

Central Valley Regional Water Quality Control Board
26/27/28 May 2010 Board Meeting

Response to Comments
for the
Placer County Department of Facility Services
Placer County Sewer Maintenance District 1 Wastewater Treatment Plant
Tentative Waste Discharge Requirements

The following are Regional Water Quality Control Board, Central Valley Region (Central Valley Water Board) staff responses to comments submitted by interested parties regarding the tentative Waste Discharge Requirements (National Pollutant Discharge Elimination System or NPDES Permit renewal), the tentative Expansion Option, and the tentative Cease and Desist Order (CDO) for the Placer County Department of Facility Services (hereinafter Discharger), Placer County Sewer Maintenance District 1 Wastewater Treatment Plant (hereinafter Facility). Public comments regarding the proposed NPDES Permit were required to be submitted to the Central Valley Water Board by 15 April 2010 in order to receive full consideration.

The Central Valley Water Board received comments regarding the proposed NPDES Permit renewal by the due date from the following interested parties:

- Discharger;
- United States Environmental Protection Agency (USEPA);
- Central Valley Clean Water Association (CVCWA); and
- California Sportfishing Protection Alliance (CSPA).

The submitted comments were accepted into the record, and are summarized below, followed by Central Valley Water Board staff responses.

**PLACER COUNTY DEPARTMENT OF FACILITY SERVICES (DISCHARGER)
COMMENTS**

Discharger Comment No. 1. Capacity Expansion

The Discharger requests that the increase in permitted average dry weather discharge capacity from 2.18 million gallons per day (MGD) to 2.7 MGD, as addressed in the Expansion Option, be allowed in the proposed NPDES Permit. The Discharger states that they have continued to pursue regionalization with the City of Lincoln Wastewater Treatment and Reclamation Facility, but the costs of regionalizing exceed the costs to upgrade and expand the Facility by \$41 million, making regionalization economically infeasible. The Discharger anticipates that the regionalization project would require 7 years to complete once funding has been secured. The Discharger comments that the proposed upgrades are necessary to achieve compliance with effluent limitations and that, once upgraded, the effluent quality would be equivalent to or better than that discharged from the City of Lincoln Wastewater Treatment and Reclamation Facility, the only difference being the point of discharge. The Discharger comments that it is necessary to address the upgrade and expansion concurrently for economical reasons and because a future expansion would be limited due to the size of the Facility site.

RESPONSE: Central Valley Water Board staff acknowledges the Discharger's support of the Expansion Option, which proposes an increase in the permitted flow from 2.18 MGD to 2.7 MGD. At its May 2010 meeting, the Central Valley Water Board will be considering both the tentative NPDES Permit that proposes a permit renewal without an increase in regulated discharge, and the tentative Expansion Option proposing an increase the regulated flow. In 2005, the Discharger was granted a 5 year compliance schedule to comply with NPDES permit requirements. The proposed increase in regulated flow has been presented as a separate tentative option for the Central Valley Water Board to make a determination whether the Board chooses to allow a facility that is out of compliance with its existing permit, to increase its discharge to surface water. Staff understands that the design of the proposed facility upgrade will include an increase in treatment capacity; however, staff does not concur that the design of the proposed facility should be the basis for a regulatory increase in permitted flow.

Discharger Comment No. 2. Antidegradation Analysis

The Discharger is concerned with the antidegradation findings in the tentative NPDES Permit and Expansion Option and suggests specific modifications to the findings in both documents. Additionally, the Discharger does not concur with the conclusion in the tentative NPDES Permit justifying denial of the requested increase in discharge to the receiving water.

The Discharger comments that the discussion regarding antidegradation in the tentative NPDES Permit is incomplete, implies that the Antidegradation Analysis was not conducted in accordance with the State Water Resources Control Board (State Water Board) Resolution No. 68-15 and Administrative Procedures Update (APU) 90-004, and makes several generalized statements. The Discharger is concerned that certain statements will preclude the Central Valley Water Board's ability to allow an increase in discharge to the receiving water in the future. The Discharger comments that the tentative NPDES Permit concludes that regionalization is a feasible alternative without regard to the cost to implement regionalization. The Discharger requests modifications to (1) accurately reflect the findings of the Antidegradation Analysis versus additional information considered by the Central Valley Water Board; (2) accurately cite findings in Resolution No. R5-2009-0028, and (3) define the Central Valley Water Board's basis for denying an increase in discharge to the receiving water.

The Discharger is concerned that the Expansion Option contains certain unsupported statements and an incomplete description of the Antidegradation Analysis versus the findings of the Central Valley Water Board and Resolution No. R5-2009-0028. The Discharger requests specific modifications to address these issues.

RESPONSE: Central Valley Water Board staff concurs that the Fact Sheet (Attachment F) of the proposed NPDES Permit should include additional information to reflect the findings of the Discharger's Antidegradation Analysis, cite findings in

Resolution No. R5-2009-0028, and define the Central Valley Water Board's basis for denying an increase in discharge to the receiving water. Central Valley Water Board staff also concurs with the Discharger's suggested modifications to the antidegradation findings in the Expansion Option. The suggested modifications have been included in the Fact Sheet (Attachment F) of the proposed NPDES Permit and the antidegradation findings of the Expansion Option. The antidegradation findings in both the Fact Sheet (Attachment F) of the proposed NPDES Permit and the Expansion Option are consistent, except for the justification for allowing degradation.

Discharger Comment No. 3. Prescription of Operations and Treatment

The Discharger comments that the requirements that prescribe the method of treatment necessary to comply with effluent and receiving water limitations should be deleted or modified. Specifically, the Discharger comments that the provision requiring wastewater to be oxidized, coagulated, filtered, and adequately disinfected pursuant to the Department of Public Health (DPH; formerly the Department of Health Services) reclamation criteria, California Code of Regulations (CCR), Title 22, division 4, chapter 3, (Title 22), or equivalent, should be revised to require only compliance with effluent limitations consistent with the Title 22 reclamation criteria. The Discharger also comments that the operation specifications and monitoring requirements for the ultraviolet light (UV) disinfection system in the Expansion Option should be removed.

RESPONSE: Central Valley Water Board staff does not concur that the requirement to provide a Title 22, or equivalent, level of treatment should be revised. Title 22 requires extensive treatment of wastewater that is to be used for irrigation of parks and playgrounds or for spray irrigation of food crops. Title 22 is not directly applicable to surface waters; however, Central Valley Water Board staff has determined that it is appropriate to apply an equivalent level of treatment to that required by DPH's reclamation criteria because the receiving water is used for irrigation of agricultural land and for contact recreation purposes. The stringent disinfection criteria of Title 22 are appropriate since the undiluted effluent may be used for the irrigation of food crops and/or for body-contact water recreation. Recycled water for such uses is to be oxidized, filtered, and disinfected. DPH developed the *State of California Division of Drinking Water and Environmental Management Treatment Technology Report for Recycled Water* (December 2009), which states on page 2 that DPH "considers a properly filtered and disinfected recycled water meeting the turbidity performance and coliform requirements outlined in the criteria to be essentially pathogen free." CCR sections 60301.320 and 60301.230 specifically define filtered wastewater and disinfected tertiary recycled water, respectively. Treatment equivalent to that stipulated in CCR sections 60301.320 and 60301.230 is prescribed to greatly reduce the concentration of viable enteric viruses in wastewater. Therefore, operational specifications consistent with Title 22 requirements are necessary to assure that the effluent is properly filtered and disinfected, in addition to requiring compliance with effluent limitations for total coliform organisms. CCR section 60320.5 allows for "other methods of treatment"

provided they are acceptable to DPH. Thus, the Discharger may choose to treat wastewater using an equivalent treatment process in accordance with CCR section 60320.5. The method of treatment is not prescribed by the proposed NPDES Permit; however, in order to protect beneficial uses, wastewater must be treated to a level equivalent to that recommended by DPH. The provision has been revised as follows to clarify that a treatment process that provides equivalent treatment to a treatment process including oxidation, coagulation, filtration, and disinfection is permitted.

“Wastewater shall be oxidized, coagulated, filtered, and adequately disinfected, or equivalent, pursuant to the Department of Public Health (DPH; formerly the Department of Health Services), ~~or equivalent~~, reclamation criteria, CCR, Title 22, division 4, chapter 3, (Title 22) in accordance with the compliance schedule in Section VI.C.7.b, below.”

Central Valley Water Board staff does not concur that operational specifications for the UV disinfection system should be removed. UV disinfection system specifications and monitoring and reporting requirements are required to ensure that adequate UV dosage is applied to the wastewater to inactivate pathogens (e.g., viruses) in the wastewater. UV dosage is dependent on several factors such as UV transmittance, UV power setting, wastewater turbidity, and wastewater flow through the UV disinfection system. Monitoring and reporting of these parameters is necessary to determine compliance with minimum dosage requirements established by DPH and the National Water Research Institute (NWRI) and American Water Works Association Research Foundation NWRI/AWWARF's "*Ultraviolet Disinfection Guidelines for Drinking Water and Water Reuse*" first published in December 2000 and revised as a Second Edition dated May 2003. In addition, a memorandum dated 1 November 2004 issued by DPH to Regional Water Board executive officers recommended that provisions be included in permits to water recycling treatment plants employing UV disinfection requiring dischargers to establish fixed cleaning frequency of quartz sleeves as well as include provisions that specify minimum delivered UV dose that must be maintained (as recommended by the NWRI/AWWARF UV Disinfection Guidelines).

The NWRI/AWWARF UV Disinfection Guidelines contain different requirements for turbidity, UV transmittance, and UV dose based on the type of treatment system used. The requirements in the proposed NPDES Permit reflect the requirements contained in the NWRI/AWWRF UV Disinfection Guidelines for filtration and UV systems commonly used by dischargers in the Central Valley Region. The Discharger has not yet finalized design of the treatment plant upgrades or submitted information demonstrating that alternative requirements based on the NWRI/AWWARF UV Disinfection Guidelines are appropriate. Central Valley Water Board staff does not concur with removing the UV disinfection requirements; however, in order to allow the Discharger to determine the treatment technology most appropriate for the Facility upgrade project, additional language has been included in the tentative NPDES Permit allowing the Executive Officer to amend the

UV System Operating Specifications upon demonstration by the Discharger that alternative specifications are appropriate for the treatment technology chosen, in accordance with DPH recommendations and the NWRI/AWWARF UV Disinfection Guidelines.

