly degraded groundwater quality contrary to the Antidegradation Policy, Resolution 68-16 – The commenter states that while domestic wastewater may be exempt under specified circumstances from Title 27, sludge is not exempt. The

commenter feels the proposed permit does not comply with CCR Title 27 and needs to be amended accordingly.

RESPONSE: Title 27, section 20090(a) exempts "treatment or storage facilities associated with municipal wastewater treatment plants, provided that residual sludges or solid waste from wastewater treatment facilities shall be discharged only in accordance with the applicable SWRCB-promulgated provisions of this division." " 'Storage' (SWRCB) means the holding of waste or recyclable materials for a temporary period, at the end of which the materials either is treated or is discharged elsewhere." (Title 27, section 20164.) " 'Treatment' (SWRCB) means any method, technique, or process designed to change the physical, chemical, or biological characteristics of waste so as to render it less harmful to the quality of the waters of the state, safer to handle, or easier to contain or manage. The term includes use of waste as a fuel, nutrient, or soil amendment. (*Id.*) The Discharger does not discharge residual sludges onsite. The onsite treatment and storage of sludge are exempt under section 20090(a).

With regard to compliance with Resolution 68-16, wasted biosolids from the biological treatment process are stored in clay lined ponds prior to being dewatered in a belt filter press and sent to solar driers located at the Facility. Once the biosolids are dried to a specified percent solids, they are tested to determine compliance with the Class A biosolids standards found in 40 CFR Part 503. According to USEPA, "There are different rules for different classes of biosolids. Class A biosolids contain no detectible levels of pathogens. In general, exceptional quality (Class A) biosolids used in small quantities by general public have no buffer requirements, crop type, crop harvesting or site access restrictions. Exceptional Quality biosolids is the name given to treated residuals that contain low levels of metals and do not attract vectors." (USEPA Office of Wastewater Management, Municipal Technologies Branch, Biosolids – Frequently Asked Questions)

The Discharger is currently attempting to be classified as a Class A biosolids facility. In the interim, biosolids meeting Class A standards are stored in the drying building and adjacent to the building.

Groundwater monitoring results show no impact to groundwater downgradient of the ponds. As stated previously, the ponds are clay lined.

Regional Water Board staff concludes the Discharger is applying best practicable treatment and control (BPTC) since the Discharger is utilizing lined ponds, dewatering the biosolids, and then achieving Class A standards in the solar dryers. Class A biosolids contain no detectible levels of pathogens and in general have no buffer requirements or site access restrictions. In addition, groundwater limitations and monitoring requirements are being retained from the current Order.

Comment No. 5. The proposed Permit does not contain Effluent Limitations for oil and grease in violation of Federal Regulations 40 CFR 122.44 and California Water Code, Section 13377 –

Response: The previous permit, Order R5-2002-0050, does not contain an effluent limitation for oil and grease. Based on information received, the discharge does not have a reasonable potential to cause or contribute to an in-stream excursion above the Basin Plan's narrative objectives for oil and grease and floating material. In the past, oil and grease was a problem at many POTWs and was a necessary effluent limit to protect receiving waters, but implementation of fats oils and grease (FOG) pretreatment programs in conjunction with improved levels of treatment have resulted in an overall reduction of oil and grease in wastewater treatment plant effluent.

The proposed Order is adequately protective. It contains narrative receiving water limitations for oil and grease and floating materials, and requires weekly effluent monitoring for oil and grease.

Comment No. 6. The proposed Permit fails to contain mass-based effluent limits for copper, nitrate, and iron as required by Federal Regulations 40 CFR 122.45(b) -

RESPONSE: Regional Water Board staff disagrees with mass limitations being required for copper, nitrate, and iron.

40 CFR SEC 122.25(f) states the following:

"Mass limitations. (1) All pollutants limited in permits shall have limitations, standards or prohibitions expressed in terms of mass except:

(i) For pH, temperature, radiation, or other pollutants which cannot appropriately be expressed by mass;

(ii) When applicable standards and limitations are expressed in terms of other units of measurement; or

(iii) If in establishing permit limitations on a case-by-case basis under §125.3, limitations expressed in terms of mass are infeasible because the mass of the pollutant discharged cannot be related to a measure of operation (for example, discharges of TSS from certain mining operations), and permit conditions ensure that dilution will not be used as a substitute for treatment.

