

Central Valley Regional Water Quality Control Board  
9/10 June 2022 Board Meeting

Response to Comments  
for the  
City of Turlock and the City of Modesto  
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 persons and parties regarding the tentative Waste Discharge Requirements, National Pollutant Discharge Elimination System (NPDES) Permit CA0085316 renewal for the City of Turlock and the City of Modesto (Discharger), City of Turlock Regional Water Quality Control Facility and the City of Modesto Water Quality Control Facility (Facilities) combined discharge to the Delta-Mendota Canal via the North Valley Regional Recycled Water Program joint outfall.

The tentative NPDES Permit was issued for a 30-day public comment period on 5 April 2022 with comments due by 5 May 2022. The Central Valley Water Board received public comments regarding the tentative Permit by the due date from the City of Modesto, the City of Turlock, the Del Puerto Water District, and the State Water Contractors. 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.

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## **CITY OF MODESTO COMMENTS**

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### **1. Far-Field Dilution Study**

The City of Modesto contends that the need for the Far-Field Dilution Study is not clear and should be removed or the proposed Order should provide more details, include consultation with Central Valley Water Board staff, and should not be entirely funded by the Dischargers. The City of Modesto also requested that the due dates for the workplan and study be given flexibility if there are issues obtaining the necessary information from outside parties.

#### **RESPONSE:**

The discharge to the Delta-Mendota Canal is a unique surface water discharge because it is intended solely for the purpose of providing recycled water to downstream agricultural users in the Del Puerto Water District. The Dischargers have been issued NPDES permits authorizing discharge to the San Joaquin River for the disposal of tertiary treated municipal wastewater. Although the Central Valley Water Board supports reclamation, the introduction of recycled water into the Central Valley Project and State Water Project, which are drinking

water conveyance systems, is a cause of concern for downstream drinking water agencies and the State Water Resources Control Board (State Water Board) Division of Drinking Water (DDW). A higher level of scrutiny is needed due to these concerns to ensure protection of public health. Central Valley Water Board staff consulted with State Water Board DDW staff regarding the appropriate disinfection permit requirements and requested an evaluation whether the Surface Water Augmentation Regulations in California Code of Regulations Title 22, adopted after the issuance of the 2016 NPDES permit, is applicable to the discharge. In a memorandum dated 30 March 2022, DDW staff concluded that the Surface Water Augmentation regulations were not applicable. However, DDW staff recommended an updated far-field dilution study be conducted to ensure the discharge is not adversely impacting downstream drinking water facilities. The information will be used to re-evaluate applicability of the Surface Water Augmentation regulations and/or determine the need for additional requirements for the next permit renewal. Therefore, the study has not been removed from the tentative Order. Central Valley Water Board Staff have included supporting information on why the Far-Field Dilution Study has been required in the proposed Order. Attachment F - Fact Sheet, section IV.B.2.b Far-Field Dilution Study has been modified as shown below:

**b. Far-Field Dilution Study**

On 26 June 2015, the Dischargers provided a Report of Waste Discharge requesting a new discharge to the Delta-Mendota Canal, which included a 10 June 2015 report titled, "North Valley Regional Recycled Water Program Antidegradation Analysis for Proposed Recycled Water Discharge to the Delta-Mendota Canal" developed by Larry Walker and Associates (2015 Antideg Analysis). The 2015 Antideg Analysis evaluated near-field and far-field impacts of the proposed discharge. The purpose of the far-field water quality evaluation was to estimate potential effects of the proposed discharge at San Luis Reservoir and O'Neill Forebay, which are drinking water facilities approximately 33 miles downstream of the discharge. The far-field analysis estimated that the reasonable-worse case long-term average effluent fraction of the discharge at current permitted flow (29.1 MGD) in San Luis Reservoir was estimated to be 1.28% as an annual average. While in O'Neill Forebay the maximum annual average effluent fraction was 1.09%. At full buildout (52.7 MGD) the maximum annual average effluent fraction in San Luis Reservoir was estimated to be 2.27% and in O'Neill Forebay the maximum annual average effluent fraction was 1.95%.

