

Central Valley Regional Water Quality Control Board  
5/6 June 2014 Board Meeting

Response to Comments  
for the  
Town of Discovery Bay Community Services District  
Discovery Bay Wastewater Treatment Plant  
Tentative Waste Discharge Requirements

---

The following are Central Valley Regional Water Quality Control Board (Central Valley Water Board) staff responses to comments submitted by interested parties regarding the tentative Waste Discharge Requirements (NPDES Permit No. CA0078590) renewal for the Town of Discovery Bay Community Services District (Discharger) Discovery Bay Wastewater Treatment Plant (Facility).

The tentative NPDES Permit was issued for a 30-day public comment period on 26 March 2014 with comments due by 25 April 2014. The Central Valley Water Board received public comments regarding the tentative Permit by the due date from the Discharger, the Central Valley Clean Water Association (CVCWA), the California Urban Water Agencies (CUWA), and the State Water Contractors and San Luis & Delta-Mendota Water Authority (Water Contractors). Late comments were also received from the United States Environmental Protection Agency, Region IX (USEPA) on 29 April 2014. Some changes were made to the proposed Permit based on public comments received.

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

---

#### **DISCHARGER COMMENTS**

---

##### **Discharger Comment 1. Nitrate Plus Nitrite Option (Enclosure 1). Allow a mixing zone/dilution credit for establishing water quality-based effluent limitations for nitrate plus nitrite.**

The Discharger supports the proposed Nitrate Plus Nitrite Option. This option provides a performance based effluent limitation for nitrate plus nitrite (as N) of 31 mg/L, which the Discharger could comply with reliably. Based on a 2005 dilution/mixing zone study, the average dilution ratio in Old River is more than 1,000:1, and for the 10 year worse case concentration of effluent, Old River provides a dilution ratio of 13.2:1 and 23:1, for the acute and chronic conditions, respectively. The application of the 13.2:1 dilution ratio provides an average monthly effluent limitation of 75 mg/L. Thus, the Discharger believes that an effluent limitation of 31 mg/L, contained in the Nitrate Plus Nitrite Option, is adequately conservative. Additionally, the Discharger commented that the resources needed to comply with the Order's proposed nitrate plus nitrite (as N) limitation of 10 mg/L do not appear to be justified when there would not be known benefits to public health or the environment considering that the overall average dilution is greater than 1,000:1.

**RESPONSE:** Central Valley Water Board staff does not concur. The Discharger requested a mixing zone for nitrate plus nitrite for compliance with the Department of Public Health (DPH) Primary MCL implementing the Basin Plan's narrative chemical constituent objective for the protection of the municipal and domestic water supply (MUN) beneficial use (10 mg/L Nitrate plus Nitrite as N). However, the discharge of nitrate may also impact aquatic life beneficial uses. Excessive nitrates in drinking water pose a human health concern, particularly for human fetuses and infants (Primary MCL protects human health). Excessive

nitrogen in the form of nitrates can also contribute to excessive algal growth and change the ecology of a waterbody<sup>1</sup>, which has impacts to aquatic life and municipal uses. In addition, increased nutrient loads can create excessive algal growth in the Delta, resulting in impacts to municipal drinking water supplies. Consequently, for nutrients, the most stringent water quality objectives are the Basin Plan's narrative biostimulatory substances objective and narrative taste and odor objective. USEPA has established CWA section 304(a) criteria for total nitrogen of 0.31 mg/L in its Aggregate Ecoregion I criteria that may be used to interpret the biostimulatory substances and taste and odors narrative objectives.

The Central Valley Water Board is concerned with the effects of the discharge of nutrients, including nitrate and nitrite, on biologically sensitive aquatic resources and critical habitats, as are present in the Delta, and the impact of nutrients on the use of the water for municipal uses. The recent decline in pelagic fishes in the Delta is referred to as the Pelagic Organism Decline (POD). The POD refers to the decline in indices representing the abundance of delta smelt, longfin smelt, striped bass, and threadfin shad, since approximately 2000. *Multiple stressors may be leading to POD, including top-down effects (e.g., water diversion, predation), bottom-up effects (e.g., food availability and quality), and the effects of changes in physical and chemical fish habitat (e.g., water quality, contaminants, disease, toxic effects of toxic algal blooms) (Sommer et al. 2007).*<sup>2</sup>