The Discharger proposes to install a UV disinfection system as part of the upgrade project, independent of whether the Central Valley Water Board grants an increase in discharge to the receiving water. Therefore, the proposed NPDES Permit includes UV disinfection operating specifications and monitoring requirements, with the opportunity for appropriate technology-specific modifications during the permit term by Executive Officer approval.

Discharger Comment No. 4. Effluent Limitations for Aluminum

The Discharger comments that the chronic criterion for aluminum of 87 µg/L, which is based on the National Ambient Water Quality Criteria (NAWQC) for protection of aquatic life, is not applicable to the receiving water. The Discharger comments that the determination of the appropriate criterion should be based on the hardness of the current final effluent produced by the Facility. Based on the actual effluent hardness, the Discharger comments that the chronic criterion of 87 µg/L does not apply to the receiving water and that a criterion of 750 µg/L is protective of aquatic life. Concentrations of aluminum in the effluent do not exceed the criterion of 750 µg/L or the Secondary Maximum Contaminant Level (MCL) of 200 µg/L; therefore, the Discharger comments that effluent limitations for aluminum should be removed. The proposed NPDES Permit requires monthly monitoring of aluminum and contains a reopener allowing for permit modification if/when new information not available at the time of this permit issuance, becomes available and justifies different permit requirements. The Discharger comments a major future reduction in effluent hardness tied to the Discharger's elimination of the use of magnesium hydroxide would constitute new information that is unknown and not available at this time. The Discharger requests that the discussion of aluminum in the Fact Sheet (Attachment F) be modified to reflect the uncertainty of future magnesium hydroxide use and the degree of hardness reductions that may occur as a result of changes in its use.

RESPONSE: Central Valley Water Board staff does not concur that that the chronic criterion for aluminum of 87 µg/L is not applicable to the receiving water. The chronic criterion of 87 µg/L is based on studies conducted on waters with low pH (6.5 to 6.8 pH units) and hardness (<10 mg/L as CaCO₃). Similar to the pH of the facility influent, the upstream receiving water pH is at times low, with available data indicating that it ranges from 6.3 – 9.5. The hardness of the upstream receiving water ranges from 20 mg/L to 98 mg/L. The minimum observed effluent hardness was 141 mg/L. The high hardness of the effluent is due to the addition of magnesium hydroxide in the primary clarifier effluent to provide alkalinity for nitrification, as reported in Table B-1 in Addendum B – Form 2A Part B, section B.3 of the Report of Waste Discharge. Although the effluent hardness may currently increase the downstream hardness, future modifications of the treatment process

may result in changes in magnesium hydroxide use. These changes may reduce the effluent hardness and, consequently, the downstream receiving water hardness to levels supportive of the applicability of the NAWQC chronic criterion for aluminum. Although the Discharger may no longer need to add magnesium hydroxide subsequent to treatment plant upgrades, the Discharger may continue to artificially harden the effluent to avoid application of effluent limitations for aluminum in the future. While it is acknowledged that the use of chemicals may be necessary, it is discouraged when unnecessary for treatment because it increases the potential for salinity and other constituents to be discharged to the receiving water. Therefore, Central Valley Water Boards staff believes that it is inappropriate to base the applicability of the aluminum chronic criterion for the receiving water, on the characteristics of the effluent. The low pH values and low hardness observed in the receiving water is supportive of the applicability of the NAWQC chronic criterion for aluminum, according to USEPA's development document, and effluent limitations have been included in the proposed NPDES Permit for the protection of aquatic life.

The discussion in the Fact Sheet (Attachment F) has been revised to reflect the uncertainty of future use of magnesium hydroxide and the potential impacts on the effluent hardness based on changes in magnesium hydroxide use.

Discharger Comment No. 5. Effluent Limitation for Arsenic

The Discharger comments that the maximum annual average for arsenic used to determine reasonable potential to cause or contribute to an exceedance of the Primary MCL is not representative of the effluent. The remaining effluent data indicates that the discharge does not have a reasonable potential to cause or contribute to an exceedance of the Primary MCL. Therefore, the Discharger requests that effluent limitations for arsenic be removed.

RESPONSE: Central Valley Water Board staff does not concur that the effluent limitations for arsenic should be removed. Based on the Discharger's annual monitoring from July 2006 through June 2009, the maximum effluent concentration (MEC) for arsenic was 21.5 µg/L. Because only one sample was taken each year, each annual average effluent concentration is equivalent to each single sample concentration. Therefore, the annual average concentration used to determine reasonable potential to exceed the Primary MCL of 10 µg/L for arsenic was equivalent to the MEC of 21.5 µg/L. Although the remaining samples were below the water quality objective, samples were not taken at a sufficient frequency or within the immediate timeframe that the MEC was taken to confidently conclude that the MEC was misrepresentative of the effluent. Furthermore, the laboratory's quality assurance-quality control data does not indicate any laboratory error for the sample. Without sufficient evidence to conclude that the sample is an outlier, the MEC of 21.5 µg/L was used to determine reasonable potential and effluent limitations are included in the proposed NPDES Permit.

Arsenic is a California Toxic Rule (CTR) priority pollutant. The State Water Resources Control Board's *Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California* (State Implementation Policy or SIP) provides for the Central Valley Water Board to use its discretion to determine if available data is representative of the corresponding water quality sample. Central Valley Water Board staff does not concur that the general information provided by the Discharger to discount the use of the subject data point is sufficient to not use an analytical data point in the reasonable potential analysis. Staff believes that the Discharger should have conducted supplement sampling more frequent than once a year, particularly after the sampling indicates suspect data results, to provide the Central Valley Water Board with necessary site-specific information to determine that the sample is non-representative.

Discharger Comment No. 6. Effluent Limitations for Copper and Lead

The Discharger comments that the MECs for copper and lead used to determine reasonable potential to cause or contribute to an exceedance of the California Toxics Rule (CTR) criteria are not representative of the effluent. The remaining effluent data indicates that the discharge does not have a reasonable potential to cause or contribute to an exceedance of the CTR criteria. Therefore, the Discharger requests that effluent limitations for copper and lead be removed.

RESPONSE: Central Valley Water Board staff does not concur that the effluent limitations for copper and lead should be removed. As discussed in the Fact Sheet (Attachment F), the MECs for copper and lead were observed on 4 January 2008 and were detected at concentrations that exceed the applicable water quality criteria. The Discharger concluded in Table 3.5 of the Report of Waste Discharge that these samples were outliers because the concentrations exceeded the 99th percentile of observed copper and lead concentrations. The report from the laboratory, Excelchem Environmental Labs, dated 21 January 2008, does not indicate that the 4 January 2008 sample result was caused by any laboratory error. Therefore, the sample is considered to be representative of the discharge and was used in the RPA. Copper and lead are CTR priority pollutants, and in accordance with the SIP, because the MECs exceed the chronic criteria, copper and lead in the discharge have a reasonable potential to cause or contribute to an in-stream excursion above the CTR criteria for the protection of freshwater aquatic life. Therefore, the proposed NPDES Permit establishes effluent limitations for copper and lead. See also response to Discharger Comment No. 5.

Discharger Comment No. 7. Compliance Schedules for 5-Day Biochemical Oxygen Demand (BOD₅) and Total Suspended Solids (TSS)

The Discharger comments that the effluent limitations for BOD₅ and TSS, which are based on tertiary treatment, are water quality-based effluent limitations (WQBELs). The Discharger comments that compliance schedules for BOD₅ and TSS should be removed from the proposed Cease and Desist Order (CDO) and included in the

proposed NPDES Permit because the new, more stringent WQBELs for BOD₅ and TSS, applicable when the influent flow exceeds 3.5 MGD and the 7-day median temperature is less than 60°F, are based on a newly interpreted water quality objective or criterion in a water quality standard. Pursuant to State Water Board Resolution No. 2008-0025, *Policy for Compliance Schedules in National Pollutant Discharge Elimination System Permits* (Compliance Schedule Policy), a compliance schedule can be included in an NPDES permit for an existing discharger to implement a newly interpreted water quality objective or criterion in a water quality standard that results in permit limitations more stringent than the limitation previously imposed.

RESPONSE: Central Valley Water Board staff concurs that the effluent limitations for BOD₅ and TSS are WQBELs and that the compliance schedules for these parameters can be included in the proposed NPDES Permit. The Tentative Order already included a time schedule for full implementation of tertiary treatment.

Effluent limitations for BOD₅ and TSS implementing tertiary treatment requirements were incorrectly described as technology-based effluent limitations based on the use of best professional judgment (BPJ) in the tentative NPDES Permit. Clean Water Act (CWA) section 402(a)(1) and section 125.3 of title 40 of the Code of Federal Regulations (40 CFR 125.3) authorize the use of BPJ to derive technology-based effluent limitations on a case-by-case basis where effluent limitations guidelines (ELGs) are not available for certain industrial categories and/or pollutants of concern. CWA section 301(b)(1)(B) requires that publicly owned treatment works (POTWs) must, at a minimum, meet effluent limitations based on secondary treatment as defined by the USEPA Administrator. Based on the statutory requirement at CWA section 301(b)(1)(B), USEPA developed secondary treatment regulations, which are specified in 40 CFR Part 133. Regulations promulgated in 40 CFR 125.3(a)(1) require technology-based effluent limitations for municipal dischargers to be placed in NPDES permits based on Secondary Treatment Standards or Equivalent to Secondary Treatment Standards. Therefore, the applicable technology-based effluent limitations for POTWs are those requirements for BOD₅, TSS, and pH based on the secondary treatment requirements of 40 CFR Part 133.

Section 301(b) of the CWA and 40 CFR 122.44(d) require that permits include limitations more stringent than applicable federal technology-based requirements where necessary to achieve applicable water quality standards. The narrative Chemical Constituents objective states, "Waters shall not contain chemical constituents in concentrations that adversely affect beneficial uses." More stringent limitations for BOD and TSS are necessary to protect the beneficial uses of the receiving water. Therefore, the final effluent limitations for BOD₅ and TSS are WQBELs.

