

Central Valley Regional Water Quality Control Board  
4/5 February 2009 Board Meeting

Response to Comments for the Nevada County Sanitation District No. 1  
Lake Wildwood Wastewater Treatment Plant  
Tentative Waste Discharge Requirements

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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), Rescission of Cease and Desist Order No. R5-2002-0094 and tentative Time Schedule Order (TSO) for the Nevada County Sanitation District No. 1, Wildwood 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 12 January 2009 in order to receive full consideration.

The Regional Water Board received comments regarding the proposed NPDES Permit renewal by the due date from the Nevada County Sanitation District No. 1 (Discharger) and the California Sportfishing Protection Alliance (CSPA). The submitted comments were accepted into the record, and are summarized below, followed by Regional Water Board staff responses.

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**NEVADA COUNTY SANITATION DISTRICT NO. 1 COMMENTS**

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**Time Schedule Order and Recession of Cease and Desist Order.** The Discharger had no comments on the tentative Orders.

**General Discharger Comments** - The Discharger made numerous minor, non-substantive wording changes in their comment letter on the NPDES permit. Changes have been accepted and incorporated into the NPDES permit.

**DISCHARGER COMMENT - p.5, Table 5 Beneficial Uses.** **The Discharger requests that the beneficial uses Groundwater Recharge (GWR) and Freshwater Replenishment (FRESH) listed for Deer Creek in Table 5 be deleted.** The Discharger request is based on the statement in the Basin Plan, as a note to Table II-1, Surface Water Bodies and Beneficial Uses: *"Surface waters with the beneficial uses of Groundwater Recharge(GWR), Freshwater Replenishment (FRESH), and Preservation of Rare and Endangered Species (RARE) have not been identified in this plan. Surface waters of the Sacramento and San Joaquin River Basins falling within these beneficial use categories will be identified in the future as part of the continuous planning process to be conducted by the State Water Resources Control Board."*

**RESPONSE:** Groundwater Recharge (GWR) and Freshwater Replenishment (FRESH) were identified as beneficial uses in the previous Permit and were carried over to the proposed Permit. Their inclusion was based on the fact that flowing streams provide groundwater recharge and that Deer Creek is hydraulically connected to the Yuba River and contributes to the quantity and

impacts the quality of the water in the Yuba River. Their inclusion does not result in additional or more stringent requirements.

**DISCHARGER COMMENT – p.12, i. Chronic Whole Effluent Toxicity. The Discharger requests that the chronic whole effluent toxicity limitations (IV.A.1.i and IV.A.2.I) be removed from the Order.** The Discharger contends there is no justification for implementing a chronic toxicity effluent limitation since the Fact Sheet concludes there is insufficient information at this time to determine if there is reasonable potential to cause chronic toxicity in the receiving water.

**RESPONSE:** Regional Water Board staff concurs. The chronic whole effluent toxicity limitation has been removed. The Discharger is required to conduct semi-annual chronic toxicity testing is required in order to demonstrate compliance with the Basin Plan’s narrative toxicity objective. The Order contains a reopener should chronic toxicity occur.

**DISCHARGER COMMENT - p. 16, B. Groundwater Limitations. The Discharger requests that the groundwater limitations be removed.** The Discharger cites the conclusion in the Fact Sheet that groundwater limitations are not required. The effluent from the Lake Wildwood WWTP is discharged to a surface water body, Deer Creek. Furthermore, the WWTP is already held to surface water objective that are as stringent as or more stringent than the groundwater quality objective cited in the Fact Sheet

**RESPONSE:** Regional Water Board staff concurs. All processes are contained in concrete basins, the sludge drying beds have been eliminated, and the emergency storage basin has been lined. There is no potential for the discharge to cause degradation or cause groundwater to exceed applicable objectives. Therefore, groundwater limitations are not required. The Order has been modified to include the general limitation adopted by the Regional Water Board in recent permits: “The Discharge shall not cause the groundwater to exceed water quality objectives, unreasonably affect beneficial uses, or cause a condition of pollution or nuisance.”

**DISCHARGER COMMENT. p.26,5.a. Pretreatment Requirements. The Discharger requests that the requirements for establishing and implementing a pretreatment program be deleted from the Order.** The design flow of the WWTP is less than 5 mgd and there are no Users or Industrial Users as defined by 40 CFR 403.3 in the WWTP service area, which are the criteria for requiring a pretreatment program (see Code of Federal Regulations, Title 40, Section 403.8).

