

**Central Valley Regional Water Quality Control Board  
6/7 February 2014 Board Meeting**

**Responses to Written Comments  
for the  
City of Clovis  
Clovis Sewage Treatment and Water Reuse Facility  
Fresno County  
Tentative Waste Discharge Requirements/NPDES Permit**

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The following are Central Valley Regional Water Quality Control Board (Central Valley Water Board) staff responses to comments submitted by the interested parties regarding the tentative Waste Discharge Requirements for NPDES Permit CA0085235 (NPDES permit) renewal for the City of Clovis (hereinafter Discharger), Clovis Sewage Treatment and Water Reuse Facility (Facility).

The tentative NPDES Permit was circulated on 14 November 2013 for a 30-day public comment period. Written comments from interested parties were required by public notice to be submitted to the Central Valley Water Board by 5:00 pm on 23 December 2013 to receive full consideration. Written comments were received from:

- City of Clovis (City) (23 December 2013)
- Mr. Paul Varney (23 December 2013)
- Central Valley Clean Water Association (CVCWA) (23 December 2013)

Written comments from the above interested parties are summarized below, followed by the response of Central Valley Water Board staff. Based on the comments, changes were made to the tentative WDRs/NPDES permit. Central Valley Water Board staff also made changes to the tentative WDRs/NPDES permit to correct typographical errors and to improve clarity.

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**CITY OF CLOVIS COMMENTS**

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**City Comment #1: Recycling Specifications**

The City comments that several Recycling Specifications in Section IV.C. of the tentative WDRs/NPDES permit appear to be 1) unnecessary since the Facility provides disinfected tertiary-treated recycled water and/or 2) redundant with other Recycling Specifications. Furthermore, the City also requests modifications to two Recycling Specifications.

**RESPONSE:** The Central Valley Water Board staff generally concurs that the Recycling Water Specifications the City requests to be eliminated or modified are redundant and/or should be clarified. Therefore, Central Valley Water Board staff proposes to revise Section IV.C. of the tentative WDRs/NPDES Permit as follows:

5. ~~Public contact with recycled water shall be precluded through such means as fences, signs, and other acceptable alternatives. Signs with proper wording (shown below) of a size no less than four inches high by eight inches wide shall be placed at all areas of public access and around the perimeter of all areas used for effluent disposal or conveyance to alert the public of use of recycled water. All signs shall present the international symbol similar to that shown in Attachment J and present~~

the following wording: All use areas where recycled water is used that are accessible to the public shall be posted with signs that are visible to the public, in a size no less than 4 inches high by 8 inches wide, that include the following wording: "RECYCLED WATER – DO NOT DRINK, AGUA DE DESPERDICIO RECLAMADA – NO TOME". Each sign shall display an international symbol similar to that shown in Attachment J.

## **RECYCLED WATER – DO NOT DRINK**

### **AGUA DE DESPERDICIO RECLAMADA – NO TOME**

12. Application of recycled water to recycled water use areas shall not exceed the nitrogen or hydraulic loading reasonably necessary to satisfy the nitrogen or water uptake needs of the use area considering the plant, soil, climate, and irrigation management system (i.e., general accepted agronomic rates). All tail water shall be returned to the use areas or treatment facilities.
- ~~13. Excessive irrigation with recycled water that results in excessive runoff of recycled water, or continued irrigation of recycled water during periods of rain is prohibited. Overspray of runoff associated with normal sprinkler use shall be minimized.~~
- ~~14. Recycled water shall be distributed uniformly on adequate acreage in compliance with Recycling Specifications. All tail water shall be returned to the use areas or treatment facilities.~~
- ~~15.~~13. No spray irrigation with recycled water shall occur when wind velocities exceed 30 mph.
- ~~16. Hydraulic loading of wastewater shall be at reasonable agronomic rates designed to minimize the percolation of process wastewater below the root zone (i.e., deep percolation).~~
- ~~17.~~14. Areas irrigated with effluent recycled water shall be managed to prevent breeding of mosquitoes. More specifically:
  - a. All applied irrigation water must infiltrate completely within 24 hours.
  - b. Ditches not serving as wildlife habitat should be maintained free of emergent, marginal, and floating vegetation.
  - c. Low-pressure and un-pressurized pipelines and ditches, which are accessible to mosquitoes, shall not be used to store recycled water.
- ~~18.~~15. Discharges to the spray irrigation fields shall be managed to minimize erosion. Runoff from the disposal area must be captured and returned to the treatment facilities or spray fields.