The Compliance Schedule Policy authorizes compliance schedules in a permit for an existing discharger to implement a newly interpreted water quality objective or criterion in a water quality standard that results in a permit limitation more stringent

than the limitation previously imposed where it is determined that the discharger has complied with the application requirements in paragraph 4 of the Compliance Schedule Policy and has demonstrated that the discharger needs additional time to implement actions to comply with the limitation. Order No. R5-2005-0074 required compliance with tertiary level effluent limitations for BOD₅ and TSS when the influent flow is less than 3.5 MGD, but did not require compliance with tertiary level effluent limitations when the influent flow is greater than 3.5 MGD and the 7-day median receiving water temperature is less than 60°F. The proposed NPDES Permit now requires compliance with tertiary level effluent limitations for BOD₅ and TSS regardless of influent flow and receiving water temperature to protect the beneficial uses of the receiving water. This represents a new interpretation of the narrative Chemical Constituents objective that results in a permit limitation more stringent than the limitation previously imposed. The Discharger submitted supplemental information in their *Infeasibility Report for the Sewer Maintenance District 1 Wastewater Treatment Plant (Infeasibility Report)* on 4 May 2010 addressing the application requirements of the Compliance Schedule Policy. The Facility is not designed to provide full tertiary treatment for wet weather flows exceeding 3.5 MGD, and currently discharges a blend of secondary and tertiary wastewater under those conditions. The Discharger therefore cannot currently comply with the BOD and TSS limits when the influent flow is greater than 3.5 MGD and the 7-day median receiving water temperature is less than 60°F. In order to provide the time necessary for the Discharger to complete the necessary upgrades, the compliance schedule for BOD₅ and TSS has been removed from the CDO and included in the proposed NPDES Permit.

Discharger Comment No. 8. Facility Description

The Discharger requests changes to the facility description in the proposed NPDES Permit and CDO to accurately reflect treatment capacity at the Facility. Specifically, the Discharger requests that all references to the peak wet weather flow capacity of 3.5 MGD and references to flows exceeding 3.5 MGD be removed. The Discharger further requests that additional information regarding the proposed upgraded and expanded Facility be included in the facility description.

RESPONSE: Central Valley Water Board staff concurs that the description of treatment capacity should be clarified; however, staff does not concur that references to flows exceeding 3.5 MGD should be removed altogether. The Discharger does not provide tertiary treatment for all flows, as flows exceeding the capacity of the gravity filters of 3.5 MGD bypass the filters before discharge to Rock Creek. The proposed NPDES Permit contains compliance schedules for providing tertiary treatment for all flows. Interim limitations and requirements in the compliance schedules are applicable only during periods when influent flows are greater than 3.5 MGD. The proposed NPDES Permit has been revised to clarify the description of treatment capacity, but references to flows exceeding 3.5 MGD have not been removed. The facility description in the proposed NPDES Permit has been

revised to provide information regarding the proposed upgraded and expanded Facility.

Discharger Comment No. 9. Compliance Schedule for Aluminum

The Discharger comments that the CDO should be revised to specify that exceedances of the maximum daily effluent limitation (MDEL) for aluminum are except from mandatory minimum penalties (MMPs) for 5 years because the new MDEL in the proposed NPDES Permit is more stringent than the MDEL in Order No. R5-2005-0074.

RESPONSE: Central Valley Water Board staff does not concur that additional MMP protection is available for the MDEL for aluminum. The effluent limitations for aluminum included in Order No. R5-2005-0074 and the proposed NPDES Permit are based on the use of the NAWQC for protection of aquatic life to implement the narrative toxicity objective in the *Water Quality Control Plan, Fourth Edition (Revised September 2009)*, for the Sacramento and San Joaquin River Basins (Basin Plan). The average monthly effluent limitation (AMEL) is slightly less stringent and the MDEL is slightly more stringent based on the use of a different coefficient of variation (CV) representing all available monitoring data. The slight change in effluent limitations does not constitute a new, more stringent effluent limitation for the purposes of the exception granted by California Water Code (CWC) section 13385(j)(3). CDO No. R5-2005-0075 provided the Discharger with almost 5 years to comply with effluent limitations for aluminum, in which the Discharger has not implemented treatment or control measures to successfully comply; therefore, further protection from MMPs pursuant to CWC section 13385(j)(3) does not apply for aluminum.

Discharger Comment No. 10. Permit Effective Date

The Discharger requests that the proposed NPDES Permit become effective as soon as possible after adoption (i.e., 10 days).

RESPONSE: The *NPDES Memorandum of Agreement Between the U.S. Environmental Protection Agency and the California State Water Resources Control Board* requires that individual NPDES permits become effective 50 days after adoption if EPA has no objection to the permit and a) there has been significant public comment, or b) changes have been made to the latest version of the draft permit that was sent to EPA for review (unless the only changes were made to accommodate EPA comments). Because significant public comments were received from the Discharger, CVCWA, and CSPA, the effective date of the permit must be 50 days after adoption.

Discharger Comment No. 11. Background Information

The Discharger requests that the background information in the Findings be revised to accurately reflect that the Discharger applied for a NPDES permit renewal to discharge up to 2.7 MGD of treated wastewater from the Facility.

RESPONSE: Central Valley Water Board staff concurs and the proposed NPDES Permit has been revised to reflect the Discharger's request to discharge up to 2.7 MGD of treated wastewater from the Facility.

Discharger Comment No. 12. Effluent Limitation for Electrical Conductivity

The Discharger requests that effluent limitations for electrical conductivity be removed because the effluent does not have a reasonable potential to cause or contribute to an exceedance of water quality objectives for salinity.

RESPONSE: Central Valley Water Board staff does not concur that effluent limitations for electrical conductivity should be removed. The Sacramento-San Joaquin Delta is impaired for salinity. The Discharger discharges to Rock Creek, a tributary of the Sacramento River, the Bear River, and eventually the Sacramento-San Joaquin Delta. Therefore, the salt contribution to Delta waters is of concern. Allowing the Discharger to increase its current salt loading may be contrary to the Region-wide effort to address salinity in the Central Valley. Therefore, to limit the discharge of salinity to current levels, the proposed NPDES Permit includes a final performance-based effluent limitation of 700 $\mu\text{mhos/cm}$ to be applied as an annual average.

Discharger Comment No. 13. Reopener for Increased Flow

The Discharger requests revisions to the reopener provision for increased flow to require consistency with antidegradation requirements to reopen the permit, rather than documentation of progress towards regionalization.

RESPONSE: Central Valley Water Board staff concurs and the reopener in the proposed NPDES Permit has been revised to allow an increased discharge to the receiving water upon consistency with the antidegradation provision of 40 CFR 131.12 and Resolution No. 68-16.

Discharger Comment No. 14. Reopener for Dilution/Mixing Zone Study

The Discharger requests revisions to the reopener provision for a dilution/mixing zone study to require a biologically-based evaluation in lieu of a nutrient cycling evaluation.

RESPONSE: Central Valley Water Board staff concurs and the proposed NPDES Permit has been revised. The revision appropriately relates the mixing zone study requirements to the requirements of the *Policy for Implementation of Toxics*

Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California (State Implementation Policy or SIP). The reopener has also been revised to require submission and approval of a workplan prior to conducting the mixing zone study.

Discharger Comment No. 15. Effluent Monitoring for Nitrate and Nitrite

The Discharger requests that the monitoring frequency for nitrate and nitrite be reduced from once per day to twice per week in order to reduce monitoring costs.

RESPONSE: Because the final effluent limitations for nitrate plus nitrite and nitrite in the proposed NPDES Permit that are necessary to protect beneficial uses are regulated on an average monthly basis, monitoring twice per week will provide sufficient monitoring data to determine compliance with the final effluent limitations. A compliance schedule with interim maximum daily effluent limitations is included in the proposed CDO because the Facility is not designed to provide full denitrification and the Discharger cannot comply with the final effluent limitations in the proposed NPDES Permit. Typically daily monitoring is required to determine compliance with daily limitations. However, due to the costs of monitoring and the purpose of the interim MDELS, which are designed to cap the discharge at existing performance-based levels, compliance with daily limits can be determined using twice-a-week monitoring. The reduction in monitoring is based solely on the evaluation of incremental value of additional data to determine compliance with a temporary interim-cap limit that does not protect water quality. Such a reduction is not recommended on a standard basis. Therefore, the proposed NPDES Permit has been revised to reduce the monitoring frequency for nitrate plus nitrite and nitrite from daily to twice per week.

Discharger Comment No. 16. Dilution Series

The Discharger requests that the requirement to perform chronic toxicity testing using a full dilution series for Toxicity Reduction Evaluation (TRE) monitoring be removed.

RESPONSE: Central Valley Water Board staff does not concur that a full dilution series is not required for TRE monitoring. The full dilution series is necessary for TRE monitoring in order to determine the extent of toxicity present and the seriousness of the impact or the amount of toxicity reduction necessary.

The purpose of accelerated monitoring is to determine, in an expedient manner, whether there is a pattern of toxicity before requiring the implementation of a TRE. Therefore, a full dilution series is not required for accelerated monitoring. The Monitoring and Reporting Program (MRP; Attachment E) has been revised to require accelerated monitoring using 100 percent effluent and two controls instead of a full dilution series.

Discharger Comment No. 17. Receiving Water Monitoring for Fecal Coliform Organisms

The Discharger requests that receiving water monitoring requirements for fecal coliform organisms be discontinued.

RESPONSE: Central Valley Water Board staff does not concur that a reduced monitoring frequency for fecal coliform organisms is appropriate. As stated in the Fact Sheet (Attachment F), due to exceedances of the effluent limitations for total coliform organisms during the term of Order No. R5-2005-0074 and because the Facility does not provide full tertiary treatment for all discharges, monthly receiving water monitoring for fecal coliform organisms is considered appropriate and necessary to determine compliance with applicable receiving water limitations.

Discharger Comment No. 18. Receiving Water Monitoring for Priority Pollutants

The Discharger requests that receiving water monitoring requirements for priority pollutants be revised from annually to quarterly during the fourth year of the permit term to be consistent with effluent monitoring requirements for priority pollutants.

RESPONSE: As described further in response to USEPA Comment No. 3, the effluent monitoring frequency for priority pollutants has been revised from quarterly during the fourth year of the permit term to annually, consistent with pretreatment program requirements. Therefore, the proposed NPDES Permit will continue to require annual receiving water monitoring for priority pollutants to be consistent with effluent monitoring requirements.

Discharger Comment No. 19. Receiving Water Monitoring for Bacteria

The Discharger requests that receiving water monitoring requirements for bacteria be discontinued.