There are multiple concerns with treated municipal wastewater entering drinking water conveyance and storage facilities, such as pathogens and constituents of emerging concern that may impact human health. Also, increased nutrients can cause excessive algal growth, which can increase total organic carbon, reduce water treatment plant efficiency, result in harmful algal blooms, and cause taste and odor issues. At the current

permitted flow, the estimated annual average effluent fractions are at a level that may not cause serious concern; however, there is an increase in concern at the full buildout flows expected to occur over the next 20 to 30 years. Due to these far-field concerns, Central Valley Water Board staff consulted with State Water Board DDW staff regarding the appropriate permit requirements to protect public health and the applicability of the Surface Water Augmentation Regulations in California Code of Regulations Title 22, Section 60301.851 that were adopted after the issuance of the 2016 NPDES permit. In a memorandum dated 30 March 2022, DDW staff concluded that the Surface Water Augmentation regulations were not applicable. However, DDW staff recommended additional information be collected during the permit term for the next permit renewal, including an updated far-field dilution study to ensure the discharge is not adversely impacting the drinking water facilities.

This Order requires the Discharger conduct an updated far-field dilution study to estimate the monthly average effluent fractions at O'Neill Forebay and San Luis Reservoir. The water dynamics in San Luis Joint-Use Complex are complex and several assumptions were made in the Discharger's 2015 far-field dilution study to simplify the dilution evaluation. Although the assumptions were expected to be conservative and result in an over estimation of the impacts, considering the potential adverse impacts to drinking water facilities, a more precise dilution evaluation is appropriate in this case. The Far-Field Dilution Study shall be conducted using the appropriate critical design flow based on the appropriate time period that captures expected reasonable-worst case flow conditions for the Delta-Mendota Canal to evaluate the far-field impacts for the protection of the MUN beneficial use. The evaluation shall be conducted for the current combined permitted average dry weather flow of 29.1 MGD and the full build-out combined design average dry weather flow of 52.7 MGD. The modeling shall also consider diversions from the Del Puerto Water District and other users made from the Delta-Mendota Canal upstream and downstream of the discharge, as well as, pump ins to the Delta-Mendota Canal upstream and downstream of the discharge, as appropriate.

The Discharger shall develop a workplan in consultation with staff from the Central Valley Water Board and the State Water Board Division of Drinking Water prior to conducting the far-field dilution study.

Furthermore, considering the City of Modesto's request that Central Valley Water Board staff are consulted during the development of the workplan and the request to provide more details for the study, Waste Discharge Requirements section VI.2.b. Far-Field Dilution Study has been modified as shown below:

**b. Far-Field Dilution Study**

The Discharger shall conduct a far-field dilution study to estimate the monthly average effluent fractions at O'Neill Forebay and San Luis Reservoir. The Far-Field Dilution Study shall be conducted using the appropriate critical design flow based on the appropriate time period that captures expected reasonable-worst case flow conditions for the Delta-Mendota Canal to evaluate the far-field impacts to protect the MUN beneficial use. The evaluation shall be conducted for the current combined permitted average dry weather flow of 29.1 MGD and the full build-out combined design average dry weather flow of 52.7 MGD. The modeling shall also consider diversions by the Del Puerto Water District and other users from the Delta-Mendota Canal upstream and downstream of the discharge, as well as pump-ins to the Delta-Mendota Canal upstream and downstream of the discharge, as appropriate.

The Discharger shall develop a workplan in consultation with staff from the Central Valley Water Board and State Water Board Division of Drinking Water. The workplan and Far-Field Dilution Study shall be submitted by the due dates in the Technical Reports Table (Attachment E, Section X.D, Table E-11).

Central Valley Water Board staff understand the City's concern about needing flexibility due to obtaining information from outside parties; however, to maintain progress on studies and other monitoring and reporting requirements the Board sets firm milestone dates in its NPDES Orders. If the City is having issues meeting a milestone date due to a situation out of its control, it may request an extension of the milestone date(s) as long as it can provide justification to the Board why it cannot meet the milestone and an alternative date that it can meet. The request will be reviewed by the Board's NPDES Compliance and Enforcement Unit.

**2. Constituents of Emerging Concern (CEC) Study**

The City of Modesto requests that the CEC Study should be removed, or the objective of the CEC Study be clarified along with allowing use of CEC information collected as part of the Delta Regional Monitoring Program's CEC sampling program.