**RESPONSE:** The proposed Permit does not require the establishment of a pretreatment program but does require the Discharger to implement the necessary legal authorities, programs, and controls to ensure that incompatible wastes are not introduced to the treatment system. This Order continues the

same provision from the previous permit and these authorities and controls should already be in place.

**DISCHARGER COMMENT. p. 30, VII. Compliance Determination.** The Discharger requests the insertion of a new item as follows to be consistent with the SIP.

“Dischargers shall be deemed out of compliance with an effluent limitation if the concentration of the priority pollutant in the monitoring sample is greater than the effluent limitation and greater than or equal to the reporting level (RL).”

**RESPONSE:** Regional Water Board staff has inserted the wording as Item VII. G. in the Order.

**DISCHARGER COMMENT. p. E-3, Table E-3, Effluent Monitoring.** The Discharger requests that quarterly monitoring for copper and silver be removed from the Order and these constituents be addressed via the priority pollutant monitoring requirement.

**RESPONSE:** Copper and silver are present in the effluent and the most stringent criteria are based on hardness.

Using the worst-case measured hardness from the receiving water (48 mg/L as CaCO<sub>3</sub>) and the USEPA recommended dissolved-to-total translator, the applicable chronic criterion (maximum four-day average concentration) for copper is 5.0 µg/L and the applicable acute criterion (maximum one-hour average concentration) is 7.0 µg/L, for copper as total recoverable. However, based on recent studies for contaminants where criteria exhibit a concave downward relationship as a function of hardness (e.g. acute and chronic copper), use of the lowest recorded effluent hardness for establishment of water quality objectives is fully protective of all beneficial uses regardless of whether the effluent or receiving water is higher. Using the lowest recorded effluent hardness (107 mg/L as CaCO<sub>3</sub>) the applicable copper chronic criterion is 9.9 µg/L and the applicable copper acute criterion is 14.9 µg/L. Copper was detected at concentrations ranging from 2.6 to 6.1 µg/L in the effluent in seven samples collected between May 2003 and October 2006. Using effluent hardness to establish the objectives for copper no reasonable potential to cause or contribute to an in-stream excursion above the CTR criterion exists.

Using the worst-case measured hardness from the receiving water (48 mg/L as CaCO<sub>3</sub>) and the USEPA recommended dissolved-to-total translator, the applicable silver acute criterion (maximum 1-hour average concentration) is 1.15 µg/L, as total recoverable (there is no published chronic water quality criterion for silver). However, based on recent studies for contaminants where criteria exhibit a concave upward relationship as a function of hardness (e.g.,

acute silver), use of the lowest recorded effluent hardness and highest recorded receiving water hardness may be used for establishment of water quality objectives. Using the minimum observed hardness of the receiving water (48 mg/L) and the lowest recorded effluent hardness (107 mg/L as CaCO<sub>3</sub>) the applicable acute criterion for silver is 4.56 µg/L. Silver was detected at concentrations ranging from less than the 0.1 µg/L detection limit to 1.57 µg/L in the effluent in seven samples collected between May 2003 and October 2006. Using effluent and receiving water hardness to establish the objective for silver, no reasonable potential to cause or contribute to an in-stream excursion above the CTR criterion exists.

CSPA contends that because effluent hardness was used to calculate effluent limitations for metals as opposed to the ambient upstream receiving water hardness, the proposed permit must use ambient hardness and must be revised to include effluent limitations for copper and silver. (See Regional Water Board staff comments to CSPA Comments Nos. 7, 10, and 17).

Regional Water Board staff recommends quarterly monitoring for copper and silver, along with hardness, to gather additional information to determine if copper and silver are present in the effluent above the CTR criterion.

**DISCHARGER COMMENT. p. E-3, Table E-3, Effluent Monitoring. The Discharger requests that annual monitoring for alpha-BHC, aldrin, and gamma-BHC (lindane) be changed to the same frequency as the priority pollutants (i.e. quarterly during the third year of the permit term).**

**RESPONSE:** The persistent chlorinated hydrocarbon pesticides alpha-BHC, aldrin, and gamma-BHC (lindane) have been previously detected but not quantified in the wastewater. Recent monitoring results for 15 samples show non-detect for these persistent chlorinated pesticides. Regional Water Board staff recommends annual monitoring to confirm that there is no reasonable potential. Should monitoring results indicate that the discharge has the reasonable potential to cause or contribute to an exceedance of a water quality standard, this Order may be reopened and modified by adding an appropriate effluent limitation. (See later Regional Water Board staff response to CSPA Comments Nos. 14 and 15 regarding alpha-BHC, aldrin, and gamma-BHC.)