(2) Pollutants limited in terms of mass additionally may be limited in terms of other units of measurement, and the permit shall require the permittee to comply with both limitations."

40 CFR section 122.25(f)(1)(ii) states that mass limitations are not required when applicable standards are expressed in terms of other units of measurement. The numerical effluent limitations for copper, nitrate, and iron are based on water quality standards and objectives. These are expressed in terms of concentration. Pursuant to 40 CFR section 122.25(f)(1)(ii), expressing the effluent limitations in terms of concentration is expressly allowed and is in no way contrary to Federal Regulations.

Comment No. 7. 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 131.38(c)(4)) –

Response: The proposed Order has established the criteria for hardness-dependent metals based on the reasonable worst-case estimated ambient hardness as required by the SIP, the CTR and Order No. WQO 2008-0008 (City of Davis). Effluent limitations for the discharge must be set to protect the beneficial uses of the receiving water for all discharge conditions. In the absence of the option of including condition-dependent, "floating" effluent limitations that are reflective of actual conditions at the time of discharge, effluent limitations must be set using a reasonable worst-case condition in order to protect beneficial uses for all discharge conditions. The SIP does not address how to determine 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. 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. 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. The Regional Water Board thus has considerable discretion in determining ambient hardness. (Order WQ 2008-0008 (City of Davis), p.10.) The City of Davis order allows the use of "downstream receiving water mixed hardness data" where reliable, representative data are available. (Id., p. 11.)

The point in the receiving water affected by the discharge is downstream of the discharge. As the effluent mixes with the receiving water, the hardness of the receiving water can change. Therefore, it is appropriate to use the ambient hardness downstream of the discharge that is a mixture of the effluent and

receiving water for the determination of the CTR hardness-dependent metals criteria. Recent studies[3] indicate that the previously used approach of using the upstream receiving water lowest hardness for establishing water quality criteria is not always the most protective for the receiving water (e.g. when the effluent hardness is less than the receiving water hardness). The studies evaluated the relationships between hardness and the CTR metals criterion that is calculated using the CTR metals equation. The Regional Water Board has evaluated these studies and concurs that to establish effluent limits that are protective of beneficial uses for some parameters the ambient hardness can best be estimated using the lowest hardness value of the effluent, while for other parameters, the use of both the lowest (or highest) hardness value of the receiving water and the lowest hardness value of the effluent best estimates the ambient conditions. This approach was used to establish water quality-based effluent limitations for hardness-dependent metals in the proposed Order and adequately protects the beneficial uses of the water body that receives the treated wastewater.

Comment No. 8. The proposed permit contains an inadequate reasonable potential analysis by using incorrect statistical multipliers – The commenter states that the reasonable potential analyses failed to consider the statistical variability of data and laboratory analyses as required by Federal regulations. Federal regulations, 40 CFR § 122.44(d)(1)(ii), state "when determining whether a discharge causes, has the reasonable potential to cause, or contributes to an in-stream excursion above a narrative or numeric criteria within a State water quality standard, the permitting authority shall use procedures which account for existing controls on point and nonpoint sources of pollution, **the variability of the pollutant or pollutant parameter in the effluent**, the sensitivity of the species to toxicity testing (when evaluating whole effluent toxicity), and where appropriate, the dilution of the effluent in the receiving water." Emphasis added.

The reasonable potential analysis fails to consider the statistical variability of data and laboratory analyses as explicitly required by the federal regulations. The commenter further contends that the fact that the SIP illegally ignores this fundamental requirement does not exempt the Regional Board from its obligation to consider statistical variability in compliance with federal regulations.

Response: Until adoption of the SIP by the State Water Board, USEPA's Technical Support Document for Water Quality-based Toxics Control (TSD) was the normal protocol followed for permit development for all constituents. The SIP is required only for California Toxics Rule (CTR) and National Toxics Rule (NTR) constituents and prescribes a different protocol when conducting a Reasonable Potential Analysis (RPA), but is identical when developing water quality-based

[3] "Developing Protective Hardness-Based Metal Effluent Limitations", Robert W. Emerick, Ph.D., P.E. and John E. Pedri, P.E.

