

Central Valley Regional Water Quality Control Board
7/8 December 2017 Board Meeting

Response to Comments
for the
City of Tracy
Wastewater Treatment Plant
Tentative NPDES Permit Renewal

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. CA0079154) renewal for the City of Tracy (Discharger), Wastewater Treatment Plant (Facility).

The tentative NPDES Permit was issued for a 30-day public comment period on 20 September 2017 with comments due by 20 October 2017. The Central Valley Water Board received public comments regarding the tentative NPDES Permit by the due date from the Discharger and the Central Valley Clean Water Association (CVCWA). Changes were made to the tentative NPDES 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 No. 1. Daily Limits Should Be Removed

The Discharger requests that maximum daily effluent limits be removed for chlorodibromomethane (CDBM) and dichlorobromomethane (DCBM), as they are not required, necessary, or prescribed for human health criteria under federal rules or the SIP¹. The Discharger states that for CDBM and DCBM, daily limits are not required because these are human health criteria, based on 70 years of exposure drinking 2 liters of the water per day. Since the closest drinking water intake is 10 miles away and no one is drinking the Discharger's effluent, these daily limits are overly stringent and not required. The Discharger included a footnote to this comment, which states:

“The SIP also does not prescribe daily limits for human health criteria. See SIP at pg. 8 (For this method only [discussing aquatic life criteria translation into WQBELs], maximum daily effluent limits shall be used for POTWS in place of average weekly limitations.) (emphasis added). No similar language exists for human health criteria.”

RESPONSE: Central Valley Water Board staff do not concur. CDBM and DCBM are priority pollutants; therefore the SIP procedures for calculating water quality-based effluent limitations are applicable. Section 1.4 of the SIP provides four methods for developing effluent limitations for priority pollutants: if a TMDL is in effect, assigning a portion of the loading capacity of the receiving water to each identified priority pollutant source of waste based on the TMDL; using a steady-state model; applying a dynamic model; or considering intake water pollutants according to SIP section 1.4.4. To develop the CDBM and DCBM effluent limits in the proposed Order, Central Valley Water Board staff used the steady-state

¹ *Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California* (known as the SIP), State Water Resources Control Board, February 2005

model method, which includes procedures for calculating average monthly and maximum daily effluent limits for aquatic life criteria and human health criteria. The steady-state model method consists of seven steps. Step 5 states in relevant part: “Calculate water quality-based effluent limitations (an average monthly effluent limitation, AMEL, and maximum daily effluent limitation, MDEL . . . For this method only, maximum daily effluent limitations shall be used for publicly-owned treatment works (POTWs) in place of average weekly limitations.”

The SIP requires maximum daily effluent limits for priority pollutant constituents with human health criteria. The footnote in the Discharger’s comment misinterprets the provision in Step 5 that starts “For this method only...” as only applying to effluent limits based on aquatic life criteria. The “method” is referring to one of four methods in the SIP for developing water quality-based effluent limits. Furthermore, U.S. EPA’s Technical Support Document (TSD)² recognizes that exposure periods for human health criteria can be up to 70 years, but also recommends daily limits for human health criteria. The TSD and SIP include the same statistical approach for calculating effluent limits for human health criteria. The TSD states that, “This approach ensures that the instream criteria will be met over the long-term and provides a defensible method for calculating a MDL [maximum daily limit]. Both an MDL (weekly average limit for POTWs) and a monthly average limit are required by EPA regulations, unless impracticable (40 C.F.R. 122.45(d)) and are applicable for human health protection.” (TSD, p. 105) In the proposed Order, although the Discharger is a POTW, maximum daily effluent limits have been established in lieu of average weekly effluent limits for CDBM and DCBM in accordance with the SIP.

Discharger Comment No. 2. State Law Only Requirements

The Discharger appreciates Finding II.C of the Tentative Order, which identifies provisions/requirements implementing only State law. The Discharger requests that Discharge Prohibitions III.B, III.D, and III.E be added to Finding II.C as requirements that implement State Law only.

RESPONSE: Central Valley Water Board staff concur with the Discharger’s suggested changes and has modified the proposed Order accordingly.