~~19. There shall be no standing water in the disposal area 24 hours after wastewater is applied.~~

~~20. The Discharger may not discharge recycled water to the use areas during periods of measurable precipitation or when soils are saturated.~~

**City Comment #2: Acute and Chronic WET Reporting Requirements**

The proposed tentative WDRs/NPDES Permit required the acute and chronic whole effluent toxicity test results be submitted to the Central Valley Water Board within 30 days following completion of the tests. The City requests the requirement be changed to allow the City to submit the WET test results with the monthly self-monitoring report in which the WET sample was taken.

**RESPONSE:** The Central Valley Water Board staff agrees to the changes and proposes to revise Section V.D. and Table E-9 of the Monitoring and Reporting Program (Attachment E) as follows:

**1. Chronic WET Reporting.** Regular chronic toxicity monitoring results shall be reported to the Central Valley Water Board within 30 days following completion of the test with the monthly self-monitoring report in which the first sample was taken, and shall contain, at minimum:

- a. The dates of sample collection and initiation of each toxicity test; and
- b. The results compared to the numeric toxicity monitoring trigger.

Additionally, the monthly Discharger self-monitoring reports shall contain an updated chronology of chronic toxicity test results expressed in TUC, and organized by test species, type of test (survival, growth or reproduction), and monitoring frequency, i.e., either quarterly, monthly, accelerated, or TRE.

**2. Acute WET Reporting.** Acute toxicity test results shall be submitted with the monthly self-monitoring report in which the sample was taken **within 30 days** following completion of the test and reported as percent survival.

**Table E-9. Monitoring Periods and Reporting Schedule**

Sampling Frequency	Monitoring Period Begins On...	Monitoring Period	SMR Due Date
1/Quarter (Acute and Chronic WET Tests)	Closest of 1 January, 1 April, 1 July, or 1 October following (or on) <u>the</u> permit effective date	1 January through 31 March 1 April through 30 June 1 July through 30 September 1 October through 31 December	<u>Submit with the monthly eSMR in which sample was taken (e.g., if a sample is taken in May, the result must be included in the May SMR [due 1 July])</u> <b>Within 30 days following completion of tests</b>

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## MR. PAUL VARNEY COMMENT

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Mr. Paul Varney, on behalf of Ms. Eugenia A. Varney, requests that the City not be permitted to discharge to the Diversion Channel from Big Dry Creek Reservoir to Little Dry Creek (Discharge Point 002). Ms. Eugenia A. Varney owns property that has an easement with the Fresno Metropolitan Flood Control District (FMFCD) which gives FMFCD the right to pass water across the property from Big Dry Creek Reservoir to the San Joaquin River (FMFCD Channel Easement). Mr. Paul Varney contends that they never accepted the License Agreement proposed by the City to discharge disinfected tertiary level water through their property and believes allowing such discharge would negatively impact their property value and impair/contaminate their domestic well water quality which could result in unknown/potential public safety and health issues.