**RESPONSE:**

As noted in the previous comment response regarding the Far-Field Dilution Study, the discharge to the Delta-Mendota Canal is a unique discharge that requires a higher level of scrutiny. In the memorandum dated 30 March 2022, DDW staff recommended additional information be collected during the permit term for the next permit renewal, including analyzing effluent samples and downstream receiving water samples for constituents of emerging concern and pathogen indicators to ensure the discharge is not adversely impacting the

drinking water facilities. Central Valley Water Board staff included additional rationale in section VI.B.2.c of the Fact Sheet to further explain the need for the CEC Study. Central Valley Water Board staff concur that in development of the study, the Dischargers should consider all relevant information, including the work conducted by the Delta Regional Monitoring Program's CEC sampling program and will be available for consultation during development of the workplan.

c. **Constituents of Emerging Concern (CEC) Study.**

The 30 March 2022 DDW Letter recommended collecting additional information in this Order to ensure the determination that the NVRRWP is not a surface water augmentation project remains appropriate. The 30 March 2022 DDW Letter specifically recommended the Discharger prepare a monitoring plan for collecting and analyzing effluent samples and downstream receiving water samples, quarterly, for constituents of emerging concern that present health concerns (Perfluorooctanoic Acid, Perfluorooctanesulfonic acid, N-Nitroso-dimethylamine, N-Nitrosomorpholine, 1,4-dioxane, total trihalomethanes), constituents of emerging concern that do not readily biodegrade and generally occur in relatively high concentrations (Sucralose, Carbamazepine, lohexol), and pathogen indicators such as *Clostridium perfringens* because water from the Delta-Mendota Canal is used for drinking water.

This Order requires the Discharger to conduct a CEC study due to concerns of impacts to downstream drinking water facilities. The Discharger shall develop a monitoring plan for collecting and analyzing effluent and receiving water samples for CECs that have health concerns (e.g., PFOA, PFOS, NDMA, NMOR, 1,4-dioxane, and TTHMs), that do not readily biodegrade and generally occur in relatively high concentrations (e.g., Sucralose, Carbamazepine, and lohexol), and pathogen indicators (e.g., *Clostridium perfringens* and *Escherichia coli*). The Discharger shall develop the monitoring plan in consultation with staff from the Central Valley Water Board, the State Water Contractors, and DDW, that at a minimum determines a specific list of CECs, sampling locations, and sampling frequency. The Dischargers should consider CEC information from the Delta Regional Monitoring Program's CEC study, the CEC Synthesis Report developed by the Aquatic Resource Center (March 2022 Final report, titled "CECs in California's Ambient Ecosystems: Occurrence and Risk Screening of Key Classes"), or other studies, as appropriate.

Waste Discharge Requirements section VI.C.2.c. Constituents of Emerging Concern (CEC) Study has been modified as shown below

c. **Constituents of Emerging Concern (CEC) Study.**

The Discharger shall conduct a CEC study due to concerns of impacts to downstream drinking water facilities. The Discharger shall develop a monitoring plan for collecting and analyzing effluent and receiving water samples for CECs that have health concerns (e.g., Perfluorooctanoic Acid, Perfluorooctanesulfonic acid, N-Nitroso-dimethylamine, N-Nitrosomorpholine, 1,4-dioxane, total trihalomethanes), that do not readily biodegrade and generally occur in relatively high concentrations (e.g., Sucralose, Carbamazepine, and Iohexol), and pathogen indicators (e.g., *Clostridium perfringens* and *Escherichia coli*). The Discharger shall develop the monitoring plan in consultation with staff from the Central Valley Water Board, State Water Contractors, and DDW, that at a minimum determines a specific list of CECs to be analyzed, sampling locations, and sampling frequency. The monitoring plan and final CEC Study shall be submitted by the due dates in the Technical Reports Table (Attachment E, Section X.D, Table E-11).

**3. Total Mercury Mass Loading Effluent Limitations Compliance Determination**

The City of Modesto requests removal of Waste Discharge Requirements section VII.B. Total Mercury Mass Loading Effluent Limitations from the proposed Order because these effluent limitations are not included in the proposed Order.

**RESPONSE:**

Central Valley Water Board staff concur and have removed the Waste Discharge Requirements section VII.B. Total Mercury Mass Loading Effluent Limitations and have renumbered the subsequent sections of the Compliance Determination section accordingly.

**4. Monitoring Location Names**

The City of Modesto requests to revert to the naming convention in its existing permit for upstream and downstream UV disinfection system monitoring locations.

**RESPONSE:**

Central Valley Water Board staff concur and revised the UV disinfection monitoring location names shown in Attachment E – Monitoring and Reporting Program, Table E-1. Monitoring Station Locations in part below and throughout the proposed Order as necessary:

**Table E-1. Monitoring Station Locations**

<b>Discharge Point Name</b>	<b>Monitoring Location Name</b>	<b>Monitoring Location Description</b>
--	UVS-001	Monitoring of the City of Modesto WQCF filter effluent from the Phase 1A treatment train to be measured immediately downstream of the filters and prior to the ultraviolet light (UV) disinfection system.
--	UVS-002	Monitoring of the City of Modesto WQCF filter effluent from the Phase 2 treatment train to be measured immediately downstream of the filters and prior to the UV disinfection system.
--	UVS-001A	A location where a representative sample of wastewater from the Phase 1A treatment train at the City of Modesto WQCF can be collected immediately downstream of the UV disinfection system.
--	UVS-002A	A location where a representative sample of wastewater from the Phase 2 treatment train at the City of Modesto WQCF can be collected immediately downstream of the UV disinfection system.