The discharge likely increases nitrate concentrations at the State Water Project and Central Valley Project Pumping Plants as the entire discharge flows toward the pumps. Increased nutrient loads can create excessive algal growth in the Delta, resulting in impacts to municipal drinking water supplies.<sup>3</sup> Increased algal growth can result in increased concentrations of total organic carbon (TOC) that negatively impacts municipal drinking water suppliers, because it may result in the creation of harmful byproducts during chlorination. High algae levels in source water can also impact water treatment plants, because algae can clog filters and reduce the efficiency of filtration. In addition, some species of bluegreen algae are associated with the production of compounds such as geosmin and 2-methylisoborneol (MIB) that impart objectionable odors and tastes to waters, even at very low concentrations.

The current science is not certain on the precise factors causing the POD. The State Water Resources Control Board addressed this uncertainty in Order WQ 2012-0013<sup>4</sup> for the Sacramento Regional Wastewater Treatment Plant as follows, "*Neither the Clean Water Act, nor U.S. EPA's regulations allow indefinite delay until better science can be developed, or a statewide policy can be adopted. In almost every case, more data can be collected and the*

---

<sup>1</sup> Glibert, P.M. 2010. Long-term change in nutrient loading and stoichiometry and their relationships with changes in food web and dominant pelagic fish species in the San Francisco Estuary, California. *Reviews in Fisheries Science*. 18(2):211-232

Glibert, P.M., et al. 2011, Ecological stoichiometry, biogeochemical cycling, invasive species, and aquatic food webs; San Francisco Estuary and comparative systems. *Reviews in Fisheries Science*, 19(4):358-417

<sup>2</sup> Sommer, T.R., et al. 2007. The collapse of pelagic fishes in the upper San Francisco Estuary. *Reviews in Fisheries Science*, 32:270-277

<sup>3</sup> Heidel, K., et al. 2006. Conceptual Model for Nutrients in the Central Valley and Sacramento-San Joaquin Delta

<sup>4</sup> Order WQ 2012-0013 is not precedential with respect to nitrate. However, the determinations made by the State Water Board are relevant in this case and provide support for the regulation of nutrients.

*hope or anticipation that better science will materialize is always present in the context of science-based agency decision-making... The U.S. Supreme Court has held that U.S. EPA cannot avoid its statutory obligation by noting the presence of uncertainty<sup>5</sup>. Various appellate courts have held that where a complex statute requires an agency to set a numerical standard or effluent limitation, it will not overturn the agency's choice of a precise figure where it falls within the 'zone of reasonableness.'<sup>6</sup>*

The Basin Plan states, "Controllable water quality factors are not allowed to cause further degradation of water quality in instances where other factors have already resulted in water quality objectives being exceeded. Controllable water quality factors are those actions, conditions, or circumstances resulting from human activities that may influence the quality of the waters of the State, that are subject to the authority of the State Water Board or Regional Water Board, and that may be reasonably controlled." (page IV-15.00) Since the Delta is presently exhibiting cultural eutrophication at the current nutrient loading levels<sup>7</sup>, discharge at the current nutrient loading will not be protective of downstream beneficial uses. Nutrient reduction is necessary to protect the beneficial uses of the Delta.

For the reasons discussed above, the requested mixing zone for nitrate plus nitrite was denied in the proposed Order. The proposed Order includes an average monthly effluent limit (AMEL) nitrate plus nitrite of 10 mg/L (total as N), based on the technical capability of publicly-owned treatment works. An AMEL of 10 mg/L for nitrate plus nitrite as nitrogen is appropriate and is within the zone of reasonableness. This limit is readily achievable using standard denitrification technologies. Although effluent limits based on USEPA's Aggregate Ecoregion I Criteria for total nitrogen would further reduce nutrient loading, effluent limits based on this criteria are not technologically feasible with standard treatment technologies. Additionally, nutrient cycling in waterways is complex, USEPA's Ecoregion I Criteria have not been developed considering the Delta's unique nutrient needs and characteristics; and therefore, may not be directly applicable. The criteria do, however, provide a reference to consider for the protection of aquatic life beneficial uses. The nitrate plus nitrite effluent limit in the proposed Order is protective of the MUN beneficial use, and is a technologically achievable limit that results in a reduction in nutrient loadings from the previous Order that is protective of aquatic life beneficial uses.