effluent limitations (WQBELs). For some time after SIP adoption, SIP protocols were used for CTR/NTR constituents, and TSD protocols were used for non-CTR/NTR constituents. While neither protocol is necessarily better or worse in every case, using both protocols in the same permit has led to confusion by dischargers and the public, and greater complexity in writing permits. Currently there is no State or Regional Water Board Policy that establishes a recommended or required approach to conduct an RPA or establish WQBELs for non-CTR/NTR constituents. However, the State Water Board has held that the Regional Water Board may use the SIP as guidance for water quality-based toxics control. The SIP states in the introduction "*The goal of this Policy is to establish a standardized approach for permitting discharges of toxic pollutants to non-ocean surface waters in a manner that promotes statewide consistency.*" Therefore, for consistency in the development of NPDES permits, we have begun to use the RPA procedures from the SIP to evaluate reasonable potential for both CTR/NTR and non-CTR/NTR constituents.

Comment No. 9. The proposed Permit fails to present any information to show compliance with Mixing Zone Requirements of the *Policy for Implementation of Toxics Standards for Inland Surface Water, Enclosed Bays and Estuaries of California* (SIP) and the Basin Plan and in many instances simply does not comply with the regulatory requirements - The commenter feels the proposed permit does not adequately provide information concerning the mixing zone granted the Discharger or address mixing zone requirements in the SIP.

RESPONSE: As stated in the fact sheet, studies, data, and other information from the Discharger and their technical consultants were used in determining the appropriateness of the mixing zone request. These studies and information are a part of the administrative record and are available to be reviewed by interested persons. The use of mixing zones, and the requirements for their inclusion in NPDES permits, is contained in the SIP and the Basin Plan, and are therefore part of the state water quality standards. The requirements in the SIP were examined along with the information submitted by the Discharger to determine if dilution credits were to be granted, and to what extent. The fact sheet in the permit will be modified to provide a more thorough explanation of the mixing zone analysis as well as a specific delineation of the mixing zone boundaries.

Comment No. 10. Effluent Limitations for specific conductivity (EC) and iron are improperly regulated as an annual average contrary to Federal Regulations 40 CFR 122.45(d)(2) and common sense – The commenter states that 40 CFR 122.45(d)(2) requires that permits for POTWs establish effluent limitations as average weekly and average monthly unless impracticable.

Response: Regional Water Board staff disagrees. The proposed Order includes annual average performance-based effluent limitations for EC to keep the discharge from exceeding current levels. The averaging period is appropriate

due to short-term fluctuations that can occur in the Discharger's effluent. Consequently, it is impracticable to calculate performance-based effluent limitations for EC on a shorter averaging period. The iron effluent limitation is based on secondary maximum contaminant levels which address aesthetics such as taste and odor and not on aquatic life criterion. Regional Water Board staff has determined that an averaging period similar to what is used by the Department of Public Health for those parameters regulated by secondary MCLs is appropriate.

Comment No. 11. The proposed Permit does not contain Effluent Limitations for chronic toxicity and therefore does not comply with 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: This was an issue addressed in State Water Resources Control Board's Water Quality Order for the City of Davis (WQO 2008-0008) adopted on 2 September 2008. With regard to the need for a numeric chronic toxicity effluent limit, WQO 2008-0008 states, "We have already addressed this issue in a prior order and, once again, we conclude that a numeric effluent limitation for chronic toxicity is not appropriate at this time." However, the Order goes on to state, "Our review of the Permit, however, concludes that it does not include an appropriate narrative effluent limitation for chronic toxicity and that one must be added." Based on this recent Water Quality Order, the proposed Order has been modified to include the following narrative chronic toxicity effluent limitation in section IV.A.1., and the following compliance determination language in section VII.:

Section IV.A.1.

"**Chronic Whole Effluent Toxicity.** There shall be no chronic toxicity in the effluent discharge."

Section VII.

"**Chronic Whole Effluent Toxicity Effluent Limitation.** Compliance with the accelerated monitoring and TRE/TIE provisions of Provision VI.C.2.a shall constitute compliance with effluent limitation IV.A.1.k for chronic whole effluent toxicity."

The commenter also contends that the Chronic Toxicity Testing Dilution Series in the proposed Order should bracket the actual dilution at the time of discharge, not use default values that are not relevant to the discharge. Regional Water Board staff disagrees. The proposed Order does not allow a dilution credit for chronic aquatic life criteria. Thus, the dilution series is appropriate and relevant to the discharge.