**DISCHARGER COMMENT. p. E-8, Table E-6** The Discharger requests that the receiving water monitoring for fecal coliform be removed from Table E-6, as was done in the El Dorado Irrigation District's Deer Creek permit adopted December 4, 2008, and other recently renewed permits.

**RESPONSE:** Regional Water Board staff has made the change.

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**CALIFORNIA SPORTFISHING PROTECTION ALLIANCE COMMENTS (CSPA)**

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**CSPA requested designated party status fro the board hearing on this matter. The commenter will be granted designated party status for the hearing.**

**CSPA COMMENT NO. 1.** The proposed Permit allows for a discharge of secondary wastewater under defined stream flow conditions but has not been adequately characterized and does not contain Effluent Limitations for priority pollutants in accordance with Federal Regulations 20 CFR 122.21 (e), 40 CFR 122.44(d)(1), and the CTR 40 CFR 131 – CSPA contends that the proposed permit is not based on a characterization of the secondary waste stream and the Regional Board has not provided the basis for secondary related priority pollutant limitations as required by Federal Regulation. The commenter also expressed concern that secondary treated wastewater will not have “adequate disinfection” with the existing chlorine system. CSPA requested that the allowance to discharge secondary wastewater, rather than tertiary wastewater, under minimum stream flow conditions that provide dilution of 20-to-1, be removed or the proposed permit be modified to include Effluent Limitations based on a complete characterization as required by the applicable regulations.

**RESPONSE:** Regional Water Board staff also has concerns regarding implementation of allowing discharge of secondary treated wastewater. It will be difficult to place equipment in Deer Creek to accurately determine in-stream flow to assure that a 20:1 dilution is taking place. In addition, when the Discharger replaces the chlorine disinfection system with UV disinfection the ability of the proposed UV system to disinfect secondary treated wastewater is unknown. The Discharger has added another filter and completed upgrades to the treatment processes and the emergency storage pond, which has increased the capacity for providing tertiary treatment during high flows. The Discharger did not have the need to bypass the filters during the entire term of the previous permit. Based on the above concerns Regional Water Board staff is proposing to remove the allowance to discharge secondary treated wastewater during flows greater than 20 to 1 from the permit.

**CSPA COMMENT NO. 2. The proposed Permit contains a Groundwater Limitation that does not comply with the Antidegradation Policy (Resolution 68-16) and California Water Code (CWC) Sections 13146 and 13247.**

**RESPONSE:** Regional Water Board staff disagrees. All processes are contained in concrete basins, the sludge drying beds have been eliminated, and the emergency storage basin has been lined. Therefore, groundwater limitations are not required. The Order has been modified to include the general limitation adopted by the Regional Water Board in recent permits: “The Discharge shall not cause the groundwater to exceed water quality objectives, unreasonably affect beneficial uses, or cause a condition of pollution or nuisance.”

**CSPA COMMENT NO. 3. The proposed Permit replaces Effluent Limitations for turbidity which were present in the existing permit; contrary to the Antibacksliding requirements of the Clean Water Act and Federal Regulations, 40 CFR 122.44(I)(1) -** The proposed Permit contains [turbidity] Effluent Limitations less stringent than the existing permit contrary to the Antibacksliding requirements of the Clean Water Act and Federal Regulations, 40 CFR 122.44 (I)(1). . . Turbidity limitations are maintained in the proposed Permit but have been moved to Special Provisions, they are no longer Effluent Limitations. Section 122.44(d) of 40 CFR requires that permits include water quality-based effluent limitations (WQBELs) to attain and maintain applicable numeric and narrative water quality criteria to protect the beneficial uses of the receiving water. There are no limitations for viruses and parasites in the proposed Permit, which the Regional Board has indicated, are necessary to protect the contact recreation and irrigated agricultural uses of the receiving water. Both coliform and turbidity limitations are treatment effectiveness indicators that the levels of bacteria viruses and parasites are adequately removed to protect the beneficial uses.

**RESPONSE:** Regional Water Board staff disagrees. As stated in the Fact Sheet, turbidity testing is a quick way to monitor the effectiveness of treatment filter performance, and to signal the Discharger to implement operational procedures to correct deficiencies in filter performance. Higher effluent turbidity measurements do not necessarily indicate that the effluent discharge exceeds the water quality criteria/objectives for pathogens (i.e. bacteria, parasites, and viruses), which are the principal infectious agents that may be present in raw sewage. Therefore, turbidity is not a valid indicator parameter for pathogens. Furthermore, the former turbidity limitations were not imposed to protect the receiving water from excess turbidity, and were not even related to turbidity in the receiving water. Thus, the former turbidity limitations were not technology based effluent limitations or water quality based effluent limitations for either pathogens or turbidity.