**5. Effluent and Receiving Water Total Phosphorus Monitoring (Tables E-3, E-4, E-5, and E-7)**

The City of Modesto contends that there is no reasonable potential for total phosphorus and no rationale is provided for the monitoring requirements.

**RESPONSE:**

Central Valley Water Board staff have included rationale in Attachment F – Fact Sheet, sections VII.B.3.f and VII.B.4.f for total phosphorus effluent monitoring for Turlock RWQCF and Modesto WQCF, respectively, and section VII.D.1.f for the receiving water. The inclusion of phosphorous monitoring in the effluent and receiving water is due to the concern of increased nutrients in the State Water Project drinking water conveyance, storage, and treatment facilities. Increased nutrients, including total phosphorus, can cause excessive algal growth, which can increase total organic carbon, reduce water treatment plant efficiency, result in harmful algal blooms, and cause taste and odor issues.

The following section was added as Attachment F – Fact Sheet, section VII.B.3.f as shown below:

- f. There are concerns of increased nutrients in the downstream drinking water conveyance, storage, and treatment facilities that may be impacted by the discharge. This Order requires monitoring of the effluent for total phosphorus twice per month to determine potential impacts from the City of Turlock RWQCF effluent.

The following section was added as Attachment F – Fact Sheet, section VII.B.4.f

- f. There are concerns of increased nutrients in the downstream drinking water conveyance, storage, and treatment facilities that may be impacted by the discharge. This Order requires monitoring of the effluent for total phosphorus twice per month to determine potential impacts from the City of Modesto WQCF effluent.

The following section was added as Attachment F – Fact Sheet, section VII.D.1.f as shown below:

- f. There are existing concerns of harmful algae blooms in the San Luis Joint-Use Complex and downstream conveyances. This Order requires monitoring of the receiving water for total phosphorus twice per month to determine potential impacts to the receiving water by monitoring upstream and downstream of the discharge point to Delta-Mendota Canal.

**6. Total Nitrogen Receiving Water Monitoring (Table E-7)**

The City of Modesto contends receiving water monitoring for total nitrogen appears to be included in error.

**RESPONSE:**

Central Valley Water Board staff concur and have removed total nitrogen monitoring from Attachment E – Monitoring and Reporting, Table E-7 by deleting row 3 of the table for total nitrate monitoring.

**7. Del Puerto Water District Annual Report (Table E-11)**

The City of Modesto contends the Del Puerto Water District Diversions Annual Report requirement should be removed because the reporting is dependent on Del Puerto Water District, which is out of the City’s control.

**RESPONSE:**

Comments provided by the Del Puerto Water District demonstrate that information required in the Del Puerto Water District Diversions Annual Report are reported to other entities and can be made available to the Dischargers. Central Valley Water Board staff provided additional rationale for requiring the annual reports in Attachment F- Fact Sheet section VII.F as follows.

**F. Reporting Requirements**

**Del Puerto Water District Diversions Annual Report**

The NVERRWP discharge to the Delta-Mendota Canal is a unique surface water discharge because it is intended solely for the purpose of providing recycled water to downstream agricultural users in the Del Puerto Water District. The Dischargers have NPDES permits authorizing discharge to the San Joaquin River for the disposal of the



tertiary treated municipal wastewater. Presumably the recycled wastewater will be diverted by users immediately downstream of the outfall, which results in minimal recycled wastewater traveling downstream to the drinking water facilities. The 30 March 2022 DDW Letter recommended collecting additional information in this Order to ensure the determination that the NVERRWP is not a surface water augmentation project remains appropriate. The 30 March 2022 DDW Letter recommended the Discharger report the volume diverted by Del Puerto Water District downstream of the outfall. This reporting is necessary to evaluate impacts of the discharge and may be used to aid in determining the percentage of effluent entering O'Neill Forebay from the Delta-Mendota Canal in reasonable worst-case scenarios.

This Order requires an annual report that includes a map showing diversion points used by the Del Puerto Water District during the calendar year, the total volume of water diverted by Del Puerto Water District (upstream and downstream of the Joint Outfall) on a monthly basis, and the total volume of effluent discharged by the Facilities from the Joint Outfall on a monthly basis.