Comment No. 12. The proposed Permit fails to contain an Effluent Limitation for electrical conductivity (EC) that is protective of the beneficial uses of the receiving stream and meets water quality objectives as required by the regulations. The Effluent Limitation for EC in the proposed Permit will be eliminated subject to an illegal "pay to pollute" requirement. The proposed "pay to pollute" requirement establishes an illegal tax (or fee) beyond the authority of the Regional Board -

RESPONSE: Salinity is a problem throughout the Central Valley that is being worked on by the Regional Water Board and other parties. The proposed Permit requires the Discharger to take all reasonable steps within their control to reduce effluent salinity. Some means of reducing salinity are beyond the immediate control of the Discharger, such as the salinity of the water supply for the community, or are legally beyond the control of the Discharger, such as requiring removal of existing on-site regenerating water softeners. Salinity removal technologies such as ultra-filtration and reverse osmosis exist, but these are expensive, have other significant environmental impacts, and are judged not feasible to pursue at this time [SWRCB Order WQ2005-0005 regarding the City of Manteca]. For salinity impacts that cannot be eliminated by the Discharger, the proposed Permit requires participation in the broader salinity planning efforts to address salinity reduction beyond the direct control of the Discharger.

The final effluent limitations for salinity are protective of Delta beneficial uses. For salt, agricultural irrigation is normally the most sensitive beneficial use to be protected. The State Water Board, in the Bay-Delta Plan, established salinity standards to protect Delta and export water beneficial uses. For most of the South Delta, the Bay-Delta Plan established seasonal receiving water standards to protect agricultural irrigation beneficial uses of 700 umhos/cm during the irrigation season, and 1000 umhos/cm during the non-irrigation season. The Bay-Delta Plan also sets a year-around receiving water standard of 1000 umhos/cm at the West Canal at mouth of Clifton Court Forebay, and at Delta Mendota Canal at Tracy Pumping Plant to protect agricultural uses of export waters. Under worst-case flow conditions in the Delta that provide the least available dilution for the District's discharge, Old River at the point of the discharge experiences a net flow reversal and the net flow of Old River towards the State and Federal pumps. So the closest "downstream" salinity receiving water objective prescribed by the Bay-Delta Plan, is the 1000 umhos/cm objective at the entrances to Clifton Court Forebay and the Delta Mendota Canal. In order to prevent the District's discharge from causing or contributing to exceedance of the 1000 umhos/cm Electrical Conductivity objective, the final effluent limitation for Electrical Conductivity is proposed to be 1000 umhos/cm.

Comment No. 13. The proposed Permit contains no Effluent Limitations for chloride, settleable solids, and total dissolved solids which are present in the

existing NPDES permit contrary to the Antibacksliding requirements of the Clean Water Act and Federal Regulations, 40 CFR 122.44(l)(1) –

Response: The commenter contends that the removal of effluent limitations in the proposed permit for chloride, settleable solids, and total dissolved solids constitutes backsliding. Regional Water Board staff disagrees. The effluent limitations for electrical conductivity (EC) will also ensure the control of chloride and total dissolved solids. EC is an indicator parameter for salinity, as is chloride and total dissolved solids. Establishing an effluent limitation for EC is expected to effectively control the constituents that contribute to salinity, including TDS and chloride. Therefore, removal of these effluent limitations is consistent with the antibacksliding regulations, because this Order includes controls for effluent salinity. Monitoring for these constituents has been required to verify that they are effectively controlled using the indicator parameter. This rationale has been added to the Fact Sheet of the proposed Order.

The proposed Order was modified to add a discussion of Regional Water Board staff's analysis for settleable solids. Regional Water Board staff analyzed the Discharger's self-monitoring effluent data and considered the nature of the Facility's operations to determine if the discharge demonstrates reasonable potential to exceed applicable water quality criteria or objectives. Out of approximately 1,400 monitoring results, all but one was a non-detect. The one detection value did not exceed the effluent limitation. Regional Water Board staff concludes that the discharge does not demonstrate a reasonable potential to cause or contribute to an in-stream excursion above a water quality standard. The proposed Order removes the effluent limitations based on new information consistent with anti-backsliding requirements of CWA sections 303(d)(4) and 402(o)(2)(B), and 40 CFR 122.44(l)(2)(i)(B)(*1*).