On the other hand, total coliform organisms are an indicator of the level of pathogens in the effluent. Therefore, effluent limitations for total coliform

organisms are necessary to control the discharge of pathogens, and have been included in the proposed Order.

Water quality based turbidity limits are not required because the effluent does not have a reasonable potential to cause or contribute to an exceedance of the applicable water quality objectives for turbidity. Therefore, operational requirements for turbidity are appropriately included as a Provision in the proposed Order rather than effluent limitations. The previous Order No. R5-2002-0093 included effluent limitations for turbidity. The operational turbidity requirements in the proposed Order are an equivalent permit condition that is not less stringent than the turbidity limitations in previous Order. Therefore, the removal of the turbidity effluent limitations does not constitute backsliding.

**CSPA COMMENT NO. 4. The proposed Permit contains no Effluent Limitations for settleable solids (SS) 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:** Based on information included in self-monitoring reports submitted by the Discharger, the effluent settleable solids concentration was non-detectable (<0.05 ml/L). Therefore, 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 settleable solids.

The previous permit, Order R5-2002-0093, included an average monthly and maximum daily effluent limitation for settleable solids of 0.1 ml/L and 0.2 ml/L, respectively. A review of the Fact Sheet from the previous Permit indicates the settleable solids limits were not water quality based. However, the regulation of settleable solids is not applicable to a tertiary treated wastewater. Settleable solids monitoring data provides information regarding the performance of a secondary system that is dependent on clarification and/or settling to meet technology-based effluent limitations. Regional Water Board staff is proposing to remove the allowance to discharge secondary treated wastewater. For tertiary treatment facilities that treat wastewater to a concentration of total suspended solid of less than 10 mg/l and turbidity to Title 22 standards, regulating settleable solids is not applicable. The proposed Order does not include the effluent limitations for settleable solids based on new information consistent with anti-backsliding requirements of 40 CFR 122.44(l)(2)(i)(B)(1).

The proposed Order is adequately protective. It contains a narrative receiving water limitations for settleable solids, and requires 3 times weekly effluent monitoring for total suspended solids.

**CSPA COMMENT NO. 5. The Basin Plan, Implementation, P. IV-24-00, Prohibitions, prohibits the discharge of wastewater to low flow streams as a permanent means of disposal and requires the evaluation of land disposal alternatives, Implementation, P. IV-15.00, Policies and Plans (2) Wastewater Reuse Policy.** – The commenter contends that the Discharger was required as part of the Report of Waste Discharge to submit a land disposal and reuse analysis and the permit must be amended to require the Discharger to develop a workplan to eliminate the wastewater discharge to surface water in accordance with the Basin Plan.

**RESPONSE:** The commenter is incorrect in characterizing the Basin Plan language regarding discharges to ephemeral streams as a prohibition. The Basin plan expresses a strong policy against using ephemeral streams as a permanent discharge location where alternatives are available. However, such discharges are not prohibited unless the Regional Water Board adopts a site-specific or water-body-specific prohibition. The discharge is consistent with all applicable provisions of the Basin Plan.

Regional Water Board staff agrees that facilities treating wastewater to a level consistent with DPH reclamation criteria should look at alternatives for reuse, which will reduce the discharge to surface waters. The proposed Permit requires the Discharger to prepare a “Reuse of Municipal Wastewater Feasibility Study” evaluating the feasibility of utilizing reclaimed municipal wastewater from the upgraded treatment facility for beneficial reuse to reduce area dependence on existing surface and groundwater water supply sources.

**CSPA COMMENT NO. 6. The proposed Permit requires the Discharger to conduct a study of receiving water temperature thresholds although the beneficial uses of cold water aquatic life including spawning for endangered salmon and the associated temperature thresholds for protecting the beneficial use is well documented.** – The commenter contends that the temperatures necessary to protect cold water aquatic species as well as the spawning beneficial uses has been established and there is adequate information in the Regional Board files to determine if an Effluent Limitation for temperature is required.

**RESPONSE:** The need for a receiving water temperature study was addressed in the Report of Waste Discharge submitted by the Discharger. The temperature study was proposed by the Discharger for the following reasons.