**8. Technical Reports (Table E-11)**

The City of Modesto requests the Far-Field Dilution Study Workplan and CEC Study Workplan due dates be extended to 1 August 2024 and the Del Puerto Water District Diversion Annual Reports due dates be extended to 1 March annually.

**RESPONSE:**

Central Valley Water Board staff concurs and has revised the due dates shown in Attachment E – Monitoring and Reporting Program, Table E-11. Technical Reports in part below:

**Table E-11. Technical Reports**

<b>Report Number</b>	<b>Technical Report</b>	<b>Due Date</b>	<b>CIWQS Report Name</b>
8	Far-Field Dilution Study Workplan	1 August 2024	WDR VI.C.2.b
10	Constituents of Emerging Concern Study Workplan	1 August 2024	WDR VI.C.2.c
12	Del Puerto Water District Diversions Annual Report	1 March 2023	MRP X.D.4
13	Del Puerto Water District Diversions Annual Report	1 March 2024	MRP X.D.4
14	Del Puerto Water District Diversions Annual Report	1 March 2025	MRP X.D.4
15	Del Puerto Water District Diversions Annual Report	1 March 2026	MRP X.D.4

Report Number	Technical Report	Due Date	CIWQS Report Name
16	Del Puerto Water District Diversions Annual Report	1 March 2027	MRP X.D.4

### 9. Summary of Water Quality-Based Effluent Limitations

The City of Modesto contends that the electrical conductivity (EC) limits included in Attachment F – Fact Sheet, Tables F-15 Summary of Water Quality-Based Effluent Limitations – City of Turlock RWQCF and F-16 Summary of Water Quality-Based Effluent Limitations – City of Modesto WQCF be removed since there is not a final effluent limitation for EC, only a performance-based trigger.

#### RESPONSE:

Central Valley Water Board staff concurs and has removed EC limitations by deleting row 7 of Attachment F – Fact Sheet, Table F-15 Summary of Water Quality-Based Effluent Limitations – City of Turlock RWQCF and row 5 of Table F-16 Summary of Water Quality-Based Effluent Limitations – City of Modesto WQCF.

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## CITY OF TURLOCK COMMENTS

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### 1. Chronic Toxicity Effluent Limitation for *Ceriodaphnia Dubia*

The City of Turlock contends that the chronic toxicity effluent limitation for *Ceriodaphnia Dubia* be removed since the exceedances occurred during a plant upset, caused by atypical aeration and pathogen interference in subsequent tests. The City of Turlock provided a Technical Memorandum with its comments that further explained the issues that occurred during accelerated testing. The Technical Memorandum provided data that was not yet available when the Reasonable Potential Analysis was conducted, showing final tests resulting in 1 chronic toxicity units, ending accelerated monitoring.

#### RESPONSE:

Central Valley Water Board reviewed the Technical Memorandum provided with the comments and concurs that there is no reasonable potential for chronic toxicity and with the removal of the chronic toxicity effluent limitation for *Ceriodaphnia Dubia*. The 3 August 2021 test result of 8 TUc and 21 September 2021 test result of 4 TUc was caused by issues that are not reflective of normal plant operations; therefore, these test results are not representative of current effluent quality. Furthermore, test results from 2022 that exceeded 1 TUc were shown to have pathogen interferences. Test results with antibiotic-amended water did not exceed 1 TUc.

Central Valley Water Board staff removed the chronic toxicity effluent limitation from section IV.A.1 of the proposed Order and throughout the proposed Order as

appropriate. The Waste Discharge Requirements section VII.F. Chronic Whole Effluent Toxicity Effluent Trigger and Attachment F – Fact Sheet section IV.C.5.b.(1) were also revised.

The following section was modified in Waste Discharge Requirements section VII.F as shown below:

- F. Chronic Whole Effluent Toxicity Effluent Trigger.** To determine an exceedance of the chronic whole effluent toxicity effluent trigger for the Facilities, the median chronic toxicity units (TUc) shall be the median of up to three consecutive chronic toxicity bioassays during a six-week period. This includes a routine chronic toxicity monitoring event and two subsequent optional monitoring events. If additional monitoring events are not conducted, the median is equal to the result for the routine chronic toxicity monitoring event. If only one additional monitoring event is conducted, the median will be established as the arithmetic mean of the routine monitoring event and compliance monitoring event.