RESPONSE: Central Valley Water Board staff does not concur that receiving water monitoring for bacteria should be discontinued. As described in the Fact Sheet (Attachment F), the Facility is designed to provide tertiary treatment for average dry weather flows of 2.18 MGD. However, the Discharger has historically had high levels of infiltration and inflow (I/I) during wet weather events. When influent flows are greater than the capacity of the gravity filters of 3.5 MGD, the gravity filters are bypassed and the discharge is a combination of secondary-treated (non-filtered) and tertiary-treated wastewater. Therefore, it is important that, when discharging commingled wastewater, additional daily receiving water monitoring is conducted for total coliform organisms and *Escherichia coli* to ensure that downstream beneficial uses are protected.

Discharger Comment No. 20. Water Supply Monitoring

The Discharger requests revisions to the water supply monitoring requirements to allow the Discharger to obtain monitoring results from the municipal water suppliers in the service area.

RESPONSE: Table E-1 of the MRP (Attachment E) defines the monitoring location SPL-001 as “*a location where a representative sample of the municipal water supply can be obtained.*” This could include, but is not limited to, representative monitoring conducted by the water suppliers in the service area. Therefore, no changes are necessary.

The second sentence in section IX.B.1 of the MRP (Attachment E) requires that “*municipal water supply samples shall be collected at approximately the same time as effluent samples.*” Monitoring at the same time as the effluent is unnecessary to characterize the contributions of salinity to the Facility in the water supply. Therefore, this sentence has been deleted.

Discharger Comment No. 21. Compliance Determination for Multiple Sample Data

The Discharger requests that compliance determination language be included in the MRP (Attachment E) that specifies how to compute an arithmetic mean when a non-priority pollutant data set includes one or more reported determinations of “Detected, but Not Quantified” (DNQ) or “Not Detected” (ND).

RESPONSE: Central Valley Water Board staff concurs. The specific requirement contained in the proposed NPDES Permit for computing an arithmetic mean when a data set includes one or more reported determinations of DNQ or ND is based on the SIP, which is applicable to priority pollutants. Although the SIP applies directly to the control of CTR priority pollutants, the State Water Board has held that the Central Valley Water Board may use the SIP as guidance for water quality-based toxics control.¹ The proposed NPDES Permit has been revised to specify how to compute an arithmetic mean when a non-priority pollutant data set includes one or more reported determinations of DNQ or ND.

Discharger Comment No. 22. Historic Effluent Limitations and Monitoring Data

The Discharger requests that Table F-2 in the Fact Sheet (Attachment F), which provides a summary of the historical effluent limitations and monitoring data, be revised to include arsenic, chlorodibromomethane, electrical conductivity, turbidity, and chronic toxicity. The Discharger also requests that a footnote to the table be included for the average daily dry weather discharge flow to clarify that the limitation is not an MDEL.

¹ See Order WQO 2001-16 (Napa) and Order WQO 2004-0013 (Yuba City).

RESPONSE: Central Valley Water Board staff does not concur. The purpose of Table F-2 in the Fact Sheet (Attachment F) is to summarize effluent limitations from Order No. R5-2005-0074 and corresponding monitoring data collected during the term of Order No. R5-2005-0074. Order No. R5-2005-0074 did not require compliance with effluent limitations for arsenic, chlorodibromomethane, electrical conductivity, or chronic toxicity; therefore, these parameters are not included in Table F-2. Order No. R5-2005-0074 did require effluent limitations for turbidity; however, turbidity is already included in Table F-2. Table F-2 has been clarified to indicate that the average daily dry weather discharge flow limitation in Order No. R5-2005-0074 was not an MDEL.

Discharger Comment No. 23. Planned Changes

The Discharger requests modifications to the discussion of planned changes clarifying that the Discharger is upgrading the Facility because participation in regionalization is \$41 million greater than the cost to upgrade the Facility. The Discharger also requests revisions to the rationale for not authorizing the proposed increase in discharge to the receiving water.

RESPONSE: Central Valley Water Board staff concurs and the proposed revisions have been made in the proposed NPDES Permit.

Discharger Comment No. 24. Average Dry Weather Flow

The Discharger requests a revision to the footnote to Table F-3 in the proposed NPDES Permit and Expansion Option for average dry weather flow to define the period of compliance as specifically July, August, and September. The Discharger also requests that the footnote be added to Table F-9 in the proposed NPDES Permit and Expansion Option.

RESPONSE: Central Valley Water Board staff concurs. The Discharger's request is consistent with the compliance determination language in the proposed NPDES Permit. The proposed revisions have been made in both the proposed NPDES Permit and Expansion Option.

Discharger Comment No. 25. Assimilative Capacity/Mixing Zone

The Discharger comments that the discussion of assimilative capacity/mixing zones in the Fact Sheet (Attachment F) incorrectly bases the assessment of available dilution on hypothetical flow conditions. The Discharger requests that flows available for dilution be determined using actual creek flow data, rather than a hypothetical flow condition.

RESPONSE: Central Valley Water Board staff does not concur with the Discharger's proposed changes. As discussed in the Fact Sheet (Attachment F), at times, treated wastewater may be the main, or only, source of stream flow, with little or no dilution from natural flow, particularly in Rock Creek. In order to grant a mixing zone and

dilution credits, the Discharger must submit an approved mixing zone/dilution study that meets all the requirements of section 1.4.2.2 of the SIP. Until the Discharger submits an approved mixing zone/dilution study that meets all the requirements of section 1.4.2.2 of the SIP, the worst-case dilution in Rock Creek and Dry Creek is assumed to be zero to provide protection for the receiving water beneficial uses. The impact of assuming zero dilution within the receiving water is that discharge limitations must be end-of-pipe limits, rather than allowing for dilution provided by the receiving water. Therefore, the proposed NPDES Permit contains end-of-pipe effluent limitations.

Discharger Comment No. 26. I/I Reduction Program

The Discharger comments that it is not practical to prioritize or schedule repairs of private sector defects in the collection system, or to log and track the status of work remaining to complete the repairs in an annual report because these types of defects are readily corrected. Therefore, the Discharger requests modifications to the I/I Reduction Program requirements removing the requirement to address private sector I/I sources in the updated priority list and implementation schedule.

RESPONSE: Central Valley Water Board staff does not concur that it is impractical to prioritize or schedule repairs of private sector defects in the collection system, or to log and track the status of work remaining to complete the repairs in an annual report. As stated in the Discharger's comment, the Discharger already conducts smoke testing annually and identifies private sector defects. Conducting this testing and identification annually allows the Discharger to identify primarily new defects plus those defects that were identified in previous years that were not actually corrected by the property owner. The Discharger comments that letters are sent to homeowners to make sure the defects are corrected and 99 percent of defects are corrected within 1 to 2 months. Thus the Discharger could submit documentation of follow-up inspections or written responses from property owners that defects have been corrected. Further, the annual testing should validate the property owner's assertion that repairs have been made.

The proposed NPDES Permit has been revised to require that private sector defects shall be corrected within 1 year and any new private sector defects discovered by the Discharger through ongoing sewer system investigations shall be corrected within 12 months of their discovery. With regard to these private sector defects, the annual report describing the Discharger's I/I correction activities in the previous year shall identify the types and locations of private sector defects identified within that year and private sector defects discovered in prior years that have not yet been corrected. The annual report shall then identify those defects subsequently corrected within that year. The annual report shall indicate the follow-up actions the Discharger intends to take within the next 12 months to correct those private sector defects identified but not yet repaired. The results of the Discharger's follow-up actions to correct the discovered but unrepaired private sector defects shall then be reported in the annual report the following year.

Discharger Comment No. 27. Facility Expansion Approval

The Expansion Option allows for an increase in the permitted average dry weather flow, contingent on (1) demonstration of compliance with effluent and receiving water limitations, (2) completion of construction of the upgrade and expansion project, and (3) Executive Officer approval. The Discharger comments that the requirement to demonstrate compliance with effluent and receiving water limitations and Executive Officer approval are ambiguous and leave uncertainty regarding whether an increase in discharge to the receiving water will be approved by the Executive Officer. Therefore, the Discharger comments that an increase in the permitted average dry weather flow should only be contingent on completion of the upgrade and expansion project.

RESPONSE: Central Valley Water Board staff does not concur that an increase in the permitted average dry weather flow should only be contingent on completion of the upgrade and expansion project. The Discharger is not in compliance with Order No. R5-2005-0074, and will not be in compliance with several parameters upon adoption of the proposed NPDES Permit. The purpose of the upgrade project is, in part, to come into compliance with permit requirements. As proposed, in order to allow an increase in discharge to the receiving water, the Discharger must complete construction of the necessary upgrades and be in compliance with the requirements of the proposed NPDES Permit.

Discharger Comment No. 28. Summary of Final Effluent Limitations in Expansion Option

The Discharger requests that Table F-9 in the Expansion Option, which includes a summary of final effluent limitations, be revised to remove effluent limitations for aluminum, arsenic, copper, lead, and electrical conductivity.

RESPONSE: As discussed in response to Discharger Comment Nos. 4, 5, 6, and 12, the proposed NPDES Permit will retain effluent limitations for aluminum, arsenic, copper, lead, and electrical conductivity. Therefore, no revisions to Table F-9 in the Expansion Option are necessary.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY (USEPA) COMMENTS

USEPA Comment No. 1. Antidegradation Analysis and Increased Flow Request

USEPA Region 9 supports the Central Valley Water Board's conclusion in the tentative NPDES Permit to reject the Discharger's request for an increase in discharge to the receiving water from 2.18 MGD to 2.7 MGD based on antidegradation requirements. Because the Discharger has a history of noncompliance, an increased flow would cause additional loading of pollutants to the receiving water, which would degrade water quality and impact beneficial uses. The demand for increased flow is not expected for 24 years, and the planned upgrade will not be complete until near the end of the next

permit term. Therefore, USEPA comments that the Central Valley Water Board should not allow the Discharger an increased flow for the term of the proposed NPDES Permit.

RESPONSE: Central Valley Water Board staff acknowledges USEPA's support of the findings of the antidegradation analysis in the proposed NPDES Permit, which does not allow an increase in the permitted flow. The proposed NPDES Permit and the proposed Expansion Option, which allows an increase in the permitted flow, will be presented to the Central Valley Water Board for consideration.

USEPA Comment No. 2. Compliance Schedule for Ammonia

USEPA comments that it is not clear that inclusion of the compliance schedule for ammonia in the tentative NPDES Permit is consistent with the requirements of the State Water Board's Compliance Schedule Policy. USEPA comments that the Central Valley Water Board should either clarify how the compliance schedule for ammonia is consistent with the Compliance Schedule Policy or consider placing it in a CDO or time schedule order (TSO).