Comment No. 14. The proposed Permit fails to contain an Effluent Limitation for aluminum in accordance with Federal Regulations 40 CFR 122.44, US EPA's interpretation of the regulation, and California Water Code, Section 13377 – The commenter states that aluminum concentrations in the effluent has a reasonable potential to cause or contribute to an in-stream excursion above a level necessary to protect aquatic life, and, therefore to violate the Basin Plan's narrative toxicity and chemical constituents water quality objectives.

RESPONSE: CSPA argues that the chronic criterion (87 µg/L) recommend by the USEPA Ambient Water Quality Criteria (NAWQC) for Aluminum should be applied for this discharge. Regional Water Board staff disagrees. The chronic criterion is based on studies conducted on waters with low pH (6.5 to 6.8 pH units) and hardness (<10 mg/L as $CaCO_3$), which are conditions not commonly observed in Central Valley receiving waters like the Old River. Consequently, the criterion is likely overly protective for this application. For similar reasons, the Utah Department of Environmental Quality (Department) only applies the 87 µg/L

chronic criterion for aluminum where the pH is less than 7.0 and the hardness is less than 50 mg/L as $CaCO_3$ in the receiving water after mixing. For conditions where the pH equals or exceeds 7.0 and the hardness is equal to or exceeds 50 mg/L as $CaCO_3$, the Department regulates aluminum based on the 750 µg/L acute criterion. However, the maximum effluent concentration (MEC) did exceed the secondary MCL value of 200 µg/L. Therefore, the proposed permit is being modified to include an annual average effluent limitation of 200 µg/L for aluminum. The limitation is expressed as an annual average since it is based on secondary maximum contaminant levels which address aesthetics such as taste and odor and not on aquatic life criterion. Regional Water Board staff has determined that an averaging period similar to what is used by the Department of Public Health for those parameters regulated by secondary MCLs is appropriate.

Comment No. 15. The proposed Permit fails to include an Effluent limitation for manganese as required by Federal Regulations 40 CFR 122.44 and the permit should not be adopted in accordance with California Water Code Section 13377 – The commenter states that the maximum observed manganese concentration in the effluent was 123 µg/L and that effluent limitations must be included in the permit.

RESPONSE: Regional Water Board staff disagrees. As stated in the fact sheet, there were five samples collected. The results were 16 µg/L, 31 µg/L, 15 µg/L, 123 µg/L, and 10 µg/L. With the exception of the single 123 µg/L result, effluent manganese concentrations have consistently been below the 50 µg/L water quality objective. The 123 µg/L sample is inconsistent with the other results, and it is unlikely that a domestic wastewater would have that significant a change in effluent manganese for a single sample. The 123 µg/L result is considered to be an outlier and is not included in the reasonable potential analysis. Regional Water Board staff concluded that it was questionable as to whether reasonable potential existed. Therefore additional monitoring is being required to be able to conclusively determine if effluent limitations for manganese are required. If the monitoring results indicate that manganese does have reasonable potential to exceed the criterion values, the permit may be reopened and appropriate effluent limitations placed in the permit.

Comment No. 16. The proposed Permit contains 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: Regional Water Board staff disagrees; Water Codes Section 13146 and 13247 require other state agencies to comply with water quality control plans when those agencies are discharging waste. Although these sections are not relevant here, Regional Water Board staff concurs that the Regional Water Board

must comply with state and federal antidegradation policies when issuing NPDES permits. However, the Permit complies with those policies.

The Permit is for an existing discharge with no increase in capacity or permitted flow. State Water Board and US EPA guidelines do not require a new antidegradation analysis. (Memo to the Regional Board Executive Officers from William Attwater (10/7/87), p.5; APU 90-004, pp. 2-3; *EPA Water Quality Handbook 2d*, § 4.5.) Nevertheless, the Fact Sheet within the proposed Order evaluates pollutant by pollutant the impact to waters of the state and demonstrates that such discharges will not unreasonably degrade the waters of the state. No antidegradation analysis is required when the Regional Water Board reasonably concludes that degradation will not occur. (Attwater memo p. 3.)

CALIFORNIA URBAN WATER AGENCIES AND STATE WATER CONTRACTORS COMMENTS

The California Urban Water Agencies (CUWA) and the State Water Contractors (SWC) submitted similar comments that have been combined

Comment No. 1. In regards to the proposed Order, both CUWA and SWC commends Regional Water Board "staff on their commitment to protecting the drinking water beneficial use in the Delta."