Where the median chronic toxicity units exceed 1 TUc (as 100/NOEC) for any end point, the Facilities will be deemed to have exceeded their respective chronic toxicity effluent trigger if the median chronic toxicity units for any endpoint also exceeds a reporting level of 1.3 TUc (as 100/EC<sub>25</sub>) AND the percent effect at 100 percent effluent exceeds 25 percent. The percent effect used to evaluate an exceedance of the chronic toxicity effluent trigger for the Facilities shall be based on the chronic toxicity bioassay result(s) from the sample(s) used to establish the median TUc result. If the median TUc is based on two equal chronic toxicity bioassay results, the percent effect of the sample with the greatest percent effect shall be used to evaluate the exceedance of the chronic toxicity effluent trigger for the Facilities.

Attachment F – Fact Sheet section IV.C.5.b.(1) and Table F-17 were modified as shown below:

(1) **RPA.** No dilution has been granted for chronic whole effluent toxicity. Chronic toxicity testing results exceeding 1.3 chronic toxicity units (TUc) (as 100/NOEC) and a percent effect at 100 percent effluent exceeding 25 percent demonstrates the discharge has a reasonable potential to cause or contribute to an exceedance of the Basin Plan’s narrative toxicity objective. Based on chronic toxicity testing conducted between March 2020 through December 2021 the maximum chronic toxicity result was 8 TUc on 3 August 2021 with a percent effect (receiving water control) of 40 percent for the water flea, *ceriodaphnia dubia*, reproduction. The City of Turlock's first quarter 2022 Self-monitoring Report identified the operational upset that caused the toxicity observed 3 August 2021 and 20 September 2021, and the corrective actions implemented. Because the toxicity observed was caused by issues that are not reflective of normal plant operations, these test results are not representative of current effluent quality. Moreover, the 20 September 2021 test exhibited a 19 percent effect.

Eight additional samples were collected between 4 January 2022 and 12 April 2022. Three of the 2022 tests were invalid. The 1 March 2022 test exceeded 8 TUc with a percent effect of 20 percent, but the TUc result is a result of an anomalous dose response because the 100 percent effluent dilution was not statistically significantly different from the control. This is indicative of pathogen interference. Antibiotic was introduced to mitigate the pathogen interference after the 1 March 2022 test. The next three tests did not exceed 1 TUc. In total, four of the additional tests in 2022 did not exceed 1 TUc. Toxicity data for the City of Turlock RWQCF effluent obtained during periods of normal plant operations did not exceed of the Basin Plan’s narrative toxicity objective, nor the definition of the RPA cited above. Consequently, the City of Turlock RWQCF discharge does not have reasonable potential to cause or contribute to an instream exceedance of the Basin Plan’s narrative toxicity objective.

**Table F-17. Whole Effluent Chronic Toxicity Testing Results – City of Turlock RWQCF**

Date	Fathead Minnow Pimephales promelas Survival (TUc)	Fathead Minnow Pimephales Growth (TUc)	Water Flea Ceriodaphnia dubia Survival (TUc)	Water Flea Ceriodaphnia dubia Reproduction (TUc)	Green Algae Pseudokirchneriella subcapitata Growth (TUc)
3/9/2020	1	1	1	1	>1
4/20/2020	--	--	--	--	1
5/4/2020	--	--	--	--	>1

Date	Fathead Minnow Pimephales promelas Survival (TUc)	Fathead Minnow Pimephales promelas Growth (TUc)	Water Flea Ceriodaphnia dubia Survival (TUc)	Water Flea Ceriodaphnia dubia Reproduction (TUc)	Green Algae Pseudokirchneriella subcapitata Growth (TUc)
5/18/2020	--	--	--	--	>1
6/2/2020	1	1	1	1	--
6/4/2020	--	--	--	--	>1
8/17/2020	1	1	1	1	--
9/14/2020	--	--	--	--	1.3
11/4/2020	1	1	1	1	--
11/17/2020	--	--	--	--	1
12/8/2020	--	--	--	--	1
3/8/2021	--	--	--	--	1
3/10/2021	1	1	1	1	--
5/18/2021	1	1	1	1	1.3
7/22/2021	--	--	--	--	1
8/3/2021	1	1	1	8	--
9/21/2021	--	--	1	4	--
11/30/2021	1	1	--	--	--
12/8/2021	--	--	--	--	1.3
1/4/2022	--	--	Invalid	Invalid	1.3
1/18/2022	--	--	Invalid	Invalid	1.3
2/1/2022	--	--	Invalid	Invalid	1
2/15/2022	--	--	1	1	1
3/1/2022	--	--	1	>8, See Discussion above	--
3/8/2022	1	1	--	--	--
3/15/2022	--	--	1	1	1
3/29/2022	--	--	1	1	--
4/12/2022	--	--	1	1	--

## 2. Ammonia Limitations

The City of Turlock contends that two pH values used for the calculation of the summer season ammonia effluent limitations were not correct due to inappropriate scaling of the instrument after maintenance of the pH meters and requests for the two results to be removed from the dataset used to calculate the summer ammonia effluent limitations.