Discharger Comment No. 3. No Effluent Limits Where No Reasonable Potential

The Discharger states effluent limitations should not be required for any constituents without demonstrated reasonable potential (RP) to cause or contribute to an excursion above any State water quality standard. The Tentative Order inserts effluent limits based upon professional judgement instead of relying upon the data that demonstrates no reasonable potential to exceed the applicable water quality objectives. The Discharger states the permit should not include water quality-based effluent limitations (WQBELs) for biochemical oxygen demand (BOD), total suspended solids (TSS), ammonia, nitrate, and acute toxicity as no RP exists for any of these parameters. Furthermore, although the Tentative Order states there is no RP for diazinon and chlorpyrifos, effluent limits are established in compliance with the total maximum daily load

² *Technical Support Document for Water Quality-based Toxics Control*, U.S. EPA, March 1991

(TMDL). The Discharger requests that the wasteload allocations (WLA) for diazinon and chlorpyrifos should be applied as Receiving Water Limitations rather than effluent limits, and that the monitoring requirements remain the same to ensure compliance. If these effluent limits remain in the permit without a finding of RP, then these are more stringent State law-based requirements and the factors in Section 13241 of the California Water Code should be considered.

RESPONSE: Central Valley Water Board staff do not concur. The proposed Order appropriately includes WQBELs for BOD, TSS, ammonia, nitrate, acute toxicity, chlorpyrifos, and diazinon in compliance with the Clean Water Act and federal regulations. Rationale for establishing the limits is provided in the Fact Sheet and is summarized below.

Clean Water Act section 301(b)(1)(C) requires effluent limitations necessary to meet water quality standards, and 40 C.F.R. § 122.44(d) requires NPDES permits to include conditions that are necessary to achieve water quality standards established under section 303 of the CWA, including State narrative criteria for water quality. 40 C.F.R. § 122.44(d)(1)(i) states, "Limitations must control all pollutants or pollutant parameters (either conventional, nonconventional, or toxic pollutants) which the Director determines are or may be discharged at a level which will cause, have the reasonable potential to cause, or contribute to an excursion above any State water quality standard, including State narrative criteria for water quality." Furthermore, where, as here, there is an EPA-approved TMDL and a wasteload allocation (WLA) developed and approved for the discharge, 40 C.F.R. § 122.44(d)(1)(vii)(B) requires effluent limits to be developed consistent with that WLA, regardless of whether there is reasonable potential to cause or contribute to an exceedance of the water quality standards. Finally, the relevant TMDL for diazinon and chlorpyrifos is in the Basin Plan and required compliance with the applicable WLAs by 1 December 2011.

Central Valley Water Board staff disagree with the Discharger's comment that there is no RP for biochemical oxygen demand (BOD), total suspended solids (TSS), ammonia, nitrate, and acute toxicity. A permitting agency may conduct reasonable potential analyses in the absence of effluent monitoring data. The September 2010 NPDES Permit Writer's Manual, pages 6-30, provides "*State implementation procedures might allow, or even require, a permit writer to determine reasonable potential through a qualitative assessment process without using available facility-specific effluent monitoring data or when such data are not available...A permitting authority might also determine that WQBEL's are required for specific pollutants for all facilities that exhibit certain operational or discharge characteristics (e.g., WQBEL's for pathogens in all permits for POTW's discharging to contact recreational waters).*" WQBELs for BOD and TSS are established based on the reasonable potential analysis (RPA) for pathogens to protect the contact and non-contact recreation beneficial uses. As explained in the Fact Sheet, "Raw domestic wastewater inherently contains human pathogens that threaten human health and life, and constitute a threatened pollution and nuisance under CWC section 13050 if discharged untreated to the receiving water. Reasonable potential for pathogens therefore exists and WQBEL's are required." The proposed Order requires the wastewater is adequately disinfected, oxidized, coagulated, clarified, and filtered pursuant to the State Water Resources Control Board, Division of Drinking Water (DDW) reclamation criteria, Title 22, or equivalent. Effluent limitations for total coliform organisms, BOD, and TSS have been established to ensure the discharge is adequately disinfected to protect the beneficial uses. The effluent limits for BOD and TSS are based on the technical capability of the tertiary filtration process. The Central Valley

Water Board has previously considered the factors in Water Code section 13241 in establishing these disinfection requirements.

For ammonia, nitrate plus nitrite, and acute toxicity, RP has been established based on the facility type. Although the Discharger nitrifies and denitrifies the discharge to remove nitrogen compounds, inadequate or incomplete nitrification/denitrification creates the potential for ammonia, nitrate, and nitrite to be discharged. This provides the basis for the discharge to have a reasonable potential to cause or contribute to an in-stream excursion above the water quality criteria. For acute toxicity, wastewater treatment facilities serve industrial dischargers that discharge toxicants that could cause acute toxicity if not properly controlled, which provides the basis for the determination of RP.