---

<sup>5</sup> *Massachusetts v. U.S. Environmental Protection Agency* (2007) 549 U.S. 497, 534.

<sup>6</sup> *Upper Blackstone Water Pollution Abatement Dist. v. U.S. Environmental Protection Agency*, *supra*, 690 F.3d at p. 28; *National Maritime Safety Assn. v. Occupational Safety & Health Admin.* (D.C. Cir. 2011) 649 F.3d 743, 752; *Reynolds Metals Co. v. U.S. Environmental Protection Agency* (4th Cir. 1985) 760 F.2d 549, 559.

<sup>7</sup> Archibald Consulting et al. 2012. California State Water Project Watershed Sanitary Survey, 2011 Update. Prepared for the State Water Project Contractors Authority and the California Department of Water Resources; Alameda County Flood Control District et al., Summary of Drinking Water Quality Issues and Requested Permit Conditions for the Sacramento Regional Wastewater Treatment Plant NPDES Permit Renewal, (December 2007)

**Discharger Comment 2. Total Coliform. Maintain the public health protection limitation of 23 MPN/100 mL. Apply the new effluent limits for BOD and TSS to after the filters are operational.**

The Discharger comments that the effluent should be regulated to the public health protection limitation of 23 MPN/100 mL for total coliform organisms, as described by the Department of Public Health for effluent dischargers with dilution of 20:1 or more, and not the proposed 2.2 MPN/100 mL standard. The Discharger states that a 10/10 BOD/TSS effluent system can reliably disinfect to the 2.2 MPN/100 mL when chlorine is used as the disinfectant. For a ultraviolet light (UV) disinfection system to reliably disinfect to the 2.2 MPN/100 mL standards, it requires additional upgrades to the Facility's UV system other than the proposed filters, such as coagulation and flocculation processes. However, given the Discharger's dilution, the 2.2 MPN/100 mL total coliform standard is not needed for protection of the beneficial uses.

**RESPONSE:** Typically, the Central Valley Water Board requires Title 22 or equivalent tertiary treatment when there is less than 20:1 dilution, based on recommendations by the California Department of Public Health (DPH) for the protection of contact recreation, municipal and domestic water supply, and agricultural water supply beneficial uses. Although in this case there is at least 20:1 dilution, Title 22 or equivalent tertiary level treatment is required based on the following:

- (1) The State Water Project and Central Valley Water Project pumps are located approximately 2 miles downstream of the discharge. Therefore, providing a high level of disinfection is appropriate to protect the MUN beneficial use.
- (2) The discharge is located in a portion of the Delta that is used heavily for recreation. Because of this, there is the chance for public exposure to the discharge as it mixes into the receiving water. As described above, there is high average dilution (1000:1); however, the dilution has been less than 20:1 during critical flow periods. Providing tertiary level disinfection is appropriate to ensure protection of recreation beneficial use.
- (3) The Central Valley Water Board adopted Resolution R5-2009-0028<sup>8</sup> which encourages recycling of wastewater. The facility has proposed upgrades that will achieve equivalent to tertiary level treatment for all but pathogen removal. As described in the comment, there is additional, incremental cost associated with ensuring reliable pathogen removal to 2.2 MPM/100 mL, however, ensuring tertiary level capabilities for pathogen removal has the benefit of the flexibility to recycle wastewater. Requiring that the discharge achieve tertiary-level pathogen removal is consistent with Resolution R5-2009-0028.
- (4) With the significant pelagic organism decline, the fragile nature of the Delta, unknown Delta stressors and recent legal decisions on water supply diversions for the Delta, it is prudent to require a high level of treatment for discharges within the Delta. Requiring pathogen removal to the Title 22 tertiary, or equivalent, levels ensures tertiary filtration processes are also in place.

---

<sup>8</sup> Resolution R5-2009-0028 in Support of Regionalization, Reclamation, Recycling, and Conservation for Wastewater Treatment Plants, adopted 23 April 2009

- (5) The Facility provides UV disinfection without filtration, which is not a normal wastewater engineering practice due to the need for low turbidity wastewater for effective UV disinfection. The requirement to provide tertiary filtration is necessary to ensure reliable disinfection to protect the contact and non-contact recreation beneficial uses.