**RESPONSE:** The proposed tentative WDRs/NPDES permit for the Clovis Sewage Treatment and Water Reuse Facility allows the City to discharge to three possible locations: to Fancher Creek (Discharge Point 001), to the Diversion Channel from Big Dry Creek Reservoir to Little Dry Creek (Discharge Point 002), and to the approved recycled water use sites. The Facility treats wastewater to a level suitable for irrigation of food crops, parks, playgrounds, schoolyards, residential landscaping, unrestricted access golf courses, and other areas. The City initially uses the wastewater that is treated from the Facility to meet the City's recycled water demand (e.g., irrigation of parks, landscaped medians, agricultural fields, etc.). That demand is expected to increase as more recycled water users are approved. When the supply of recycled water exceeds demand, the excess disinfected tertiary-treated recycled water is discharged to Fancher Creek. The City proposes to discharge disinfected tertiary-treated recycled water to the Diversion Channel only when the recycled water supply is greater than the demand and the City is unable to discharge to Fancher Creek (i.e., when the Fresno Irrigation District is conducting maintenance activities). From July 2009 (when Facility operations commenced) to May 2013, no discharges of disinfected tertiary-treated recycled water occurred at Discharge Point 002.

The tentative WDRs/NPDES permit, in part, requires the wastewater treated at effluent quality attainable by tertiary-level treatment, which is more stringent than the requirements contained in Federal Regulations (section 133, title 40 of the Code of Federal Regulations). Furthermore, discharges to the Diversion Channel must be protective of the applicable beneficial uses. The *Water Quality Control Plan for the Sacramento River and San Joaquin River Basins* (San Joaquin Basin Plan) identifies present and potential uses for the San Joaquin River, including municipal and domestic supply (MUN), to which Little Dry Creek is tributary. With this designation, the City's permitted discharge to the Diversion Channel must be protective of the MUN beneficial use. Therefore, in accordance with the San Joaquin Basin Plan, the Facility's potential discharge to the Diversion Channel must not cause concentrations of chemical constituents in the Diversion Channel to exceed the maximum contaminant levels (MCLs) in Title 22 of the California Code of Regulations for drinking water use. In addition, the San Joaquin Basin Plan further states that, to protect all beneficial uses, the Central Valley Water Board may apply limits more stringent than MCLs.

Discharge Prohibition III.A. of the tentative WDRs/NPDES Permit prohibits the discharge of wastewater in a manner different from that described in the Findings. The City proposes to discharge disinfected tertiary-treated recycled water to the Diversion Channel as a last resort when the recycled water supply exceeds demand and the Fancher Creek discharge location is unavailable. Therefore, if the City plans to regularly discharge disinfected tertiary recycled water to Discharge Point 002 when the City has the ability to discharge to recycled water use sites and/or Fancher Creek instead, the City is obligated to inform us of the planned change and the discharge of disinfected tertiary-treated effluent may need to be reevaluated and the NPDES Permit reopened.

To ensure that the City has obtained the necessary agreements to flow disinfected tertiary-treated wastewater through the Diversion Channel prior to discharging to Discharge Point 002, Central Valley Water Board staff proposes the following provision be included in Section VI.C.6. of the tentative WDRs/NPDES Permit:

c. The Discharger shall not discharge disinfected tertiary-treated wastewater to Discharge Point 002 until the necessary agreements to flow disinfected tertiary-treated wastewater through the Diversion Channel are obtained. Prior to discharge to Discharge Point 002, the Discharger shall submit, to the Central Valley Water Board, confirmation that the necessary agreements have been obtained.

Central Valley Water Board staff also proposes to include the following in Section VII.B.6. of the Fact Sheet (Attachment F):

c. This Order requires that the Discharger has obtained the necessary agreements to flow disinfected tertiary-treated wastewater through the Diversion Channel prior to discharging to Discharge Point 002.

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## CENTRAL VALLEY CLEAN WATER ASSOCIATION (CVCWA) COMMENTS

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### **CVCWA Comment: Reasonable Potential for Ammonia, Pathogens, and pH**

CVCWA comments that the Central Valley Water Board use of “professional judgment” in determining the appropriate method for conducting the reasonable potential analysis (RPA) for non-priority pollutants such as ammonia, pathogens (i.e., total coliform), and pH has strayed too far from what is required under federal regulations and must be revised to analyze the actual “site-specific conditions,” including the effluent and receiving water monitoring data. CVCWA contends that a qualitative assessment should not be used to determine reasonable potential when there are monitoring data to conduct a quantitative assessment.

