

1.¹ **Finding II.B., and Sections IV.D., VI.C.1.i. and VI.C.2.c., Title 22 Engineering Report and Reclamation Specifications, Pages 2, 14, 23, and 25.**

The City of Turlock (“City”) submitted a Title 22 Engineering Report to the California Department of Public Health (“DPH”), formerly the Department of Health Services, in September 2006 for the provision of tertiary-treated recycled water to the Walnut Energy Center Power Plant, owned by the Turlock Irrigation District, and the Pedretti Sports Complex. DPH approved the Title 22 Engineering Report on November 7, 2006. After receiving notification of DPH’s approval of the City’s Title 22 Engineering Report, the Regional Water Board elected not to issue Water Reclamation Requirements (“WRRs”) for these recycled water uses in accordance with discretion afforded under Water Code section 13523(a).

Finding II.B. of the Tentative Order states that the City currently provides 2.0 MGD of recycled water for cooling purposes to the Walnut Energy Center Power Plant. The Finding is an incomplete description of recycled water use, as the City also has approval to provide recycled water to the Pedretti Sports Complex for irrigation purposes. The City requests that Finding II.B. be revised to include the additional recycled water user.

Sections VI.C.1.i. and VI.C.2.c., both entitled, “Title 22 Engineering Report,” requires the City to prepare a Title 22 Engineering Report in accordance with DPH’s March 2001 Guidelines that reflects the City’s current reclamation uses and operations. These two duplicative sections should be removed from the Tentative Order, as the City has already prepared a Title 22 Engineering Report for the two current recycled water uses, which was approved by DPH and the Regional Water Board. No changes to the recycled water uses have occurred; therefore, no basis exists for requiring the City to prepare an unnecessary, duplicative Title 22 Engineering Report.

Section IV.D. sets forth Reclamation Specifications, ostensibly for the Walnut Energy Center Power Plant referenced in Finding II.B. The City requests that these reclamation specifications be removed from the Tentative Order, and instead, be placed in WRRs separately issued and adopted by the Regional Water Board pursuant to Water Code section 13523, if appropriate. The recycled water uses to which the Reclamation Specifications apply do not involve discharges to waters of the United States; therefore, enforceable reclamation specifications should not be included within the terms of an NPDES permit, to which criminal, civil, and third-party enforcement provisions of the Clean Water Act apply. The Reclamation Specifications are being imposed pursuant to the California Porter-Cologne Water Quality Control Act. For this reason, the Reclamation Specifications, if at all necessary, are more appropriately placed in WRRs separately adopted pursuant to state law.

The City requests that Tentative Order Finding II.B. be revised, that Sections IV.D., VI.C.1.i., and VI.C.2.c. be removed, and that individual WRRs be issued for recycled water projects, as necessary, pursuant to Water Code section 13523.

¹ The City incorporates by reference herein prior comments made on earlier tentative versions of the City’s renewed NPDES Permit, including those submitted on November 21, 2008, January 9, 2009, and February 2, 2009.

2. Sections IV.A.1.h., fn. 1, IV.B.1.h., fn. 1, and VI.C.7.a., Compliance Schedules For Final Effluent Limitations for Electrical Conductivity, Pages 11, 13, 30-31.

The December 9, 2008 version of the Tentative Order contained final effluent limitations for electrical conductivity (“EC”) for Discharge Point Nos. 1 and 2. Footnotes to those final effluent limitations stated that compliance was required by July 28, 2022 (all water year types, except critically dry) or July 28, 2026 (for critically dry water years), in accordance with and pursuant to the Salt and Boron TMDL previously adopted by the Regional Board. *See* Dec. 9, 2008 Tentative Order at Sections IV.A.1.h., fn.1., and IV.B.1.h., fn.1. However, in Section VI.C.7.a. of the Tentative Order, the compliance schedule for final effluent limitations for EC was shortened to January 1, 2016.

The City submitted comments to the Regional Board on January 9, 2009 requesting that the compliance schedule in Section VI.C.7.a. be modified to July 28, 2022 (all water year types, except critically dry) or July 28, 2026 (for critically dry water years), so as to be consistent with the Salt and Boron TMDL, prior permitting action taken by the Regional Board for the City of Modesto (the only other municipal discharge assigned a WLA in the Salt and Boron TMDL), and the footnotes in Sections IV.A.1.h., fn.1., and IV.B.1.h., fn.1. The January 23, 2009 Revised Tentative Order did not modify the compliance schedule in Section VI.C.7.a. as requested, and instead, the footnotes at Sections IV.A.1.h., fn.1., and IV.B.1.h., fn.1, were modified to reflect the shorter compliance period of January 1, 2016.

In this version of the Tentative Order, the shorter compliance schedule was retained, but inconsistently referenced as January 1, 2016 (in footnotes 1 in Sections IV.A.1.h.) and October 1, 2017 (in VI.C.7.a.). Correspondence between the City and Regional Water Based staff revealed that the initial compliance schedule period was shortened from the schedule in the Salt and Boron TMDL in an effort to encourage the City to take near term, pro-active steps towards reducing salinity discharges. The City shared its concerns that the shortened compliance schedule would not allow for an orderly phased approach to reducing salinity discharges, as contemplated by the TMDL, commencing with source control, and concluding with potential installation of reverse osmosis/micro-filtration technology (the least preferred option, environmentally and economically), should source control efforts not achieve sufficient reductions to ensure compliance. The City also shared its commitment to commencing near term source control efforts, and willingness to agree to an NPDES permit that contained more robust interim source control deadlines if the final compliance schedule is extended to the 2022/2026 dates set by the Salt and Boron TMDL.