The discharge does not have RP for diazinon and chlorpyrifos, but because the Basin Plan includes WLAs for diazinon and chlorpyrifos under the 2006 Sacramento-San Joaquin Delta Diazinon and Chlorpyrifos TMDL, effluent limitations for those pollutants are included in the proposed Order. In U.S. EPA's promulgation of the regulations that describe the procedures for determining whether an NPDES permit must include WQBELs, U.S. EPA stated, "[W]hen WLAs are available, they must be used to translate water quality standards into NPDES permit limits." 54 Fed. Reg. 23868, 23879 (June 2, 1989) (construing 40 C.F.R. § 122.44(d)(1)(vii)(B)). The applicable WLAs are consistent with the water quality objectives for diazinon and chlorpyrifos, and pursuant to the Basin Plan, apply to all NPDES dischargers to Delta waterways; therefore, WQBELs for diazinon and chlorpyrifos have been established in the proposed Order in accordance with the Basin Plan. Central Valley Regional Board staff disagrees with the Discharger that the WLAs for diazinon and chlorpyrifos should be implemented as receiving water limitations rather than effluent limitations. Per the regulatory definition, waste load allocations "constitute a type of water quality-based effluent limitation." 40 C.F.R. § 130.2(h), and accordingly, effluent limitations are appropriate. The Water Code 13241 factors were considered by the Central Valley Water Board when the water quality objectives for diazinon and chlorpyrifos were adopted.

Discharger Comment No. 4. Turbidity Sampling Location

The Tentative Order requires turbidity of the filtered effluent be measured at 8 locations prior to chlorine disinfection (i.e., after each filtration unit), to ensure that the filtration system is operating correctly. This requirement is typically associated with ensuring that a UV disinfection system is operating correctly, or associated with meeting Title 22 disinfected tertiary recycled water requirements. The Facility uses chlorine disinfection, and is not currently using its effluent for recycled water distribution. The Discharger requests that the filtration monitoring locations be removed from the permit. Turbidity would be appropriately measured at EFF-001 or TCO-001. If the filtration monitoring location remains in the permit, the Discharger requests that only one location be identified (FIL-001) with the following description: "A location where a representative sample of effluent from the tertiary filtration system can be collected immediately following filters and before chlorination."

RESPONSE: Central Valley Water Board staff concurs that, consistent with the current NPDES permit, turbidity monitoring of the final effluent at monitoring location EFF-001 can be used to evaluate compliance with the turbidity specifications contained in the proposed Order. The proposed Order requires the wastewater be adequately disinfected, oxidized, coagulated, clarified, and filtered pursuant to DDW's reclamation criteria, Title 22, or

equivalent. The turbidity specifications have been established to implement the Title 22 disinfection requirements. The Facility does not currently recycle the wastewater per Title 22. Therefore, for purposes of demonstrating Title 22 equivalency for protecting the beneficial uses of the receiving water, continuous turbidity monitoring of the final effluent is sufficient. The proposed Order has been modified accordingly.

Discharger Comment No. 5. Pollutant free wastewater

Provision III.E of the Tentative Order states that “The Discharger shall not allow pollutant-free wastewater to be discharged into the treatment or disposal system.” The Discharger is concerned this may limit the Facility’s ability to accept wastewater from some industrial users, since cooling water and condensate are among the prohibited discharges. In addition, it conflicts with the Discharger’s efforts to reduce salinity, since they are considering thermal desalination that creates pollutant-free condensate to be blended into the effluent. Consistent with the current permit language, the Discharger requests that the following be added to Provision III.E of the Tentative Order: “This discharge prohibition does not prohibit the return of pollutant-free wastewater from a desalination plant.”

RESPONSE: Central Valley Water Board staff concur with the Discharger’s suggested changes and has modified the proposed Order accordingly.

Discharger Comment No. 6. Toxicity Trigger

Section VI.C.2.a of the Tentative Order establishes a Toxicity Monitoring Trigger of 1 chronic toxicity unit (TUc). If the trigger is exceeded, the Discharger is required to conduct additional investigations into the source of toxicity. The Discharger requests that the approved dilution credit of 20:1 be included in the trigger, making the trigger equal 20 TUc.