**RESPONSE:** Central Valley Water Board staff does not concur. Federal regulations at 40 C.F.R. § 122.44(d)(1)(i) state, “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 that 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.” *[emphasis added]*. The process that a permit writer uses to determine whether WQBELs are required in an NPDES permit is a *reasonable potential analysis* (RPA). The specific approach for conducting the RPA is not specified in the regulations. A permit writer can conduct the RPA using effluent and/or receiving water data and modeling techniques, or through a qualitative assessment process without using available facility-specific effluent monitoring data.

For priority pollutants, the SIP<sup>1</sup> dictates the procedures for conducting the RPA. The constituents referred to in CVCWA’s comment are not priority pollutant constituents and, therefore, the Central Valley Water Board is not restricted to one particular RPA method, including the method described in the SIP. Nonetheless, Section 1.3, Step 7 of the SIP, not only allows but requires (for priority pollutants) the Central Valley Water Board to “[r]eview other information available to determine if a water quality-based effluent limitation is required, *notwithstanding* the above analysis in Steps 1 through 6, to protect beneficial uses.” *[emphasis added]*. Therefore, even the SIP allows the Central Valley Water Board to determine reasonable potential based on other information regardless of the available monitoring data.

In addition to the SIP, both the September 2010 NPDES Permit Writer’s Manual and the TSD<sup>2</sup> state that factors other than effluent data should be considered when conducting a RPA. The September 2010 NPDES Permit Writer’s Manual, page 6-30 states, “[s]tate 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 WQBELs are required for specific pollutants for all facilities that exhibit certain operational or discharge characteristics (e.g., WQBELs for pathogens in all permits for POTWs discharging to contact recreational waters).” Section 3.2 of the TSD, “Determining the Need for Permit Limits Without Effluent Monitoring Data For A Specific Facility,” states that “[w]hen determining whether or not a discharge causes, has the reasonable potential to cause, or contributes to an excursion of a numeric or narrative water quality criterion for individual toxicants or for toxicity, the regulatory authority can use a variety of factors and information where facility-specific effluent monitoring data are unavailable. These factors also should be considered with available effluent monitoring data.”

CVCWA notes that both the September 2010 Permit Writer’s Manual and the TSD includes cautionary language that advises regulatory agencies to provide sufficient justification when a reasonable potential determination is made without facility-specific monitoring data. CVCWA contends that because sufficient justification was not provided in the tentative WDRs/NPDES Permit the Central Valley Water Board staff has arbitrarily determined reasonable potential for ammonia, pH, and total coliform.

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<sup>1</sup> “Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California”

<sup>2</sup> Technical Support Document for Water Quality-based Toxics Control, EPA/505/2-90-001, March 1991

Central Valley Water Board staff concurs that sufficient justification needs to be provided when the decision to include WQBELs is not based on an analysis of monitoring data. However, Central Valley Water Board staff disagrees that sufficient justification is not provided in the tentative WDRs/NPDES permit. Section IV.C.3.d.i. of the Fact Sheet (Attachment F) of the tentative WDRs/NPDES Permit includes the following justification for the Central Valley Water Board's determination that the Facility's discharge has reasonable potential for ammonia (Central Valley Water Board staff proposes the changes in red to improve clarity):