The Fact Sheet of the proposed Order has been updated to provide clarifying language as discussed above.

### **Discharger Comment 3. Minor Comments and edits**

The Discharger requests 10 minor changes and editorial changes to the proposed Permit. Eight were suggested specifically to the Limitations and Discharge Specifications and two to the MRP Section (attachment E).

**RESPONSE:** Central Valley Water Board staff reviewed and provided responses to the Discharger's suggested changes as follows:

- 1) Effluent Limitations Table 4 - pages 4 and 5.

**Comment:** For consistency all effluent limitations for BOD loading and TSS loading should be rounded to two place accuracy. In addition, the footnote 2 for the design average dry weather flow should be 2.4 MGD instead of 2.35 MGD.

**Response:** Central Valley Water Board staff concurs with the Discharger's suggested changes regarding effluent loading limits for BOD and TSS and has modified the proposed Permit and applicable sections accordingly. However, the reference to the average dry weather flow (ADWF) in the footnote to Table 4 is based on the design ADWF for the Facility. This figure is not subject to rounding, because it is not a calculation. Therefore, Central Valley Water Board staff does not concur that the ADWF referenced in the footnote be changed to two significant figures.

- 2) Methylmercury Effluent Limitations - page 6.

**Comment:** Methylmercury limitation should read "Effective 31 December 2030, the effluent calendar annual methylmercury load shall not exceed..." to be consistent with the compliance schedule outlined on page 22.

**Response:** Central Valley Water Board staff concurs with the Discharger's suggested changes and has modified the proposed Permit accordingly.

- 3) Interim Effluent Limitations Table 5 - page 6.

**Comment:** Same as comment 1).

**Response:** See Central Valley Water Board staff response on comment 1).

4) Interim Effluent Limitations for Total Coliform - page 7.

**Comment:** The proposed permit should read “Effective immediately and through 30 December 2022....”

**Response:** Central Valley Water Board staff concurs with the Discharger’s suggested changes and has modified the proposed Permit accordingly.

5) Interim Effluent Limitations Mercury, Total - page 7.

**Comment:** Same as comment 4).

**Response:** See Central Valley Water Board staff response on comment 4).

6) Receiving Water Monitoring Requirements Table E-6 - page 8.

**Comment:** The Discharger requests that the monitoring frequency for pH, ammonia, DO, temperature, and turbidity should be 1/month, instead of 2/month because the increase in monitoring frequency would double staff time required and increase laboratory costs.

**Response:** In the proposed Permit the receiving water monitoring frequency, specifically for pH, temperature, and ammonia, was increased to better evaluate the applicable ammonia criteria and the appropriate effluent limitations in order to protect beneficial uses. In developing the proposed Permit, there was minimal data for these parameters, therefore, conservative assumptions were made in the calculation of the water quality-based effluent limits for ammonia, resulting in stringent limits. Additional data would result in a more site-specific evaluation and possibly more applicable effluent limits that are less stringent. However, Central Valley Water Board staff understands this increased monitoring frequency results in increased monitoring costs, thus, the monitoring frequency for pH, ammonia, DO, temperature, and turbidity will remain at 1/month, consistent with the current Permit. The Discharger should consider increased receiving water monitoring as part of its efforts to comply with the ammonia compliance schedule.

7) UV Disinfection System Monitoring Requirements Table E-9 - page E-11.

**Comment:** The Discharger requests that the monitoring frequency for Total Coliform of 5/week be reduced to 2/week because it seems excessive given the available dilution and flow volume being discharged.

**Response:** The Discharger exceeded the applicable effluent limitations for total coliform organisms multiple times during the term of Order R5-2008-0179-01. Although the Discharger has generally been in compliance with the effluent limitations since July 2011, the Facility exceeded effluent limitations in May 2012 and February through April 2013 due to operational errors. Based on the historical compliance issues, the monitoring frequency for total coliform organisms was increased from twice per week, to five times per week to verify that the UV disinfection system is properly operated. However, Central Valley Water Board staff understands that the higher costs for the

additional coliform monitoring would impose a burden on the Discharger's resources; thus, the monitoring frequency for total coliform in proposed permit has been changed to three times per week instead of five times per week. The increased monitoring from the current Permit is justified considering the Discharger's disinfection compliance record, and because the total coliform effluent limitation is a seven day median, three samples per week will provide better results than two.