RESPONSE: Central Valley Water Board staff do not concur. The current permit and proposed Order include a mixing zone allowance for long-term human health criteria that allows a dilution credit of 20:1 for CDBM and DCBM. This mixing zone is not appropriate for chronic toxicity, which is based on short-term aquatic life water quality objectives. In order for the Central Valley Water Board to consider a mixing zone for chronic toxicity, the Discharger must demonstrate through a mixing zone study that a chronic toxicity mixing zone will not adversely impact beneficial uses and complies with the mixing zone requirements pursuant to Section 1.4.2 of the SIP.

Discharger Comment No. 7. Whole Effluent Toxicity Testing

Section V.B.7 of the Monitoring and Reporting Program states that “The chronic toxicity testing shall be performed using the dilution series identified in Table E-5.” The Discharger requested the option of performing the chronic toxicity testing without the dilution series and allowing two controls for the diluent, a receiving water control and/or a lab water control, and requests that the provision be modified to reflect this.

RESPONSE: Staff do not believe any changes to the proposed Order are needed to address this comment. The Discharger may conduct more testing than what the permit

requires; however, all test results must be reported. As the language is currently written, the Discharger may use receiving water, or lab water, or both as a control. Staff does not concur with the request to remove the dilution series toxicity testing requirement. The dilution series is necessary to evaluate the magnitude of toxicity, and is needed to make permitting and compliance decisions. It is also needed to determine next steps, such as investigating further for toxicity or resuming regular toxicity monitoring.

Discharger Comment No. 8. Grab vs. Composite Samples

Several constituents in Table E-9 for which a composite sample is specified are more appropriately collected as grabs, consistent with 40 CFR Section 122.21(g)(7). The Discharger requests that the sample type for the following constituents be changed from composite to grab in Table E-9:

Cyanide
Sulfide
Hexavalent chromium
Tributyltin
4,4'-DDD
4,4'-DDE
4,4'-DDT
alpha-Endosulfan
alpha-Hexachlorocyclohexane (BHC)
Aldrin
beta-Endosulfan
beta-Hexachlorocyclohexane
Chlordane
delta-Hexachlorocyclohexane
Dieldrin
Endosulfan sulfate
Endrin
Endrin Aldehyde
Heptachlor
Heptachlor Epoxide
Lindane (gamma-Hexachlorocyclohexane)
PCB-1016
PCB-1221
PCB-1232
PCB-1242
PCB-1248
PCB-1254
PCB-1260
Toxaphene
2,3,7,8-TCDD (Dioxin)

RESPONSE: Central Valley Water Board staff concur with the Discharger's suggested changes and has modified the proposed Order accordingly.

Discharger Comment No. 9. ROWD Submittal Date

The Tentative Order establishes the date for submittal of the ROWD as one year prior to the expiration date of the new permit. The Discharger does not feel that it is necessary to submit the ROWD so far in advance and requests that, consistent with previous permits and applicable rules, the ROWD submittal date be set as 180 days in advance of the permit expiration (i.e., August 4, 2022).

RESPONSE: Central Valley Water Board staff do not concur. Submittal of the ROWD one year prior to the expiration date is within applicable rules and has been changed to ensure a timely permit renewal. Federal regulations require filing a complete ROWD **at least** 180 days prior to the expiration date of the permit. Providing the ROWD earlier ensures Central Valley Water Board staff have all information necessary to renew the permit. Importantly, this allows all facility changes and Discharger requests to be timely considered for the next permit renewal.

CENTRAL VALLEY CLEAN WATER ASSOCIATION (CVCWA) COMMENTS

CVCWA Comment No. 1. Provision VI.C.2.a. Toxicity Reduction Evaluation Requirements, in the Tentative NPDES Permit

CVCWA appreciates that Provision VI.C.2.a provides reasonable actions for publicly-owned treatment works to identify and address the causes of toxicity effects that meet a trigger of >1 TUc with options other than immediately undertaking a site-specific Toxicity Reduction Evaluation. CVCWA would like to work with Central Valley Water Board staff on the issue of low-level toxicity as CVCWA's study on this topic is ongoing.

RESPONSE: Central Valley Water Board staff appreciates the comments and will continue working with CVCWA on these and other issues facing POTW's in the Central Valley Region.