Response: Comment noted.

Comment No. 2. CUWA, SWC members, and Regional Water Board staff are working on the technical studies needed to address numerous water quality concerns and to support a Basin Plan amendment to provide greater protection of drinking water supplies. Based on these efforts, CUWA and SWC expect that the Basin Plan will be amended in 2009 or 2010 to incorporate additional protection of drinking water supplies. Therefore it is requested that a reopener be added to the proposed Order. In addition, due to ongoing ammonia studies in the Delta, the commenters also requested a reopener provision to be included in the Order.

Response: The proposed Order has been modified to include the following reopeners in section VI.C.1.h:

"**Central Valley Drinking Water Policy**. If water quality objectives are adopted for organic carbon, nutrients, salinity, bromide, or pathogens to protect drinking water supplies in the Central Valley Region, this Order may be reopened for addition and/or modification of effluent limitations and

requirements, as appropriate, to require compliance with the applicable water quality objectives."

"Ammonia Studies. The ammonia effluent limitations in this Order are based on USEPA's recommended National Ambient Water Quality Criteria for protection of freshwater aquatic life. However, studies are ongoing to evaluate the effect of ammonia on the inhibition of growth of freshwater diatoms in the Delta, as well as, studies to evaluate the sensitivity of delta smelt to ammonia toxicity. Based on the result of these or other studies, this Order may be reopened to modify the ammonia effluent limitations, as appropriate."

Comment No. 3. CUWA and SWC requests that the proposed Order include a notification requirement to alert downstream drinking water agencies of any wastewater spills that may reach Delta waters.

Response: Due to numerous drinking water intakes in the Delta, immediate notification of downstream water agencies would be required by the proposed Order to minimize any adverse effects resulting from spills of untreated or partially treated wastewater from the Facility or collection system that reach Delta waters. To provide clarification, the Regional Water Board Standard Provisions (Section VI.A.2.f.) of the proposed Order have been modified as follows:

f. The Discharger shall take all reasonable steps to minimize any adverse effects to waters of the State or users of those waters resulting from any discharge or sludge use or disposal in violation of this Order. Reasonable steps shall include such accelerated or additional monitoring as necessary to determine the nature and impact of the non-complying discharge or sludge use or disposal, and <u>adequate public notification to downstream water agencies or others who might contact the non-complying discharge.</u>

Comment No. 4. Nitrate and Ammonia Effluent Limitations – It is requested that the Regional Water Board require the Discharger to comply with historic effluent limitations for ammonia and nitrate.

Response: The Discharger complied with requirements necessary to demonstrate the adequacy of their mixing zone study. As the commenter stated, there is assimilative capacity for nitrate and ammonia in the receiving water. It is expected that the facility will continue to operate efficiently. Regional Water

Board staff concludes that the effluent limitations are protective of the receiving water and that monitoring results will be examined to examine any trends that develop.

SAN LUIS AND DELTA-MENDOTA WATER AUTHORITY AND WESTLANDS WATER DISTRICT COMMENTS

Designated Party Status. The commenter requested designated party status for the board hearing scheduled for 4/5 December 2008 with regard to the NPDES permit renewal for the Town of Discovery Bay. The commenter will be granted designated party status for the subject hearing.

COMMENT No. 1. The Tentative Discharge Requirements are not consistent with the Bay Delta Plan, or the Water Quality Control Plan, Fourth Edition, for the Sacramento and San Joaquin River Basins ("Bay Delta Plan"). Most obvious, the Tentative Discharge Requirements impose an electrical conductivity (EC) limitation of 2,700 µmhos/cm (annual average), (Tentative Discharge requirements, IV.A.1.), while the Bay Delta Plan and the Basin Plan impose much more stringent requirements.

The commenter further contends that the support for the EC Limitation documented in the Fact Sheet of the proposed Order (e.g. WQO 2005-005) fails for at least two reasons, 1) the Bay Delta Plan, which the State Water Board adopted after it issued WQO 2005-005, requires the Regional Water Boards to "impose discharge controls on in-Delta discharges of salts by agricultural, domestic, and municipal dischargers," and 2) the water quality objectives in the Bay Delta Plan and the Basin Plan date back to at least 1995 when the SWRCB issued it's "1995 Water Quality Control Plan for the San Francisco/Sacramento-San Joaquin Delta Estuary", and therefore, the Discharger has already had ample time to comply.