8) Turbidity Specifications Section VI.C.4.a.i.(a) – page 16.

**Comment:** The Discharger requests that the turbidity specification of 10 NTU as 7-day median of daily averages, prior to the UV disinfection system, be increased to 15 as a 7-day median of daily averages. The current turbidity values range between 4 NTU and 15 NTU on a regular basis. Thus, the proposed specification will not be achievable on a regular basis and will likely result in violations of the permit.

**Response:** Central Valley Water Board staff does not concur. Ultraviolet Light (UV) Disinfection System Operating Specifications are needed to ensure the Facility provides adequate disinfection. The UV Disinfection System Operating Specifications include, in part, requirements for effluent turbidity and UV dosage. The Discharger conducted a site-specific study of the effluent to determine UV dose response as a function of turbidity. A laboratory study using a collimated beam was performed by Dr. Robert Emerick. The study results demonstrated that at a minimum dosage of 80 mJ/cm<sup>2</sup>, and turbidity of 10 NTUs, the system can meet a total coliform effluent limitation of 23 MPN/100ml (7-day median), and at a maximum daily turbidity of 40 NTUs, the system can meet the total coliform limitation of 240 MPN/100ml (maximum daily). Based on the study results, the UV Disinfection System Operating Specifications were updated by Order R5-2012-0030 adopted by the Central Valley Water Board on 7 June 2012. These UV Disinfection System Operating Specifications have been in effect for the past two years and must be carried forward in the proposed Permit to ensure compliance with the disinfection requirements.

9) Sludge/Biosolids Treatment or Discharge Specifications Section VI.C.5.a.vii and viii – page 19.

**Comment:** The Discharger comments that its current practice of biosolids disposal is exempt from the Biosolids General Order<sup>9</sup> and requests to modify the language in sections VI.C.5.a.vii and viii to allow the Discharger to demonstrate that the biosolids produced by the Discharger are of sufficient quality and land applied at a sufficient application rate so that the Discharger would continue to be exempt from the Biosolids General Order.

**Response:** Currently the disposal of biosolids is not regulated in the NPDES permit, because of a Central Valley Water Board staff determination in 2004 that individual WDRs were not needed. The determination was made over 10 years ago considering

---

<sup>9</sup> State Water Resources Control Board Water Quality Order No. 2004-0012-DWQ, General Waste Discharge Requirements for the Discharge of Biosolids to Land for Use as a Soil Amendment in Agricultural, Silvicultural, Horticultural, and Land Reclamation Activities

the application of exceptional quality biosolids at a low application rate to land was unlikely to cause a public health or water quality issue. This practice should be re-evaluated to determine the need for regulation of this activity in the proposed Permit. The tentative Permit required the Discharger to either obtain coverage under the Biosolids General Order or cease the activity and dispose of biosolids at a permitted facility (e.g., landfill). Based on the Dischargers comments, the proposed Permit has been modified to require the Discharger to submit a Biosolids Disposal Study to the Central Valley Water Board by 1 June 2015, to evaluate the impacts to public health and water quality. This information will allow staff to evaluate the current biosolids specifications and potentially reopen the permit if a determination is made that this operation needs to be regulated through the NPDES permit. A reopener provisions has also been incorporated to Section VI.C.1 of the proposed Permit to allow the permit to be reopened in the event the biosolids specifications must be updated.

10) Average Dry Weather Flow Effluent Limit (2.35 MGD) – page 19.

**Comment:** For consistency all effluent limitations should be rounded to two place accuracy. Thus, the design average dry weather flow should be 2.4 MGD instead of 2.35 MGD.

**Response:** The average dry weather flow (ADWF) effluent limits are based on the design ADWF of the Facility. This limit is not a calculation that is subject to rounding. Furthermore, compliance with the ADWF is determined based on effluent flow monitoring measured in units of gallons per day, which is more precise than the effluent limit. Consequently, there is no need to round the effluent limit as requested, and Central Valley Water Board staff does not concur that the ADWF limitation be changed to two significant figures.