Deer Creek above the discharge point is impounded by the Lake Wildwood Dam and there are no required in-stream flow releases from the dam. The impoundment of Deer Creek at Lake Wildwood creates 260 acres of surface area that increases heat absorption and ambient surface water temperatures. In the spring and summer of 2005, a water quality study conducted by U.C. Davis of Lake Wildwood for the Lake Wildwood Home Owners Associated documented

temperature and water quality conditions. The dam has an engineered outlet but it is rarely used during the summer because the lake has very low dissolved oxygen at depth and poor water quality. Lake Wildwood Dam has a concrete spillway and during the summer, the primary source of water to Deer Creek is dam leakage and minor amounts that overtop the spillway. During the summer months water ponds at the base of the spillway and heats up as it slowly moves downstream. The observed warm water conditions in this section of Deer Creek are not conducive to sustaining a resident cold-water fishery. Fish surveys in 2006 documented warm water fish in this section of Deer Creek.

The current permit contains the receiving water limitation “The natural temperature to be increased by more than 5°F.” The basin plan allows the use of appropriate averaging periods for compliance with water quality objectives for temperature, provided that beneficial uses are fully protected. The Discharger, in coordination with the Department of Fish and Game is proposing to conduct a temperature study to determine adequate temperature thresholds to include in receiving water temperature limitations. The Discharger hopes the study will provide the necessary information to request the inclusion of an annual averaging period for the 5°F temperature limitation, subject to seasonal maximum downstream limits, appropriate to protect all beneficial uses of Deer Creek.

Based on the Discharger’s proposal, the proposed Permit requires the following under section C. Special Studies:

**“Receiving Water Temperature Study:** The Discharger shall conduct a temperature study in Deer Creek to determine adequate temperature thresholds downstream of the discharge (R-2). The results of the study shall be submitted as part of the Report of Waste Discharge for renewal.”

**CSPA 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:** Regional Water Board staff disagrees. 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 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 CaCO<sub>3</sub>), 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.)

Recent studies<sup>1</sup> indicate that using the receiving water lowest hardness for establishing water quality criteria is not 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 for some parameters the ambient hardness can be estimated using the lowest hardness value of the effluent, while for some 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 is protective of the beneficial uses.

Because of the non-linearity of the Criterion equation, the relationship can be either concave downward or concave upward depending on the criterion-specific constants. For those contaminants where the regulatory criteria exhibit a concave downward relationship as a function of hardness (e.g., acute and chronic copper, chromium III, nickel, and zinc, and chronic cadmium) use of the lowest recorded effluent hardness for establishment of water quality objectives is fully protective of all beneficial uses regardless of whether the effluent or receiving water hardness is higher. The lowest effluent hardness value of 107 mg/L was used to establish water quality-based effluent limitations for acute and chronic copper.

Based on recent studies for contaminants where criteria exhibit a concave upward relationship as a function of hardness (e.g., acute cadmium, acute and

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<sup>1</sup> “Developing Protective Hardness-Based Metal Effluent Limitations”, Robert W. Emerick, Ph.D., P.E. and John E. Pedri, P.E.

chronic lead, and acute silver), use of the lowest recorded effluent hardness and highest recorded receiving water hardness may be used for establishment of water quality objectives. The minimum observed hardness of the receiving water (48 mg/L) and the lowest recorded effluent hardness value 107 mg/L was used to establish the water quality-based effluent limitations for acute silver.

**CSPA COMMENT NO. 8. The proposed permit contains an inadequate reasonable potential analysis by using incorrect statistical multipliers as required by Federal Regulations, 40 CFR 122.44(d)(1)(ii)** – The commenter contends 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 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, this order uses the RPA procedures from the SIP to evaluate reasonable potential for both CTR/NTR and non-CTR/NTR constituents.

**CSPA COMMENT NO. 9. The proposed Permit fails to contain an Effluent Limitation for carbon tetrachloride in violation of the California Toxics Rule, Federal Regulations (40 CFR 122.44), the California Water Code (CWC), Section 13377 and the State's Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California (SIP).** The commenter states that Federal Regulations, 40 CFR 122.44(d), requires that limits must be included in permits where pollutants will cause, have reasonable potential to cause, or contribute to an exceedance of the State's water quality standards. The commenter states that carbon tetrachloride was measured in the effluent at 0.5 µg/l. Therefore, an effluent limit is required to be placed in the permit.