*Nitrification is a biological process that converts ammonia to nitrite and nitrite to nitrate. Denitrification is a process that converts nitrate to nitrite or nitric oxide and then to nitrous oxide or nitrogen gas, which is then released to the atmosphere. The Discharger currently uses nitrification and partial denitrification to remove ammonia from the waste stream. Inadequate or incomplete nitrification may result in the discharge of ammonia to the receiving stream. Ammonia is known to cause toxicity to aquatic organisms in surface waters. Discharges of ammonia in concentrations that produce detrimental physiological responses to human, plant, animal, or aquatic life would violate the Basin Plans' narrative toxicity objective. Although the Discharger nitrifies and partially denitrifies the discharge, inadequate or incomplete nitrification creates the potential for ammonia to be discharged in concentrations that would cause or contribute to an exceedance of the Basin Plans' narrative toxicity objective and ~~provides the basis for the discharge to have a reasonable potential to cause or contribute to an in-stream excursion above the NAWQC.~~ Therefore, the Central Valley Water Board finds the discharge has reasonable potential for ammonia and WQBELs are required.*

Section IV.C.3.d.ii. of the Fact Sheet (Attachment F) of the tentative WDRs/NPDES Permit includes the following justification for the Central Valley Water Board's determination that the Facility's discharge has reasonable potential for pathogens:

*The beneficial uses of both Fancher Creek and the Diversion Channel include water contact recreation and agricultural irrigation supply. The beneficial uses of Little Dry Creek include municipal and domestic supply, water contact recreation, and agricultural irrigation supply. To protect these beneficial uses, the Central Valley Water Board finds that the wastewater must be disinfected and adequately treated to prevent disease. Although the Discharger provides disinfection, inadequate or incomplete disinfection creates the potential for pathogens to be discharged and provides the basis for discharge to have a reasonable potential to cause or contribute to an exceedance of the Basin Plans' narrative toxicity objective. Therefore, the Central Valley Water Board finds the discharge has reasonable potential for pathogens and WQBELs are required.*

Section IV.C.3.d.iii. of the Fact Sheet (Attachment F) of the tentative WDRs/NPDES Permit includes the following justification for the Central Valley Water Board's determination that the Facility's discharge has reasonable potential for pH:

*The Facility is a POTW that treats domestic wastewater. Based on 1,458 samples taken from July 2009 to May 2013, the minimum and maximum pH reported was 6.4 and 8.1, respectively. Although the Discharger has proper pH controls in place, the pH for the Facility's influent varies due to the nature of municipal sewage, which provides the basis for the discharge to have a reasonable potential to cause or contribute to an in-stream excursion above the Basin Plans' numeric objective for pH in the receiving waters. Therefore, WQBELs for pH are required in this Order.*

Lastly, CVCWA argues that the Central Valley Regional Water Board “is not conducting an “effluent assessment” when it refers to the characteristics of raw wastewater, which is not being discharged.” Central Valley Water Board staff does not concur. The characteristics of a publicly owned treatment works' (POTW) influent can significantly influence the characteristics of a POTW's discharge. While the Facility is designed to provide adequate ammonia and pathogens removal below the applicable water quality objectives; the Facility, if inadequately operated, may discharge only partially treated wastewater. Therefore, for these constituents (ammonia, pH, and total coliform), evaluating the characteristics of the Facility's influent was found necessary when conducting this reasonable *potential* analysis. Furthermore, federal and state regulation and guidance do not restrict reasonable potential analysis to effluent monitoring data. As provided in paragraphs 2 and 3 of this response, federal and state requirements encourage the use of other information, as applicable, when making the determination on the need for effluent limitations; provided adequate justification is included.

Nevertheless, based solely on a quantitative analysis of the Facility's effluent monitoring data, the Facility's discharge has reasonable potential for ammonia, pH, and total coliform. The Discharger reported 22 effluent ammonia results that exceed the Discharge Point 001 ammonia 30-day criteria continuous concentration of 1.58 mg/L (as N). The Discharger also reported an instance where the effluent pH was below the Basin Plans' lower objective of 6.5. In addition, the Discharger reported a maximum total coliform concentration of 14 most probable number (MPN) per 100 mL during the current permit term which exceeds the 2.2 MPN/100 mL 7-day median effluent limitation.