The City of Turlock also contends that Central Valley Water Board staff review the data used to calculate the winter ammonia effluent limitations. The City of Turlock provided both acute and chronic criteria that resulted from its calculations.

**RESPONSE:**

Central Valley Water Board staff reviewed both datasets used to calculate the ammonia effluent limitations for the City of Turlock Regional Water Quality Control Facility (City of Turlock RWQCF). Central Valley Water Board concurs that the two pH results noted by the City of Turlock were higher than previous or future dates and are not representative of typical facility pH levels. Central Valley Water Board staff removed the two pH values from the dataset and recalculated the summer ammonia effluent limitations for the City of Turlock Regional Water Quality Control Facility. Central Valley Water Board staff revised the ammonia (total as nitrogen) (1 April – 30 September) effluent limitations in Section IV.A.1, Table 4. Effluent Limitations – City of Turlock RWQCF as shown in part below and throughout the proposed Order as appropriate:

**Table 4 Effluent Limitations – City of Turlock RWQCF**

<b>Parameters</b>	<b>Units</b>	<b>Average Monthly</b>	<b>Average Weekly</b>	<b>Maximum Daily</b>
Ammonia (Total as Nitrogen) (1 April – 30 September)	mg/L	1.6	2.8	--

Central Valley Water Boards staff also modified Attachment H – Table H-3 as for Ammonia Nitrogen, Total (as N) (1 April – 30 September) as bulleted below:

- the CMC criteria was revised from 2.9 mg/L to 3.2 mg/L,
- the LTA<sub>acute</sub> was revised from 0.9 mg/L to 1.0 mg/L,
- the AMEL from 1.5 mg/L to 1.6 mg/L, and
- the AWEL from 2.5 mg/L to 2.8 mg/L.

Central Valley Water Board staff reviewed both the City of Turlock’s comments and calculated winter criteria (included in the City of Turlock’s comment) and noted the City of Turlock used the daily average pH to calculate the acute criteria. Central Valley Water Board staff use the maximum daily pH for the calculations because the acute ammonia criteria is based on a one-hour average, not a daily average. Therefore, the Central Valley Water Board staff does not concur that a change is needed for the City of Turlock Regional Water Quality Control Facility winter ammonia effluent limitations.

**3. Electrical Conductivity Sample Type**

The City of Turlock requested that the influent sample type in Attachment E – Monitoring and Reporting Program, Table E-2. Influent Monitoring for Electrical Conductivity be changed from 24-hour composite to grab.

**RESPONSE:**

Central Valley Water Board concurs and has changed the sample type in Attachment E – Monitoring and Reporting Program, Table E-2. Influent Monitoring as shown in part below:

**Table E-2. Influent Monitoring**

Parameter	Units	Sample Type	City of Turlock RWQCF Minimum Sampling Frequency	City of Modesto WQCF Minimum Sampling Frequency
Electrical Conductivity at 25°Celsius (Electrical Conductivity)	micromhos per centimeter (µmhos/cm)	Grab	1/Week	1/Week

**4. pH Effluent Sample**

The City of Turlock requested that the effluent sample type for pH be changed from grab to meter and the minimum sample frequency be changed from one per day to continuous.

**RESPONSE:** Central Valley Water Board concurs and has changed the sample type and the minimum sample frequency as requested in Attachment E – Monitoring and Reporting Program, Table E-3. Influent Monitoring as shown in part below:

**Table E-3. Effluent Monitoring – Monitoring Location EFF-001A**

Parameter	Units	Sample Type	Minimum Sampling Frequency
pH	Standard Units	Meter	Continuous

**5. Flow Monitoring at Monitoring Location EFF-002**

The City of Turlock contends that the flow monitoring of the combined effluent at Monitoring Location EFF-002 is not clear and, as is, appears to only require the reporting of the monthly arithmetic mean flow at EFF-002.

**RESPONSE:**

Central Valley Water Board concurs and has revised Attachment E – Monitoring and Reporting Program, section IV.C.2.d to require both the monthly arithmetic mean flow and the total daily flow at Monitoring Location EFF-002 as shown below:

- d. **Flow.** The total daily flow and the monthly arithmetic mean flow discharged to the Delta-Mendota Canal shall be included in the monthly SMR.