RESPONSE: Central Valley Water Board staff believes that the compliance schedule for ammonia in the proposed NPDES Permit is appropriate and consistent with the State Water Board's Compliance Schedule Policy. The floating ammonia effluent limitations included in the existing Order No. R5-2005-0074 were applied directly as 1-hour average, 4-day average, and 30-day average effluent limitations which vary based on pH and temperature at the time of sampling. The fixed effluent limitations in the proposed NPDES Permit are applied as an MDEL and AMEL and are based on water quality criteria conservatively determined using worst-case pH and temperature conditions observed over the term of Order No. R5-2005-0074, as discussed below:

- In order to protect against the worst-case short-term exposure of an organism, the permitted instantaneous maximum pH limitation of 8.2 (which is greater than the maximum observed effluent pH of 7.8) was used to derive the acute criterion.
- A chronic criterion was calculated for each day when paired temperature and pH were measured using downstream receiving water data for temperature and pH. Rolling 30-day average criteria were calculated using the criteria calculated for each day, and the minimum observed 30-day average criterion was established as the applicable 30-day average chronic criterion. The use of downstream receiving water monitoring for the calculation of the 30-day chronic criterion results in a more stringent criterion than using effluent monitoring.
- As shown in the Calculation of Water Quality-Based Effluent Limitations (Attachment H), final effluent limitations were based on the acute criterion because the acute long-term average is lower than the chronic long-term average.

In order to further determine whether the “newly interpreted water quality objective or criterion in a water quality standard” (i.e., the new, fixed effluent limitations for ammonia) results in a numeric permit limitation more stringent than the limit in the prior NPDES Permit issued to the Discharger, Central Valley Water Board staff evaluated the Discharger’s ability to comply with the effluent limitations in Order No. R5-2005-0074 and the proposed NPDES Permit.

Finding No. 36 of Order No. R5-2005-0074 stated that the Discharger claimed that the Facility was capable of adequately nitrifying the waste stream. A compliance schedule for the effluent limitations for ammonia was not necessary and was not included in Order No. R5-2005-0074 or CDO No. R5-2005-0075. Table 3.2 of the Discharger’s Report of Waste Discharge indicates that the discharge exceeded the effluent limitations in Order No. R5-2005-0074 only twice out of 1,094 sampling events, based on monitoring data collected between 1 July 2006 and 30 June 2009. Therefore, the Discharger was consistently capable of achieving compliance with the floating effluent limitations in Order No. R5-2005-0074 for ammonia.

Monitoring data collected between 1 July 2006 and 30 June 2009 indicates that the Discharger would be out of compliance with the fixed MDEL in the proposed NPDES Permit 258 times out of 1,095 samples, or 24 percent of the time. Based on the same data set, the Discharger would be out of compliance with the fixed AMEL in the proposed NPDES Permit 20 times out of 36 months, or 56 percent of the time.

Based on monitoring data collected between 1 July 2006 and 30 June 2009, the new, fixed effluent limitations for ammonia result in numeric permit limitations more stringent than the limit in the prior NPDES Permit issued to the Discharger. Additional time is necessary to implement actions to comply with the limitation. The Discharger indicated in section 4.5.3 of the Antidegradation Analysis that the existing facilities are not capable of consistently removing ammonia to achieve the new effluent limitations, due in part to the capabilities of the rotating biological contactor (RBC), particularly during cooler weather. The Discharger evaluated the existing nitrification performance and identified the necessary operation plans to consistently achieve full nitrification year-round with the new aeration basins as part of the upgrade project. The Discharger indicated that the expected ammonia removal performance of the upgraded and expanded Facility will be a substantial improvement over current conditions and will ensure compliance with applicable water quality objectives. The Discharger anticipated that the upgrade project would be completed within 5 years.

The 4 May 2010 Infeasibility Report supplemented the information provided in the Report of Waste Discharge and Antidegradation Analysis concerning the need to construct treatment plant upgrades to comply with permit requirements. The Infeasibility Report requested a compliance schedule for ammonia and provided the information required by Paragraph 4 of the Compliance Schedule Policy, as follows:

- **Demonstration that the Discharger needs time to implement actions to comply with a more stringent permit limitation specified to implement a new, revised, or newly interpreted water quality objective or criterion in a water quality standard.** Table 1 of the Infeasibility Report identifies constituents with the potential to exceed effluent limitations in the proposed NPDES Permit based on monitoring data collected between July 2005 and June 2009, including ammonia. The Discharger states that the requested compliance schedules are driven primarily by the need to construct treatment plant upgrades.
- **Diligent efforts have been made to quantify pollutant levels in the discharge and the sources of the pollutant in the waste stream, and the results of those efforts.** The Infeasibility Report states that the Discharger has conducted a number of studies and prepared a number of reports that address potential sources of pollutants. Table 2 of the Infeasibility Report indicates that potential sources of ammonia are domestic and non-domestic sources. Section 3.2 further states that sources include untreated domestic wastewater. Biological nitrification, which is used at the Facility, converts ammonia to nitrate. However, the Discharger states that the Facility is not designed for year-round compliance with the effluent limitation for ammonia in the proposed NPDES Permit.
- **Source control efforts are currently underway or completed, including compliance with any pollution prevention programs that have been established.** Section 4 of the Infeasibility Report states that the Discharger has not conducted pollution prevention activities because the Facility service area contains primarily residential and commercial users. However, the Discharger states that the County Code includes prohibitions against discharges to the sewer system that contain substances or have characteristics that would impact the Facility. The Infeasibility Report also states that the County Code sets uniform requirements for discharges into the collection system, including the disposal of industrial wastes.
- **A proposed schedule for additional source control measures or waste treatment.** Table 4 of the Infeasibility Report provided a proposed compliance schedule for ammonia, which includes design of improvements and preparation of a California Environmental Quality Act (CEQA) document, completion of final design, and completion of CEQA documentation by 31 July 2011; obtaining bids and project funding and awarding of construction contract by 31 December 2011; construction of improvements by 31 December 2014; completion of start-up and performance testing by 30 April 2015; and full compliance with effluent limitations by 1 May 2015.
- **Data demonstrating current treatment facility performance to compare against existing permit effluent limits, as necessary to determine which is the more stringent interim permit effluent limit to apply if a schedule**

- of compliance is granted.** This item was not addressed in the Infeasibility Report, but adequate evidence to assess this factor was already included in the record. The tentative NPDES Permit contained an interim effluent limitation for ammonia based on the current treatment plant performance. However, interim effluent limitations must be based on current treatment plant performance or existing permit limitations, whichever is more stringent. As discussed above, the Discharger can consistently comply with the floating effluent limitations contained in Order No. R5-2005-0074. Therefore, the proposed NPDES Permit requires compliance with interim effluent limitations based on a 1-hour average with a performance-based cap of 15.1 mg/L, a 4-day average, and a 30-day average floating limitations.
- **The highest discharge quality that can reasonably be achieved until final compliance is attained.** Compliance with the interim effluent limitations as described above will ensure that the Discharger maintains the discharge of ammonia at levels permitted by Order No. R5-2005-0074. The proposed Order also requires the Discharger to update and implement a Pollution Prevention Plan.
 - **The proposed compliance schedule is as short as possible, given the type of facilities being constructed or programs being implemented, and industry experience with the time typically required to construct similar facilities or implement similar programs.** The Discharger determined in the Infeasibility Report that the compliance schedule is as short as possible, and staff concurs. The estimated durations for each task and estimated completion dates were included in Table 4 of the Infeasibility Report. The Discharger stated that, since the project may be at least partially funded using a State Revolving Fund (SRF) loan, a duration of 5 months is proposed for obtaining bids and receiving approval-to-award and an SRF loan agreement from the State Water Board. The Infeasibility Report proposed a 36-month construction period because the upgrades must be constructed sequentially while the existing facilities remain in service. The proposed schedule also allowed 4 months after completion of construction for start-up, testing, and optimization of the treatment process.

The Central Valley Water Board staff concurs with the findings of the Discharger's Infeasibility Report and believes that the compliance schedule for ammonia in the proposed NPDES Permit is consistent with the Compliance Schedule Policy.

USEPA Comment No. 3. Priority Pollutant Scans

USEPA comments that the Central Valley Water Board should clarify the requirements for priority pollutant scans of the effluent and receiving water. USEPA comments that the Central Valley Water Board should require annual priority pollutant scans to allow for comparison with receiving water priority pollutant scans and for the assessment of the effectiveness of the Discharger's pretreatment program.

RESPONSE: Central Valley Water Board staff concurs that effluent monitoring for priority pollutants should be consistent with pretreatment program requirements, which require annual effluent sampling, and annual receiving water monitoring requirements. Therefore, the proposed NPDES Permit has been revised to require annual priority pollutant monitoring.

USEPA Comment No. 4. Pretreatment Requirements

USEPA comments that the tentative NPDES Permit should be updated with the most current pretreatment requirements.

RESPONSE: Central Valley Water Board concurs that the proposed NPDES Permit should be updated with the most current pretreatment requirements where they supplement the Central Valley Water Board's standard requirements. Revisions to the pretreatment requirements are shown in the underline/strikeout version of the proposed NPDES Permit.

USEPA Comment No. 5. Biosolids Requirements

USEPA comments that the tentative NPDES Permit should be updated with the most current biosolids requirements.

RESPONSE: Central Valley Water Board staff does not concur that additional biosolids requirements, which are based on the requirements of 40 CFR Part 503, should be included in the proposed NPDES Permit. The regulations established at 40 CFR Part 503 are self-implementing, meaning that anyone engaged in activities covered by the regulations must comply with the appropriate requirements on or before the compliance deadlines despite the inclusion of requirements in an NPDES permit. The State does not have delegated authority to implement 40 CFR Part 503. Therefore, the proposed NPDES Permit will not include the additional biosolids requirements. However, Provision VI.C.5.b.iv of the proposed NPDES Permit requires the use and disposal of biosolids to comply with existing federal and State laws and regulations, including permitting requirements and technical standards included in 40 CFR Part 503. If the State Water Board and the Central Valley Water Board are given the authority to implement regulations contained in 40 CFR Part 503, the proposed NPDES Permit may be reopened to incorporate appropriate time schedules and technical standards. The proposed NPDES Permit requires compliance with the standards and time schedules contained in 40 CFR Part 503 whether or not they have been incorporated into the permit.