---

## **CVCWA COMMENTS**

---

### **CVCWA Comment I. Reasonable Potential Analysis for Nitrate and Nitrite.**

The Tentative Order includes a proposed average monthly water quality-based effluent limit for nitrate plus nitrite (as N) of 10 mg/L, because the Regional Water Board finds the discharge has reasonable potential to cause or contribute to an in-stream excursion above the Primary Maximum Contaminant Level (MCL), which is used to implement the narrative chemical constituents objective, and because the discharge has reasonable potential to cause or contribute to an in-stream excursion above the Basin Plan's narrative water quality objectives for biostimulatory substances and taste and odors. CVCWA has serious concerns regarding the implementation of these narrative objectives in the Tentative Order.

To implement the chemical constituents objective for protection of municipal supply (MUN) beneficial use, the Tentative Order correctly refers to the primary MCL of 10 mg/L for nitrate plus nitrite. This analysis is consistent with federal regulations. Specifically, where the permitting agency must establish effluent limits using a calculated and demonstrably protective water quality criterion; Clean Water Act section 304(a) recommended criteria; an indicator parameter; or state policy interpreting a narrative water quality criterion supplemented with other information.

However, after correctly identifying a numeric criterion to interpret the chemical constituents objective for protection of MUN, i.e., the Primary MCL, the Tentative Order fails to identify any numeric criterion to implement the narrative biostimulatory substances objective and narrative taste and odors objective. This analysis conflates the numeric criterion and narrative objectives that the Regional Water Board purports to be implementing. The Regional Water Board must identify a relevant numeric criterion and other information, which must be substantiated in the record.

**RESPONSE:** Central Valley Water Board staff concur that the reasonable potential analysis discussion in the Fact Sheet does not clearly identify the applicable water quality criterion to implement the narrative objectives for biostimulatory objectives and taste and odor. USEPA has established CWA section 304(a) criteria for total nitrogen that may be used to implement these narrative objectives. USEPA's December 2001, Ambient Water Quality Criteria Recommendations, Rivers and Streams in Nutrient Ecoregion 1, recommends a criterion of 0.31 mg/L for total nitrogen to address cultural eutrophication, which is the adverse effects of excess human-caused nutrient inputs. The criterion was derived for streams and rivers in Ecoregion 1, which includes the Delta, to represent surface waters that are minimally impacted by human activities and protective of aquatic life and recreational uses.

Although WQBELs based on USEPA's Aggregate Ecoregion I Criteria for total nitrogen would further reduce nutrient loading, water quality-based effluent limits based on this criteria is not technologically feasible with standard treatment technologies. Therefore, the proposed Order includes a final average monthly limit for nitrate plus nitrite of 10 mg/L (total as N), based on the technical capability of publicly-owned treatment works. The State Water Board addressed this rationale for establishing water quality-based effluent limits for the Sacramento Regional Wastewater Treatment Plant in Order WQ 2012-0013, which states, "*Various appellate courts have held that where a complex statute requires an agency to set a numerical standard or effluent limitation, it will not overturn the agency's choice of a precise figure where it falls within the 'zone of reasonableness.'*"<sup>10</sup>

An average monthly limit of 10 mg/L for nitrate plus nitrite as nitrogen is appropriate and is within the zone of reasonableness. This limit is readily achievable using standard denitrification technologies. The total nitrogen loading allowed in the proposed Order is protective of the MUN beneficial use, and is a technologically achievable limit that results in a reduction in nutrient loadings from the previous Order that will reduce the Facility's contribution to cultural eutrophication in the Delta and is protective of aquatic life beneficial uses.

Clarifying language has been added to the Fact Sheet identifying the applicable numeric criteria, as discussed above.

---

<sup>10</sup> *Upper Blackstone Water Pollution Abatement Dist. v. U.S. Environmental Protection Agency*, *supra*, 690 F.3d at p. 28; *National Maritime Safety Assn. v. Occupational Safety & Health Admin.* (D.C. Cir. 2011) 649 F.3d 743, 752; *Reynolds Metals Co. v. U.S. Environmental Protection Agency* (4th Cir. 1985) 760 F.2d 549, 559.