**RESPONSE:** Regional Water Board staff disagrees. The commenter is in error in stating that the measured MEC in the effluent is 0.5 µg/l. As stated the Fact Sheet, carbon tetrachloride was detected in one sample collected in July 2003, which the laboratory reported a "Detected but not Quantified" (DNQ) at a detection limit of 0.4 µg/L. Because carbon tetrachloride was only detected in one sample and not quantified, Regional Water Board staff is unable to determine whether reasonable potential exists to cause or contribute to an in-stream excursion above the CTR criterion. Carbon tetrachloride was used as a soil fumigant, cleaning fluid and degreasing agent, in fire extinguishers, and spot removers. These uses are now banned and it is only used in some industrial applications, therefore carbon tetrachloride is not expected in this POTW's effluent from a residential service area. Given that carbon tetrachloride is not expected in the wastewater from the Facility, the representation of the detected sample is questionable. Quarterly monitoring has been established for carbon tetrachloride in this Order to gather additional information to determine if carbon tetrachloride is present in the effluent. Should monitoring results indicate that the discharge has the reasonable potential to cause or contribute to an exceedance of a water quality standard this Order may be reopened and modified by adding an appropriate effluent limitation.

**CSPA COMMENT NO. 10. The proposed Permit fails to contain an Effluent Limitation for copper in violation of the California Toxics Rule, Federal Regulations (40 CFR 122.44), the California Water Code (CWC), Section 13377.** The commenter contends that because effluent and downstream hardness were used to calculate effluent limitations for metals the proposed permit must use ambient hardness and must be revised to include an Effluent Limitation for copper.

**RESPONSE:** Regional Water Board staff disagrees. (Refer to the Regional Water Board staff response to CSPA Comment No. 7 for use of effluent hardness for the purpose of establishing water based effluent limitations.) Using the lowest recorded effluent hardness (107 µg/L as CaCO<sub>3</sub>) the applicable chronic criterion is 9.9 µg/L and the applicable acute criterion is 14.9 µg/L. Copper was detected at concentrations ranging from 2.6 to 6.1 µg/L in the effluent in seven samples collected between May 2003 and October 2006. Quarterly monitoring has been established for hardness and copper in this Order to gather additional information to determine if copper is present in the effluent above the CTR criterion. Should monitoring results indicate that the discharge has the reasonable potential to cause or contribute to an exceedance of a water quality standard this Order may be reopened and modified by adding an appropriate effluent limitation.

**CSPA COMMENT NO. 11. The proposed Permit fails to contain an Effluent Limitation for Diquat in violation Federal Regulations (40 CFR 122.44, the California Water Code (CWC), Section 13377.** Because diquat was detected at 15 mg/L in one of 7 samples the commenter states that an effluent limit for diquat must be included in the permit. The commenter points out that it is not unreasonable that the sporadic use of aquatic herbicides would be used at Lake Wildwood.

**RESPONSE:** Diquat was detected at 15 µg/L, in one of seven samples collected between May 2003 and October 2006. The treatment facility effluent is primarily domestic wastewater and the high value reported for a chemical that is used as an aquatic herbicide is questionable. Because diquat was only detected in one out of seven samples, it is uncertain whether collection and procedures were adequate and whether reasonable potential to cause or contribute to an in-stream excursion above the ambient water quality criterion exists. Quarterly monitoring has been established for diquat in this Order to gather additional information to determine if diquat is present in the effluent. Should monitoring results indicate that the discharge has the reasonable potential to cause or contribute to an exceedance of a water quality standard; this Order may be reopened and modified by adding an appropriate effluent limitation.

**CSPA COMMENT NO. 12. The proposed Permit fails to contain an Effluent Limitation for MBAS in violation of Federal Regulations (40 CFR 122.44, the California Water Code (CWC), Section 13377.**

**RESPONSE:** The Secondary Maximum Contaminant Level (MCL)-Consumer Acceptance Limit for foaming agents Methylene blue active substances (MBAS) is 500 µg/L. MBAS was detected at 540 µg/L in one of seven samples collected between May 2003 and October 2006. MBAS was only detected in one sample above the MCL prior to the recent upgrades to the treatment facility and MBAS is expected to be removed during the treatment process. Therefore, it is uncertain whether reasonable potential to cause or contribute to an in-stream excursion

above the secondary MCL exists. Quarterly monitoring has been established for MBAS in this Order to gather additional information to determine if MBAS is present in the effluent. Should monitoring results indicate that the discharge has the reasonable potential to cause or contribute to an exceedance of a water quality standard, this Order may be reopened and modified by adding an appropriate effluent limitation.