USEPA Comment No. 6. Whole Effluent Toxicity (WET) Accelerated Testing Requirements

USEPA comments that the Central Valley Water Board should modify the chronic WET and accelerated testing requirements to clarify the difference between the TRE plan to

be submitted within 90 days (the initial investigative TRE workplan) and the plan submitted after accelerated testing (a detailed TRE workplan). USEPA comments that the plan names should be consistent with USEPA guidance and the Central Valley Water Board should specify what is required to be included in each plan. Additionally, USEPA comments that the Central Valley Water Board should change the language to exclude the words “a pattern of,” as this is subjective.

RESPONSE: Central Valley Water Board staff does not concur that revisions are necessary to clarify the difference between an initial investigative TRE workplan and a detailed TRE workplan. For discharges that do not exhibit reasonable potential to cause or contribute to an exceedance of the Basin Plan’s narrative toxicity objective, the Central Valley Water Board requires submittal of an initial investigative TRE workplan to ensure the Discharger has a plan to immediately move forward with the initial tiers of a TRE, in the event effluent toxicity is encountered in the future. For discharges that do exhibit reasonable potential to cause or contribute to an exceedance of the Basin Plan’s narrative toxicity objective, the Central Valley Water Board requires development of a detailed TRE workplan. Because the discharge from the Facility exhibits reasonable potential to cause or contribute to an exceedance of the Basin Plan’s narrative toxicity objective, the proposed NPDES Permit requires development of a detailed TRE workplan.

Central Valley Water Board staff concur that the WET language referring to “a pattern of toxicity” is subjective. The proposed NPDES Permit has been revised to remove this language and to specifically define when a TRE should be initiated.

USEPA Comment No. 7. Other Clarifications

USEPA comments that the Central Valley Water Board should clarify that the proposed NPDES Permit does include compliance schedules for complying with tertiary treatment requirements and effluent limitations for ammonia, with interim limitations for ammonia and total coliform organisms.

USEPA also comments that the Central Valley Water Board should include the requirement that maintenance of the chlorine contact channel is only allowed when daily average flows are at or below 2.18 MGD in the proposed NPDES Permit, consistent with the Fact Sheet (Attachment F).

RESPONSE: Central Valley Water Board staff concurs that Finding II.K of the proposed NPDES Permit should be revised to clarify that the proposed NPDES Permit does include compliance schedules and interim limitations and has made the requested revision.

Central Valley Water Board staff concurs that maintenance of the chlorine contact channel should only be allowed when daily average flows are at or below 2.18 MGD. The requested revision has been made to Prohibition III.B of the proposed NPDES Permit.

CENTRAL VALLEY CLEAN WATER ASSOCIATION (CVCWA) COMMENTS

CVCWA Comment No. 1. Effluent Limitations for Aluminum

CVCWA comments that the chronic criterion for aluminum of 87 µg/L, which is based on the NAWQC for protection of aquatic life, is not applicable to the receiving water. CVCWA comments that the determination of the appropriate criterion should be based on the hardness of the current final effluent produced by the Facility. Based on the actual effluent hardness, CVCWA comments that the chronic criterion of 87 µg/L does not apply to the receiving water and that a criterion of 750 µg/L is protective of aquatic life. Concentrations of aluminum in the effluent do not exceed the criterion of 750 µg/L or the Secondary MCL of 200 µg/L; therefore, CVCWA comments that effluent limitations for aluminum should be removed. Because the proposed NPDES Permit requires monthly monitoring of aluminum and contains a reopener allowing for permit modification when new information not available at the time of permit issuance would have justified different permit conditions, CVCWA comments a major future reduction in effluent hardness tied to the Discharger's elimination of the use of magnesium hydroxide would constitute new information that is unknown and not available at this time.

RESPONSE: See response to Discharger Comment No. 4.

CVCWA Comment No. 2. Compliance Schedules for BOD₅ and TSS

CVCWA comments that the interim limitations and time schedules for BOD₅ and TSS should be included in the proposed NPDES Permit instead of the proposed CDO, consistent with the Compliance Schedule Policy. CVCWA comments that the effluent limitations for BOD₅ and TSS are new, more stringent numeric limitations than those previously applied to the discharge and result from a newly interpreted water quality objective.

RESPONSE: See response to Discharger Comment No. 7.

CALIFORNIA SPORTFISHING PROTECTION ALLIANCE (CSPA) COMMENTS

CSPA Comment No. 1. Length of Compliance Schedules

CSPA comments that the compliance schedules in the proposed NPDES Permit and proposed CDO do not meet the requirement of the Basin Plan that compliance be achieved in "the shortest practicable time".

RESPONSE: Central Valley Water Board staff does not concur. The Discharger indicated in section 4.5.3 of the Antidegradation Analysis that the existing facilities are not capable of consistently achieving permit requirements. The Discharger evaluated the existing treatment facilities and identified the necessary operation

plans to consistently achieve compliance with permit requirements as part of the upgrade project. The Discharger indicated that the expected performance of the upgraded and expanded Facility will be a substantial improvement over current conditions and will ensure compliance with applicable water quality objectives. The Discharger anticipated that the upgrade project would be completed within 5 years.

The Discharger submitted supplemental information in the 4 May 2010 Infeasibility Report supporting the need for compliance schedules in the proposed NPDES Permit and CDO. The proposed NPDES Permit and CDO have been revised to document consistency with the State Water Board's Compliance Schedule Policy, including requirements that compliance schedules are as short as possible, as reported in the Infeasibility Report. The proposed NPDES Permit and CDO have also been revised to include specific interim milestones that are necessary to achieve compliance with proposed NPDES Permit requirements.

In addition, see Response to USEPA Comment No. 2.

CSPA Comment No. 2. Hardness-based Metals

CSPA comments that the proposed NPDES Permit establishes effluent limitations for metals based on the hardness of the effluent and/or the downstream water and are therefore less stringent or altogether absent as compared to use of the ambient upstream receiving water hardness as required by the CTR and 40 CFR 131.38(c)(4).

RESPONSE: As explained in detail in IV.C.2.c of the Fact Sheet (Attachment F), the reasonable worst-case ambient hardness was used to calculate the CTR hardness dependent metals criteria. The downstream ambient hardness is appropriate and allowed by the SIP and CTR.

The criteria for hardness-dependent metals must be based on the reasonable worst-case ambient hardness in accordance with the SIP¹, the CTR² and State Water Board Order No. WQO 2008-0008 (Davis Order). The SIP and the CTR require the use of "receiving water" or "actual ambient" hardness, respectively, to determine effluent limitations for these metals. (SIP, § 1.2; 40 CFR § 131.38(c)(4), Table 4, note 4.) The CTR does not define whether the term "ambient," as applied in the regulations, necessarily requires the consideration of upstream as opposed to downstream hardness conditions. Therefore, the State Water Board concluded that where reliable, representative data are available, the hardness value for calculating

¹ The SIP does not address how to determine the hardness for application to the equations for the protection of aquatic life when using hardness-dependent metals criteria. It simply states, in Section 1.2, that the criteria shall be properly adjusted for hardness using the hardness of the receiving water.

² 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.

criteria can be the downstream receiving water hardness, after mixing with the effluent (Davis Order, p. 11).

In the Davis Order, the State Water Board points out that the requirements for selecting the appropriate hardness for calculating the CTR metals criteria is conflicting in the CTR and the SIP. The CTR requires that the hardness values used must be consistent with the design discharge conditions for design flows and mixing zones (e.g., 1Q10 and 7Q10 receiving water low flows); whereas, the SIP's steady-state method requires the selection of critical or worst-case parameters. These can be in conflict for hardness, because often in receiving waters the critical worst-case hardness conditions do not coincide with the design low flow conditions. The lowest hardness conditions typically occur during high river flows, due to the low hardness in surface runoff from precipitation or snowmelt¹. The State Water Board concludes that, "*Thus, the regional water boards have considerable discretion in the selection of hardness. Regardless of which method is used for determining hardness, the selection must be protective of water quality criteria, given the flow conditions under which the particular hardness exists.*" (*Id.*, p.10.).

In the proposed NPDES Permit, the reasonable worst-case estimated downstream ambient hardness was used for calculating the CTR criteria. As shown in Tables F-5 and F-6, the calculated CTR criteria are protective under all discharge and flow conditions assuming worst-case conditions for upstream ambient hardness and metals concentrations.

CSPA contends that the upstream ambient receiving water hardness must be used to calculate the CTR metals criteria. The approach used in the proposed NPDES Permit establishes the hardness based on the downstream mixed hardness. This is appropriate, because the effluent includes metals and hardness. It is impossible to discharge one without the other. Not considering the hardness of the effluent can result in toxicity as the discharge mixes with the receiving water. Using the minimum observed upstream receiving water hardness in this case would result in more stringent criteria, but CSPA does not discuss what would happen in cases where the effluent hardness is lower than the upstream receiving water hardness. Following CSPA's advice, effluent limitations for metals would be set where the effluent is toxic and would need to be mixed with the higher hardness receiving water to meet the CTR criteria. Central Valley Water Board staff doubts CSPA would condone such a discharge.

CSPA quotes the CTR with regards to a concern when an effluent raises the hardness of the receiving watering. It states, "*A hardness equation is most accurate when the relationship between hardness and the other important inorganic constituents, notably alkalinity and pH, are nearly identical in all of the dilution waters*

¹ This has been documented for the San Joaquin River near the Manteca discharge. The lowest receiving water hardness occurs during flood flows when there is massive dilution.

used in the toxicity tests and in the surface waters to which the equation is to be applied. If an effluent raises hardness but not alkalinity and/or pH, using the lower hardness of the downstream hardness might provide a lower level of protection than intended by the 1985 guidelines." (Federal Register, Volume 65, No. 97/Thursday, May 18th 2000 (31692)) CSPA asserts this means that the upstream receiving water hardness must be used in the CTR equations. Effluents from municipal wastewater treatment plants have similar characteristics to the receiving water with regard to the relationships between hardness, alkalinity, and pH. Municipal wastewater treatment plants must maintain neutral pH and sufficient alkalinity for the biological processes to work properly, especially for nitrification. Therefore, the condition that the CTR warns against is not present in municipal wastewater treatment plant effluent. This language in the CTR confirms that "ambient" may be defined as downstream of the discharge after mixing with the effluent, thus, the use of downstream mixed hardness is appropriate under these conditions as the State Water Board found in the Davis Order.