### **CVCWA Comment II. Effluent Limits Based on “Technical Capability” and “Reasonableness”**

CVCWA comments that “technical capability” and “zone of reasonableness” should not be used as the basis for determining the nitrate plus nitrite effluent limit because it is ignoring the applicable regulations since the effluent limits are based on subjective evaluation that a limit is reasonable and can be readily achieved.

**RESPONSE:** Please see Response to CVCWA Comment I and Response to Discharger Comment No. 1.

### **CVCWA Comment III. Mixing Zone Analysis for Nitrate plus Nitrite.**

CVCWA requests for Central Valley Water Board staff to reconsider the Discharge’s request for a mixing zone, and revise the proposed permit to include a nitrate plus nitrite effluent limit incorporating appropriate dilution credits. CVCWA comments that the basis for Central Valley Water Board staff denying a mixing zone is based on the MUN use but it is improper under the State Board’s Order WQ 2012-0013. Additionally, CVCWA comments that the proposed Order includes a general statement regarding the adverse effects of nutrients and nutrient loading in the Delta with limited reference (one study) to support the statements.

**RESPONSE:** Central Valley Water Board staff does not concur. The Discharger requested a mixing zone for nitrate plus nitrite for compliance with the Primary MCL implementing the Basin Plan’s narrative chemical constituent objective for the protection of the MUN beneficial use. However, excessive nitrogen in the form of nitrates can contribute to excessive algal growth and change the ecology of a waterbody, which has impacts to aquatic life and municipal beneficial uses. Consequently, for nitrates, the most stringent water quality objectives are the Basin Plan’s narrative biostimulatory substances objective and narrative taste and odor objective. The Discharger did not provide a mixing zone study evaluating compliance with these narrative objectives. The mixing zone was evaluated properly and denied based on the existing conditions in the Delta.

The Central Valley Water Board is concerned with the effects of the discharge of nutrients, including nitrate and nitrite, on biologically sensitive aquatic resources and critical habitats, as are present in the Delta, and the impact of nutrients on existing municipal uses. The discharge likely increases nitrate concentrations at the State Water Project and Central Valley Project Pumping Plants as the entire discharge flows toward the pumps. Increased nutrient loads can create excessive algal growth in the Delta, resulting in impacts to municipal drinking water supplies. Since the Delta is presently exhibiting cultural eutrophication, discharge at the current nutrient loading is not protective of downstream beneficial uses. Nutrient reduction is necessary to protect the beneficial uses of the Delta.

#### **CVCWA Comment IV. Compliance Schedule for Nitrate plus Nitrite.**

CVCWA comments that the requirement of “Approval of Project by District Board” is unnecessary and burdens the Discharger Board’s decision making process. CVCWA requests for Central Valley Water Board staff to remove the “Rate Analysis Report” because it does not account for contingencies likely to occur during project development or legal requirements that apply to a public agency. CVCWA also requests to delay the “Financing Plan” to allow the Discharger for additional flexibility to determine financial options.

**RESPONSE:** A compliance schedule must meet the requirements of the Clean Water Act (33 USC section 502(17)) and implement regulations at 40 CFR 122.2, which defines a compliance schedule as an “enforceable sequence of actions or operations leading to compliance with an effluent limitation...” Removing these milestones will leave mainly only progress reports as interim requirements which are not sufficient to meet the requirements at 40 CFR 122.47 (a)(3). Section 122.47 applies to state programs pursuant to 40 CFR section 123.25 and 40 CFR section 123.25(a) says, in pertinent part, that states shall not be precluded from omitting or modifying any provisions to impose more stringent requirements. See, e.g., In Re: Government of the District of Columbia Municipal Separate Storm Sewer System, 10 EAD 323 (EAB 2002). See also 40 CFR section 122.2’s definition of “schedule of compliance” that includes a “schedule of remedial measures included in a ‘permit’.” The compliance schedule for Ammonia and Nitrate Plus Nitrite was developed in coordination with the Discharger. The Discharger has not provided comments or concerns regarding the compliance schedule milestones.. Therefore, the requested changes have not been made in the proposed Permit.