Response: Based on available receiving water data, there are times when the receiving water is not in compliance with the Bay-Delta Plan objectives for EC. Furthermore, effluent data also indicate that effluent concentrations exceed these water quality objectives. Therefore, the proposed Order includes salinity requirements. An annual average performance-based effluent limitation of 2700 µmhos/cm for EC is required to protect the receiving water from further salinity degradation, and the proposed Order requires the Discharger to develop and implement a Salinity Plan to address the salinity of the discharge. Should the Discharger fail to adequately meet this requirement, the proposed Order requires the Discharger to immediately comply with the monthly average EC effluent limit of 1000 µmhos/cm instead, which is based on the Bay-Delta Plan water quality objectives for the geographical location. Compliance with these salinity requirements will result in a salinity reduction in the effluent discharged to the receiving water. Furthermore, the proposed findings state that imposing effluent limitations for salinity that require the construction and operation of reverse osmosis facilities to treat discharges prior to implementation of other measures to reduce the salt loading in the Facility's discharge is not a reasonable approach. As stated in the Fact Sheet, this is consistent with the ruling by the State Water Board in WQO 2005-005. The proposed Order provides

reasonable salinity controls that put the Discharger on the path to reducing its salt loading to the Delta.

Comment No. 2. The commenter contends that the Central Valley Regional [Water] Board must base its decision to renew the City's NPDES permit upon contemporaneous scientific information. [The commenter attached copies of the Strategic Workplan for Activities in the San Francisco Bay/Sacramento-San Joaquin Delta Estuary as Exhibit D and two recent, summary papers, on the concern of ammonia in the Delta as Exhibit E.]

Response: Regional Water Board staff is engaged with the scientific community to study and document impacts to water quality. When new defensible scientific information is developed, Regional Water Board staff incorporates this information into our proposed permits. The Fact Sheet within the proposed Order details the scientific studies, and the Regional Water Board staff's analysis, evaluations, and determinations conducted pollutant by pollutant to determine whether or not concentrations are discharged at levels that cause, have reasonable potential to cause, or contribute to an in-stream excursion above any water quality standard. For the most part, the data used was obtained during the term of previous Order. However, in some cases (e.g. mixing zone analysis or evaluation of ammonia effluent limitations) additional data was used to evaluate hydrologic conditions within the Old River (e.g. critically dry, above normal, and wet) or to provide a higher degree of confidence. Additionally, Regional Water Board staff considered the nature of the Facility's operations and scientific studies conducted by the Discharger's consultants or by an independent scientific review to determine if the discharge demonstrates reasonable potential to exceed applicable water quality criteria or objectives. Using the method prescribed in Section 1.3 of the SIP, Regional Water Board staff compared this data for each pollutant with the applicable water quality objectives in the Basin Plan or water quality criteria from USEPA, and the CTR. The proposed Order includes several mechanisms to protect the beneficial uses of the receiving water.

When new defensible, scientific information is developed, Regional Water Board staff will incorporate this information into our permits, or reopen them as appropriate.

Comment No. 3. Need for more Rigorous Monitoring [in the proposed Order] - The commenter contends that [t]he renewal of the City's NPDES permit provides an opportunity to effectuate better monitoring of contaminants. In particular, the City should be required to monitor pharmaceutical and endocrine disrupter constituents in its waste discharges. In addition, the commenter states that the Discharger should be required to notify downstream water authorities if untreated (or partially treated) wastewater is discharged.

Response: The proposed Order contains rigorous monitoring requirements that are adequate to determine compliance with the requirements and limitations. In addition, due to the development of a Regional Monitoring Program for the Delta, the proposed Order includes a reopener provision that when a Regional Monitoring Program becomes functional, the proposed permit may be reopened to make appropriate adjustments in permit-specific monitoring to coordinate with the Regional Monitoring Program..

As stated in the response to Comment No. 3 from the California Urban Water Agencies (CUWA) and the State Water Contractors (SWC), the Regional Water Board Standard Provisions (Section VI.A.2.f.) of the proposed Order has been modified to more clearly require the Discharger to notify downstream water authorities should discharges occur that are not in compliance with the proposed Order.