CSPA takes the State Water Board's quotes out of context in the Davis Order (WQ 2008-0008). For the City of Davis NPDES permit, the upstream receiving water hardness was used. However, in the City of Davis NPDES permit the use of the lowest hardness during low flows was used, rather than the lowest hardness during all flow conditions. The State Water Board found that in order to account for acute conditions that may occur even during high flows, the Central Valley Water Board must consider the hardness of the receiving water during all flow conditions, high and low. CSPA takes this statement as a requirement to only use the upstream receiving water hardness. However, the State Water Board actually concluded that where reliable, representative data are available, the hardness value for calculating criteria can be the downstream receiving water hardness, after mixing with the effluent (Davis Order, p. 11).

CSPA contends that since a lower effluent limit would be required using the minimum observed upstream ambient hardness to calculate the CTR criteria, that this means a mixing zone and dilution is required. This is not accurate. Although a lower effluent limit can be calculated, dilution is not needed. The criteria are dependent on hardness, so the criteria changes as the hardness changes downstream. A mixing zone is a zone near the point of discharge where criteria are not met. A mixing zone is needed when the effluent exceeds criteria and requires mixing and dilution with the receiving water before the criteria are met. As shown in Tables F-5 and F-6 of the Fact Sheet (Attachment F), considering the known conditions and using worst-case assumptions, the effluent does not exceed the criteria and any mixture of effluent and receiving water does not exceed the criteria. A mixing zone is therefore not necessary in this situation.

CSPA further provides a discussion of the biological opinion from the US Fish and Wildlife Service and National Marine Fisheries Service on the promulgation of the CTR. Because the biological opinion was submitted on the proposed CTR rulemaking, USEPA would have considered the specific comment in the

development of the final rulemaking of the CTR. Therefore, these comments by CSPA are directed at the CTR, not the proposed NPDES Permit, which must comply with the final CTR and SIP. In addition, the biological option is not in the record for this permitting action. Central Valley Water Board staff properly applied the SIP and CTR when establishing WQBELs for the CTR metals with hardness-dependent criteria.

CSPA Comment No. 3. Annual Average Effluent Limitations

CSPA comments that the effluent limitations for arsenic and electrical conductivity are improperly regulated as an annual average contrary to 40 CFR 122.45(d)(2) and common sense.

RESPONSE: Central Valley Water Board staff does not concur that arsenic is improperly regulated as an annual average. The effluent limitation for arsenic is based on the Primary MCL which is designed to protect human health over long exposure periods. Primary MCLs are drinking water standards contained in Title 22 of the CCR. For the Primary MCL for arsenic, Title 22 requires compliance with these standards on an annual average basis, when sampling at least quarterly. Since water that meets these requirements on an annual average basis is suitable for drinking, it is impracticable to calculate average weekly and average monthly effluent limitations because such limits would be more stringent than necessary to protect the MUN use. Central Valley Water Board staff has determined that an averaging period similar to what is used by DPH for those parameters regulated by Primary MCLs is appropriate, and that using shorter averaging periods is impracticable because it sets more stringent limits than necessary.

Central Valley Water Board staff does not concur that electrical conductivity is improperly regulated as an annual average. Based on the reported salinity in the effluent being less than the 700 $\mu\text{mhos/cm}$ screening level, the discharge does not have reasonable potential to cause or contribute to an instream excursion of water quality objectives for salinity. However, since the Facility discharges to Rock Creek, which is tributary to Sacramento River, the Bear River, and further the Sacramento-San Joaquin Delta, of additional concern is the salt contribution to Delta waters. Therefore, the proposed permit includes an annual average effluent limitation for EC of 700 $\mu\text{mhos/cm}$. The proposed limitation serves as a cap to maintain the salinity in the discharge at current levels. Central Valley Water Board staff concludes that an annual average effluent limitation is appropriate to address salt contributions to downstream water bodies.

CSPA Comment No. 4. Anti-backsliding

CSPA comments that the proposed NPDES Permit removes effluent limitations for numerous constituents and is less stringent than the existing permit contrary to the anti-backsliding requirements of the CWA and 40 CFR 122.44(l)(1).

RESPONSE: CSPA comments that the effluent limitation was removed for zinc due to the use of the effluent hardness, contrary to anti-backsliding requirements. Central Valley Water Board staff does not concur. As discussed in response to CSPA Comment No. 2 and the Fact Sheet (Attachment F), the reasonable worst-case ambient hardness was used to calculate the CTR hardness dependent metals criteria. The downstream ambient hardness is appropriate and allowed by the SIP and CTR. Monitoring data collected during the term of Order No. R5-2005-0074 indicates that concentrations of zinc in the effluent do not exceed the applicable chronic criterion; therefore, the discharge does not demonstrate reasonable potential to cause or contribute to an in-stream excursion above the CTR criterion for protection of freshwater aquatic life for zinc.

CSPA comments that effluent limitations for turbidity have been removed and that WQBELs for turbidity are necessary based on the Secondary MCL for turbidity of 5 NTU. See response to CSPA Comment No. 7.

CSPA comments that sampling data is not sufficiently reliable to remove effluent limitations for any parameter based on a 27 May 2008 inspection report that found that composite samples were stored at colder temperatures than the permit required and that sampling was conducted at the same time every day. The Discharger submitted a response to the inspection report on 23 September 2008 stating that the composite sampler had been replaced in August 2008 and that a review of records showed that samples from January 2008 through July 2008 were collected between the hours of 6:30 am and 2:30 pm. The Discharger also discussed the monitoring times with laboratory staff and adjusted the sampling procedures accordingly. Central Valley Water Board does not concur that the findings of the 27 May 2008 inspection report invalidate the monitoring data.

CSPA comments that the proposed NPDES Permit removes effluent limitations for bis (2-ethylhexyl) phthalate and phthalate acid esters based on the implementation of "clean" sampling procedures in January 2007 without laboratory quality assurance/quality control results. Central Valley Water Board staff does not concur that monitoring data collected prior to the implementation of "clean" sampling procedures should be used to determine reasonable potential to cause or contribute to an exceedance of water quality objectives. As discussed in the Fact Sheet (Attachment F) phthalate acid esters, which include bis (2-ethylhexyl) phthalate, represent a large family of chemicals widely used as plasticizers, primarily in the production of polyvinyl chloride (PVC) resins. Sources of the detected phthalate acid esters may be from plastics used for sampling or analytical equipment. Phthalate acid esters and bis (2-ethylhexyl) phthalate have not been detected in 18 effluent samples since the Discharger implemented "clean" sampling procedures in January 2007. Therefore, the discharge does not demonstrate reasonable potential to cause or contribute to an in-stream excursion above water quality objectives for toxicity for phthalate acid esters or bis (2-ethylhexyl) phthalate and effluent limitations are not necessary.

CSPA comments that effluent limitations should not be removed because the effluent sampling was not conducted during worst-case discharge periods (i.e., during periods when a blend of secondary and tertiary wastewater was discharged). Central Valley Water Board staff does not concur. During periods when a blend of secondary and tertiary wastewater is discharged, the Facility is subject to high I/I that results in dilution of the effluent. Consequently, monitoring during these periods would not necessarily represent worst-case conditions. Monitoring of the undiluted effluent during normal operating conditions is considered to be representative of the effluent wastewater.

Based on updated monitoring data that was not available at the time Order No. R5-2005-0074 was issued, alachlor, atrazine, bis (2-ethylhexyl) phthalate, chloroform, manganese, methyl tertiary butyl ether, oil and grease, persistent chlorinated hydrocarbon pesticides, phthalate acid esters, polychlorinated biphenyls, settleable solids, silver, TCDD-equivalents, tributyltin, and zinc do not exhibit reasonable potential to cause or contribute to an exceedance of water quality objectives in the receiving water. Therefore, relaxation of effluent limitations is allowed under CWA section 402(o)(2)(B)(i). CWA section 303(d)(4) allows for less stringent limitations in waters attaining water quality standards if the relaxation is consistent with antidegradation requirements. The discharge does not have the reasonable potential to cause or contribute to an exceedance of water quality standards for these parameters in the receiving water and all beneficial uses will be maintained. Discontinuing effluent limitations for these parameters is consistent with the antidegradation provisions of 40 CFR 131.12 and State Water Board Resolution 68-16. Any impact on existing water quality will be insignificant. Therefore, relaxation of effluent limitations is allowed under CWA section 303(d)(4).

CSPA Comment No. 5. Secondary Treatment Requirements

CSPA comments that 40 CFR Part 133 requires a minimum of secondary treatment be provided. During wet weather flows, the proposed NPDES Permit indicates that the required minimum level of treatment may not be provided by the Facility.

RESPONSE: Central Valley Water Board does not concur. The intent of technology-based effluent limitations is to require a minimum level of treatment based on currently available treatment technologies while allowing a discharger to use any available control technique to meet the limitations. Further, CWC section 13360(a) specifies that the Central Valley Water Board shall not specify the manner of compliance, including prescribing the treatment process.

The proposed NPDES Permit requires effluent limitations that are more stringent than secondary treatment standards at 40 CFR Part 133 for BOD₅ and TSS (i.e., tertiary treatment) for all flows. Thus, the proposed NPDES Permit implements the necessary regulations. Further, because the existing Facility is not designed to provide full tertiary treatment for wet weather flows exceeding 3.5 MGD, a compliance schedule has been included for the Discharger to provide the necessary

upgrades to comply with the tertiary treatment requirements. Upon completion of upgrades, the Discharger will provide a higher quality effluent and tertiary treatment for all flows.

CSPA Comment No. 6. Turbidity

CSPA comments that the proposed NPDES Permit replaces effluent limitations for turbidity which were present in the existing permit, contrary to the antibacksliding requirements of the CWA and 40 CFR 122.44(l)(1).

RESPONSE: CSPA comments that movement of effluent limitations for turbidity from Order No. R5-2005-0074 to Construction, Operation, and Maintenance specifications constitutes backsliding. Central Valley Water Board staff does not concur. The State Water Board upheld the same permit revision in Order WQ 2009-0012 (*City of Stockton*). As stated in the Fact Sheet (Attachment F), 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 WQBELs 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 NPDES Permit. WQBELs for turbidity 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 NPDES Permit rather than effluent limitations. Order No. R5-2005-0074 included effluent limitations for turbidity. The operational turbidity requirements in proposed NPDES Permit are an equivalent permit condition that is not less stringent than the turbidity limitations in Order No. R5-2005-0074. Therefore, the removal of the turbidity effluent limitations does not constitute backsliding.