**CSPA COMMENT NO. 13. The proposed Permit properly contains Effluent Limitations for Dibromochloromethane and Dichlorobromomethane, but is accompanied by a proposed compliance Time Schedule Order (TSO) that exceeds the CTR compliance deadline of 18 May 2010. The proposed permit is silent regarding the CTR compliance timeline.**

**RESPONSE:** Based on the anticipated compliance date included in the Discharger's Infeasibility Study (dated 1 August 2008), Regional Water Board staff concludes that the Discharger cannot comply with these limits by the CTR compliance deadline of 18 May 2010. Therefore, a compliance schedule cannot be included in the permit and it is appropriate to include the time schedule in a TSO. The proposed Order includes final effluent limitations that comply with the CTR, so there is no reason for the Order to address the CTR compliance timeline or the SIP requirements for including a compliance schedule in a permit.

Regional Water Board staff disagrees that the SIP provisions allowing for compliance schedules until 18 May 2010 are invalid. However, this issue is irrelevant since the proposed permit requires immediate compliance with final effluent limitations.

**CSPA COMMENT NO. 14. The proposed Permit fails to contain an Effluent Limitation for Alpha-BHC and Aldrin in violation of Federal Regulations (40 CFR 122.44, the California Water Code (CWC), Section 13377.**

**RESPONSE:** Alpha-BHC (alpha-hexachlorocyclohexane) was detected in one of seven samples collected between May 2003 and October 2006 at a concentration of 0.035 µg/L. Aldrin was reported once as detected but not quantified at a detection limit of 0.005 µg/L in one out of seven sampling events between May 2003 and October 2006. Aldrin was banned from all uses in 1987 and it is not expected to be present in the wastewater from a residential service area. In 14 additional samples collected between March 2007 and July 2008, alpha-BHC and aldrin were not detected at the minimum acceptable reporting level as indicated in Appendix 4 of the SIP. Regional Water Board staff believes that the 2007-2008 sampling is more representative of the effluent. Based on the new information, there is no reasonable potential to cause or contribute to an in-stream excursion above the Basin Plan Objective. Annual monitoring is included in this Order for alpha-BHC and aldrin. Should monitoring results

indicate that the discharge has the reasonable potential to cause or contribute to an exceedance of a water quality standard, this Order may be reopened and modified by adding an appropriate effluent limitation.

**CSPA COMMENT NO. 15. The proposed Permit fails to contain an Effluent Limitation for Gamma BHC (Lindane) in violation of Federal Regulations (40 CFR 122.44, the California Water Code (CWC), Section 13377.**

**RESPONSE:** Gamma-BHC (lindane) was detected in the effluent in four out of seven CTR sampling events between May 2003 and October 2006, with concentrations ranging from 0.012 µg/L to 0.14 µg/L. Lindane was banned from use in California in 2002. In 14 additional samples collected between March 2007 and July 2008, lindane was not detected at a reported level of 0.01 µg/L. The minimum acceptable reporting level is 0.02 µg/L, as indicated in appendix 4 of the SIP. Since lindane was banned in 2002 and the wastewater is from a residential service area, Regional Water Board staff believes that the 2007-2008 sampling is more representative of the effluent. Therefore, based on the new information, an effluent limitation for lindane is not included in this Order. Annual monitoring is included in this Order for lindane. Should monitoring results indicate that the discharge has the reasonable potential to cause or contribute to an exceedance of a water quality standard, this Order may be reopened and modified by adding an appropriate effluent limitation.

**CSPA COMMENT NO. 16. The Proposed Permit Fails to Include 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 13777.** – CSPA contends that the proposed Permit does not protect the drinking water beneficial use of the receiving stream as is required by Federal Regulations and the CWC, and in accordance with these requirements cannot be issued. At a minimum, the permit must be amended to require that the Discharger develop a workplan to eliminate the wastewater discharge to surface water in accordance with the Basin Plan.

**RESPONSE:** Regional Water Board staff disagrees. The need for a workplan to eliminate the wastewater discharge to surface waters has been addressed in the Regional Water Board staff response to CSPA Comment No. 5.

The proposed permit is full protective of the municipal and domestic water supply (MUN) beneficial use of the receiving water. The Regional Water Board, when developing NPDES permits, implements recommendations by the Department of Public Health (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 stream.

There are no 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, and is fully protective of the MUN use.

In 1987, the 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 DPH 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.”* The proposed Order implements the recommendation for filtration and disinfection. The allowance for discharge of secondary wastewater with a 20:1 dilution has been removed from the proposed Order. Therefore, with respect to pathogens, the proposed permit is more stringent than required by the Clean Water Act, because it requires Title 22 reclamation requirements. 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 because the receiving water may be used for irrigation of agricultural land and/or for contact recreation purposes.