#### **CVCWA Comment V. 2013 National Ambient Water Quality Criteria for Ammonia.**

CVCWA requests for Central Valley Water Board staff to provide the same options that were provided in the 13267 Order sent on 3 April 2014 to other dischargers rather than just presume that mussels are present based on the one limited report referenced in the proposed Permit. This will allow the Discharger to conduct a study to collect additional information to determine if mussels are in fact present or absent, should the Discharger desire to do so. CVCWA also requests to include a reopener provision that would allow for revision of the permit in the event the Discharger decides to conduct such studies, and such studies demonstrate that mussels are not present in relationship to the discharge location for the Discharger’s facility.

**RESPONSE:** Central Valley Water Board staff concurs and has included a reopener provision to provide the option, if the Discharger chooses to conduct a mussel study to evaluate presence/absence of mussels. If the Discharger can submit sufficient information indicating mussels are not present and do not need to be protected in the receiving water, the recalculation procedures may be used to determine the appropriate ammonia criteria.

---

### **CVCWA Comment VI. Justification for Pathogen Water Quality –Based Effluent Limitation.**

CVCWA comments that the new limits for total coliform, BOD, TSS, and other related provisions are improper since they are based on tertiary treatment levels. Additionally, all these new limits should be supported by findings and the findings should be supported by evidence in the record.

**RESPONSE:** Please see Response to Discharger Comment No. 2

---

### **CUWA COMMENTS**

---

#### **CUWA Comment 1. Drinking Water Monitoring Requirements**

CUWA appreciates the monitoring that is required in the Town of Discovery Bay Community Services District tentative permit for drinking water constituents; however, the list of constituents does not include several key drinking water constituents. CUWA requests to add ammonia, total Kjeldahl nitrogen (TKN), total organic carbon (TOC), and dissolved organic carbon (DOC) to the Effluent and Receiving Water Characterization Study to the proposed permit.

**RESPONSE:** Central Valley Water Board staff concurs with the request and have modified the proposed order to include the additional monitoring.

#### **CUWA Comment 2. Notification of Drinking Water Agencies**

CUWA requests to include a requirement in the Order to notify downstream drinking water agencies if there are spills of untreated or partially treated wastewater from the Facility or collection system that reach Delta waters.

**RESPONSE:** Central Valley Water Board staff concurs. The language in the proposed Permit in the standard provision Section VI.A.2.f has been revised as follows in underline/strikeout format:

The Discharger shall take all reasonable steps to minimize any adverse effects to waters of the State or users of those waters resulting from any discharge or sludge use or disposal in violation of this Order. Reasonable steps shall include such accelerated or additional monitoring as necessary to determine the nature and impact of the non-complying discharge or sludge use or disposal, and adequate public notification to downstream water agencies or others whose contact with the non-complying discharge is reasonably foreseeable within the minimum travel time to the nearest drinking water intake or 24 hours, whichever is less.

---

**WATER CONTRACTOR COMMENT**

---

**WATER CONTRACTORS Comment. Nitrate Plus Nitrite Option (Enclosure 1). Does NOT support Nitrate Plus Nitrite Option.**

The Water Contractors do not support the Nitrate Plus Nitrite Option because it is based solely on protecting the municipal and domestic water supply (MUN) beneficial use and further narrowly interprets protecting the MUN beneficial use as meeting the California Department of Public Health maximum contaminant level (MCL) for nitrate plus nitrite of 10 mg/L (as N) assuming a mixing zone. SWC also comments that this option does not address the on-going impacts of nitrate loading on aquatic life beneficial uses, and does not address compliance with the narrative objectives for biostimulatory substances and tastes and odors.

**RESPONSE:** Central Valley Water Board staff appreciates the support of the nitrate plus nitrite (as N) effluent limitation.

---

**USEPA COMMENT**

---

**USEPA Comment. Support the final limits for Nitrate Plus Nitrite at 10 mg/L.**

USEPA supports the final limits for nitrate plus nitrite at 10 mg/L. USEPA also requests not to include the alternative nitrate limit option in the proposed Permit given the uncertainty about nutrient impairments and necessary control levels on aquatic organisms within the Delta.

**RESPONSE:** Central Valley Water Board staff appreciates the support of the nitrate plus nitrite (as N) effluent limitation.