CSPA comments that WQBELs for turbidity are necessary based on the Secondary MCL for turbidity of 5 NTU. The maximum daily average turbidity value observed between 1 July 2006 and 30 June 2009 was 4 NTU, which does not exceed the Secondary MCL for turbidity. Regardless, compliance with the operational specifications for turbidity, which requires that the effluent turbidity shall not exceed 5 NTU more than 5 percent of the time in any 24-hour period and at no time exceed

10 NTU, will ensure that the discharge will not cause or contribute to an exceedance of the Secondary MCL. Therefore, WQBELs for turbidity are not necessary.

CSPA Comment No. 7. Chloroform

CSPA comments that the proposed NPDES Permit fails to include an effluent limitation for chloroform as required by 40 CFR 122.44 and that the permit should not be adopted in accordance with CWC section 13377.

RESPONSE: Central Valley Water Board staff does not concur that effluent limitations for chloroform are necessary. There are no applicable CTR criteria or MCLs for chloroform. However, DPH has developed a Primary MCL of 80 µg/L for total trihalomethanes, including chloroform, which can be used to interpret the narrative chemical constituent objective. Primary MCLs are drinking water standards contained in Title 22 of the CCR. The drinking water regulations at Title 22 section 64535.2 require compliance with the MCL for total trihalomethanes to be determined on an annual average basis. The regulations also state some people who drink water containing trihalomethanes in excess of the MCL over many years may experience liver, kidney, or central nervous system problems, and may have an increased risk of getting cancer. Since water that meets these requirements is suitable for drinking, it is not appropriate to establish effluent limitations for chloroform based on the more stringent California Environmental Protection Agency (Cal/EPA) Office of Environmental Health Hazard Assessment (OEHHA) cancer potency factor represented by the one-in-a-million cancer risk level in drinking water of 1.1 µg/L. This interpretation of the narrative objective is consistent with other recently adopted permits in the Central Valley Region.

Monitoring data indicates that the discharge does not have reasonable potential to cause or contribute to the Basin Plan's narrative chemical constituent objective. Therefore, effluent limitations for chloroform are not necessary.

CSPA Comment No. 8. Manganese

CSPA comments that the proposed NPDES Permit fails to include an effluent limitation for manganese as required by 40 CFR 122.44 and that the permit should not be adopted in accordance with CWC section 13377.

RESPONSE: Central Valley Water Board staff does not concur. The applicable water quality objective for manganese is the Secondary MCL which addresses aesthetics such as taste and odor. Central Valley Water Board staff has determined that an averaging period similar to what is used by DPH for those non-CTR parameters regulated by Secondary MCLs is appropriate. Therefore, for constituents in which the most stringent applicable criterion is the Secondary MCL, the Secondary MCL was compared to the maximum observed annual average effluent and receiving water concentrations to determine reasonable potential for these parameters. Monitoring data indicates that the discharge does not demonstrate

reasonable potential to cause or contribute to an in-stream excursion above the Basin Plan water quality objective for chemical constituents for manganese. Therefore, effluent limitations for manganese are not necessary.

CSPA Comment No. 9. Oil and Grease

CSPA comments that the proposed NPDES Permit fails to include an effluent limitation for oil and grease as required by 40 CFR 122.44 and that the permit should not be adopted in accordance with CWC section 13377.

RESPONSE: CSPA comments that effluent limitations should be included in the proposed NPDES Permit for oil and grease. The previous NPDES Permit, Order No. R5-2005-0074, included an AMEL and an instantaneous maximum effluent limitation for oil and grease of 10 mg/L and 15 mg/L, respectively. Oil and grease was not detected in 17 effluent samples collected between July 2006 and June 2009. Central Valley Water Board staff does not concur that effluent limitations for oil and grease are necessary simply because the Facility is a wastewater treatment plant. The Discharger is required to be covered under State Water Board Order 2006-0003, a Statewide General WDR for Sanitary Sewer Systems, which requires each enrollee to evaluate its service area to determine whether a fats, oils, and grease (FOG) control program is needed. If an enrollee determines that a FOG control program is not needed, the enrollee must provide justification for why it is not needed. If FOG is found to be a problem, the enrollee must prepare and implement a FOG source control program to reduce the amount of these substances discharged to the sanitary sewer system. The Discharger's compliance with the requirements of WQO 2006-0003 will ensure minimal amounts of oil and grease are discharged into the Facility. The proposed NPDES Permit also contains narrative receiving water limitations for oil and grease and floating materials.

CSPA comments that effluent limitations should be required in the proposed NPDES Permit for total petroleum hydrocarbons in the gasoline (TPH_G), kerosene (TPH_K), and diesel (TPH_D) ranges in the effluent. No applicable water quality criteria have been developed for TPH_G, TPH_K, and TPH_D. Although taste and odor thresholds of USEPA Suggested No Adverse Response Level (SNARL) for taste and odor of 100 µg/L have been developed, Central Valley Water Board staff does not concur that it is not appropriate to use these thresholds for interpretation of the Basin Plan's narrative taste and odor objective. This interpretation of the narrative taste and odor objective is consistent with other recently adopted permits in the Central Valley Region. In the absence of any applicable water quality criteria for TPH_G, TPH_K, and TPH_D, reasonable potential to cause or contribute to water quality objectives cannot be determined. Therefore, effluent limitations are not being established in this Order.

CSPA Comment No. 10. Protection of Municipal and Domestic Supply (MUN) Beneficial Use

CSPA comments that the proposed NPDES Permit fails to include effluent limitations that are protective of the MUN beneficial use of the receiving stream contrary to 40 CFR 122.4, 40 CFR 122.44(d), and CWC section 13377.

RESPONSE: Central Valley Water Board staff does not concur. The proposed NPDES Permit is fully protective of the MUN beneficial use of the receiving water. CSPA comments that for pathogens, the most sensitive beneficial use is MUN, due to the direct ingestion of the water, and the proposed NPDES 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 NPDES Permit 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 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. 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 ratio (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 NPDES Permit is consistent with these recommendations, considering site-specific factors. Title 22 is not directly applicable to surface waters; however, the Central Valley 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 situations¹ where a discharge is occurring to a stream with a nearby water intake used as a domestic water supply without treatment, DPH 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, 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 Central Valley 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 UV disinfection of surface water. (See, e.g., Surface Water Treatment Rule, 40 CFR Part 141, Subpart H; CCR 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 requirement for Title 22 tertiary in addition to the 20:1 flow ratio is not required.

¹ For example, see Waste Discharge Requirements Order No. R5-2007-0133 (NPDES No. CA0079391) for the City of Jackson Wastewater Treatment Plant, Amador County.

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 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 Central Valley 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 NPDES Permit implement the DPH recommendations and are fully protective of the beneficial uses of the receiving water.

CSPA Comment No. 11. Electrical Conductivity

CSPA comments that the proposed NPDES Permit does not contain an effluent limitation for electrical conductivity in violation of 40 CFR 122.44 and CWC section 13377.

RESPONSE: Central Valley Water Board staff does not concur. The proposed NPDES Permit contains an effluent limitation for electrical conductivity at section IV.A.1.j requiring that the annual average effluent electrical conductivity shall not exceed 700 $\mu\text{mhos/cm}$ for a calendar year. The discharge does not have reasonable potential to cause or contribute to an instream excursion of water quality objectives for salinity. However, since the Facility discharges to Rock Creek, which is tributary to the Sacramento River and the Bear River, and further the Sacramento-San Joaquin Delta, of additional concern is the salt contribution to Delta waters. Therefore, the proposed permit includes an annual average effluent limitation for electrical conductivity. The proposed limitation serves as a cap to maintain the salinity in the discharge at current levels. Central Valley Water Board staff concludes that an annual average limitation is appropriate to address salt contributions to downstream water bodies. The State Water Board has concluded that interim annual average limitations are appropriate where there is inadequate data to determine final effluent limitations. (Order WQ 2008-0008 (*City of Davis*), pp. 19-21.) The same rationale applies to a performance-based limitation where the discharge does not exhibit reasonable potential.

CSPA Comment No. 12. Mass-based Effluent Limitations

CSPA comments that the proposed NPDES Permit fails to contain mass-based effluent limitations as required by 40 CFR 122.45(b). CSPA comments that mass-based effluent limitations are particularly necessary for this Facility because of the

Discharger's history of bypassing inadequately treated wastewater during high flows, the high levels of I/I, and because the permit does not regulate peak flow.

RESPONSE: Central Valley Water Board staff does not concur. 40 CFR 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 aluminum, chlorodibromomethane, chlorine residual, copper, dichlorobromomethane, lead, nitrate plus nitrite, and nitrite in the proposed NPDES Permit are based on water quality standards and objectives. These are expressed in terms of concentration. Pursuant to 40 CFR 122.25(f)(1)(ii), expressing the effluent limitations in terms of concentration is in accordance with federal regulations.

Mass limitations for oxygen demanding substances, bioaccumulative substances, and constituents with an associated 303(d) listing are included in the proposed NPDES Permit. The proposed NPDES Permit specifically includes mass limitations for 1) BOD₅, TSS, and ammonia since they are oxygen demanding substances, and 2) mercury since it is a bioaccumulative constituent and a TMDL is pending. For those pollutant parameters for which effluent limitations are based on water quality objectives and criteria that are concentration-based (i.e., aluminum, chlorodibromomethane, chlorine residual, copper, dichlorobromomethane, lead, nitrate plus nitrite, and nitrite), mass-based effluent limitations are not included in the proposed NPDES Permit.

CSPA Comment No. 13. Antidegradation

CSPA comments that the proposed NPDES Permit contains an inadequate antidegradation analysis that does not comply with CWA section 101(a), 40 CFR 131.12, the State Water Board Resolution 68-16, or CWC sections 13146 or 13247.

RESPONSE: As discussed in response to Discharger Comment No. 2, the antidegradation findings in both the proposed NPDES Permit and Expansion Option have been revised to include additional information to reflect the findings of the Discharger's Antidegradation Analysis, cite findings in Resolution No. R5-2009-0028, and define the Central Valley Water Board's basis for denying an increase in discharge to the receiving water. Both the proposed NPDES Permit and proposed Expansion Option require compliance with all effluent limitations necessary to protect the beneficial uses of the receiving water, including effluent limitations for full tertiary treatment for all flows. The Discharger plans to upgrade the treatment plant to comply with the permit requirements. In the interim, the proposed NPDES Permit and CDO contain compliance schedules in accordance with State and federal regulations. Upon completion of the necessary upgrades, the Discharger will provide a higher quality effluent and tertiary treatment for all flows.