In site-specific situations where a discharge is occurring to a stream with a nearby water intake used as a domestic water supply with no treatment, the DPH has also recommended the same Title 22 tertiary treatment requirements, as it recommends protecting REC-1 and AGR. In those cases, DPH recommends a 20:1 dilution ratio (receiving water: effluent) in addition to the Title 22 tertiary treatment requirement to protect the domestic water use. The tentative Order has been revised, and the proposed Order no longer allows discharges of secondary-treated effluent. Downstream of the Lake Wildwood WWTP there are no known water intakes in the vicinity of the discharge, therefore 20:1 dilution is not required for tertiary-treated effluent discharges.

**CSPA COMMENT NO. 17. The proposed Permit fails to contain an Effluent Limitation for silver in violation of the California Toxics Rule, Federal Regulations (40 CFR 122.44, the California Water Code (CWC), Section 13377.**

**RESPONSE:** Regional Water Board staff disagrees. (Refer to the Regional Water Board staff response to CSPA Comment No. 7 for use of effluent hardness for the purpose of establishing water based effluent limitations.) Using the minimum observed hardness of the receiving water (48 mg/L) and the lowest recorded effluent hardness (107 mg/L as CaCO<sub>3</sub>) the applicable acute criterion for silver is 4.56 µg/L. Using effluent and receiving water hardness to establish the objective for silver, no reasonable potential to cause or contribute to an in-stream excursion above the CTR criterion exists. Quarterly monitoring has been established for hardness and silver in this Order to gather additional information to determine if silver is present in the effluent above the CTR criterion. Should monitoring results indicate that the discharge has the reasonable potential to cause or contribute to an exceedance of a water quality standard, this Order may be reopened and modified by adding an appropriate effluent limitation.

**CSPA COMMENT NO. 18. The proposed Permit appears to fail to utilize valid, reliable, and representative effluent data in conducting a reasonable potential and limits derivation calculations contrary to US EPA's interpretation of Federal Regulations, 40 CFR 122.4 (a), (d) and (g) and CWC Section 13377. – CSPA contends that the proposed Permit and Fact Sheet in discussing reasonable potential only used dates from May 2003 through October 2006. Therefore, the application for permit renewal is incomplete or the Regional Board failed to utilize all the relevant data in developing the proposed Permit and in accordance with 40 CFR 122.2 (e) the Regional Board should not issue a permit.**

**RESPONSE:** The Discharger has submitted a complete permit application for their NPDES permit renewal in compliance with State and Federal requirements (Cal EPA Form 200, U.S. EPA NPDES Form 1 and Form 2C). Regional Water Board staff also utilized more recent monitoring data submitted by the Discharger to determine reasonable potential. As specified in the Fact Sheet, samples collected by the discharger through 31 July 2008 were used to determine reasonable potential for some constituents.

As stated in 40 CFR § 122.21(e)(1), "The Director shall not issue a permit before receiving a complete application for a permit except for NPDES general permits. An application for a permit is complete when the Director receives an application form and any supplemental information which are completed to his or her satisfaction. The completeness of any application for a permit shall be judged independently of the status of any other permit application or permit for the same facility or activity." 40 CFR § 124.3(a)(2) states, "The Director shall not begin the

processing of a permit until the applicant has fully complied with the application requirements for that permit.” Regional Water Board staff concluded a complete NPDES permit application was submitted by the Discharger and the wastewater has been adequately characterized in compliance with the regulations cited above because the period of time covered by the monitoring data is representative of the facility’s effluent.

**CSPA COMMENT NO. 19. Effluent Limitations for specific conductivity (EC) is 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 of 700  $\mu\text{mhos/cm}$  to keep the discharge from exceeding current levels. As specified in the Fact Sheet monitoring data shows and average effluent EC of 631  $\mu\text{mhos/cm}$  with a range from 179  $\mu\text{mhos/cm}$  to 997  $\mu\text{mhos/cm}$  for 159 samples. 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.

**CSPA COMMENT NO. 20. 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 Code Sections 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.)

**CSPA COMMENT NO. 21. 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 R5-2002-0093, 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. Oil and grease is rarely a problem at publicly owned treatment works (POTWs). In addition, improved levels of treatment have resulted in an overall reduction of oil and grease in wastewater treatment plant effluent that eliminates the need for any limitation.

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.