## **6. Flow Monitoring in the Delta-Mendota Canal**

The City of Turlock contends that the Delta-Mendota Canal flow data required by the proposed Order are publicly available and requests for reporting requirement to be removed for the final Order.

### **RESPONSE:**

Central Valley Water Board staff consulted with DDW staff regarding the removal of the Delta-Mendota Canal flow data required by the proposed Order, and they concurred that it can be removed since it is publicly available information.

Therefore, the flow monitoring requirement in row 2 of Attachment E – Monitoring and Reporting Program, Table E-7 Receiving Water Monitoring and section VIII.A.2.c were removed.

## **7. NPDES Number**

The City of Turlock contends that the NPDES number referred in Attachment E – Monitoring and Reporting Program, section IX.B.a for the City of Turlock RWQCF is incorrect and requested for it to be corrected.

### **RESPONSE:**

Central Valley Water Board staff concurs and has revised the NPDES number referred in Attachment E – Monitoring and Reporting Program, section IX.B.a for the City of Turlock RWQCF from CA0079103 to CA0078948.

## **8. Turbidity Receiving Water Limitation Reference**

The City of Turlock contends that Attachment E – Monitoring and Reporting Program, section X.B.7.e incorrectly references section V.A.17.a-e of the Waste Discharge Requirements, instead of the correct section reference V.A.16.a-e.

### **RESPONSE:**

Central Valley Water Board Staff concur and have revised Attachment E – Monitoring and Reporting Program, section X.B.7.e to correctly reference section V.A.16.a-e in place of the previously incorrect reference of V.A.17.a-e.

## **9. Dichlorobromomethane Dilution Credit**

The City of Turlock contends that the dichlorobromomethane human health dilution credit is 97:1, not 79:1 as discussed in Attachment F – Fact Sheet, section IV.C.3.b.iv.(c) WQBELs.

### **RESPONSE:**

Central Valley Water Board Staff concur and have revised the first sentence of Attachment F – Fact Sheet, section IV.C.3.b.iv.(c) WQBELs to include the correct dilution credit of 97:1.



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## DEL PUERTO WATER DISTRICT COMMENTS

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### 1. Far-Field Dilution Study

Del Puerto Water District contends that the Far-Field Dilution Study is not well defined and the 2015 *Antidegradation Analysis for Proposed Recycled Water Discharge to the Delta-Mendota Canal* previously included a near and far-field analysis.

#### RESPONSE:

Please see response to comment 1 for the City of Modesto Comments.

### 2. Constituents of Emerging Concern (CEC) Study

Del Puerto Water District contends that the CEC Study is not well defined and CEC monitoring is being performed by the Delta Regional Monitoring Program.

#### RESPONSE:

Please see response to comment 2 for the City of Modesto Comments.

### 3. Reporting Requirements (Table E-11)

Del Puerto Water District contends that the annual reporting requirements are not well defined and will not provide a complete water balance because there are additional diversions by other agencies from the canal.

#### RESPONSE:

Please see response to comment 7 for the City of Modesto Comments.

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## STATE WATER CONTRACTORS (SWC) COMMENT

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### 1. Surface Water Reopener Provision

The State Water Contractors request that the Reopener Provision be broadened to include a Division of Drinking Water determination that if the discharge falls under Direct Potable Reuse or Indirect Potable Reuse, that the permit be reopened and modified accordingly.

#### RESPONSE:

Central Valley Water Board Staff concur and have revised the Surface Water Augmentation Project reopener in section VI.C.1.k of the proposed Order as shown below and Attachment F – Fact Sheet, section VI.B.1.i accordingly.

- k. **Surface Water Augmentation Project.** On 30 March 2022, the State Water Board, Division of Drinking Water (DDW) staff provided a letter of recommendations regarding the North Valley Regional Recycled Water Program (March 2022 DDW Letter). In the March 2022 DDW Letter, DDW staff found that the North Valley Regional Recycled Water Program (NVRWP) does not fall under the definition of Surface Water Source Augmentation Project and is therefore not subject to the applicable regulations. The March 2022

DDW Letter also recommended a provision to reopen this Order should the monitoring data indicate a revision to DDW's determination is appropriate. Therefore, this Order shall be reopened should the monitoring data indicate DDW's determination that this is not a surface water augmentation project is no longer appropriate or if DDW determines that this project is applicable under either current Indirect Potable Reuse or future Direct Potable Reuse raw water augmentation regulations.