While the compliance schedule set forth in Section VI.C.7.a., fn. 3, does reference the potential opportunity to extend the initial compliance period, no guarantee of extension exists, so the City must proceed as if October 1, 2017 is the final compliance date. Not enough time exists between permit adoption and conclusion of the October 1, 2017 compliance period to meaningfully implement and evaluate source control efforts (approximately 3-5 years), and subsequently address further reduction via increased treatment processes, if necessary (*i.e.*, the approval, design, construction, and start-up of MF/RO, that could take 7-8 years, assuming a disposal method for the produced brine can be developed and approved, and additional energy supply identified). As such, the City would need to immediately start investigating and implementing costly and environmentally questionable treatment upgrades that may be

unnecessary should source control efforts succeed.

The City requests that the compliance schedule in Section VI.C.7.a. be extended to July 28, 2022 (all water year types, except critically dry) or July 28, 2026 (for critically dry water years), but that a more robust schedule of interim deadlines be included in the final Order, to provide the Regional Water Board and the public with assurance that the City is undertaking timely and necessary source control steps towards reducing salinity discharges so as to comply with the assigned WLA. If source control efforts are successful, the City will achieve compliance earlier than the compliance schedule deadline, but if additional controls are necessary, the longer compliance period will provide the City time to implement those additional complex controls.

The City proposes the following interim source control deadlines to include in Section VI.C.7.a., and that Section VI.C.7.a. be revised as follows:

“7. Compliance Schedules

a. Compliance Schedule for Final Effluent Limitations for Electrical Conductivity.

The Discharger shall comply with the following time schedule to ensure compliance with the final effluent limitations for electrical conductivity (Effluent Limitations IV.A.1.h and IV.B.1.h), in accordance with the Salinity and Boron TMDL:

<u>Task</u>	<u>Compliance Date</u>
i. Submit Source Control Workplan Source control efforts must be implemented timely so that evaluation of effectiveness can occur no later than 1 January 2015.	1 June 2010
ii. Submit Treatment or Alternative Salinity Reduction Method Workplan This workplan will detail any necessary additional efforts (increased treatment or alternative methods of salinity reduction) the City must undertake to ensure compliance if source control efforts are not successful in meeting final effluent limitations.	1 June 2015
iii. Continue Implementation of Salinity Source Control Program ²	Ongoing
iv. Annual Progress Reports ³	1 June, annually until

² See section VI.C.3.a.

	final compliance
v. Full Compliance with Final Electrical Conductivity Limitations	28 July 2022 ⁴ or 28 July 2026 ⁵ ”

³ The progress reports shall detail what steps have been implemented towards achieving compliance with waste discharge requirements, including studies, construction progress, evaluation of measures implemented, and recommendations for additional measures as necessary to achieve full compliance by the final date.

⁴ For all water year types, except critically dry.

⁵ For critically dry years, full compliance not required until 28 July 2026.”

Please note that the footnotes at Sections IV.A.1.h., fn.1., and IV.B.1.h., fn.1., of the Revised Tentative Order will need to be modified to reflect the prior provided compliance dates of July 28, 2022 and July 28, 2026.

3. **Section IV.B.1.i., Final Effluent Limitations for Boron at Discharge Point No. 2, page 13.**

The Tentative Order includes final effluent limitations for boron at Discharge Point No. 2 based on the Basin Plan’s numeric water quality objectives for the San Joaquin River, mouth of Merced River to Vernalis, and a finding of reasonable potential based solely on the ambient concentration of boron in the San Joaquin River. The Regional Water Board staff acknowledge that the approved TMDL for Salt and Boron in the Lower San Joaquin River already addressed boron levels in the San Joaquin River as well as the City’s relative contribution, and that the City was not assigned a WLA due to the City’s extremely nominal contribution of boron, and the expectation that activities necessary to reduce electrical conductivity will also result in reduction of boron. *See* Fact Sheet at F-45 and F-46. Nonetheless, the Regional Water Board imposed final effluent limitations for boron, thereby circumventing the outcome of the TMDL process. This action is unreasonable pursuant to Water Code section 13000, and undermines the credibility of the TMDL process. The TMDL is the regulatory mechanism that governs the appropriate permit requirements for the City’s discharge, as it pertains to EC and boron, and should be adhered to in the Tentative Order. **The City requests that the final effluent limitations for boron at Discharge Point No. 2 be removed from the Tentative Order.**

4. **Section VII., Compliance Determination - Annual Average Calculation, page 32.**

The Tentative Order does not specify a method for calculation of compliance with annual average effluent limitations. Because sampling of certain constituents may not be performed on a consistent schedule (*i.e.*, one month may have four samples and another month may have one sample), to avoid bias all values in a calendar year should not be averaged together. Typically, the City would verify a high value with an additional sample collected when the initial results are available from the first sample. Averaging all values together would tend to bias the annual

average high. **The City requests that the following clarification be provided for calculation of annual averages in the Compliance Determination section of the Tentative Order:**

H. Annual Average Calculation. Annual averages for iron, manganese, aluminum, and salinity effluent concentrations shall be performed as the average value of each averaging period as specified in the Monitoring and Reporting Program. For example, effluent monitoring for iron is required quarterly. The annual average for this constituent would be the average of the four quarterly averages. Each quarterly average would be the average of the verified results in that calendar quarter.

5. Section IV.B.1.a., Table 7, Fact Sheet Section IV.C.2.ii. and Tables F-14, F-17, and F-20, Dilution Factor Used for Calculation of Human Health Based Effluent Limitations at Discharge Point No. 2, pages 12 and F-35.

Regional Water Board staff used a dilution factor of 19 for the calculation of final effluent limitations for Discharge Point No. 2 based on a harmonic mean *upstream* (at Newman) flow of 398 mgd and the maximum permitted discharge capacity of 20 mgd. According to the State Implementation Plan (“SIP”), the dilution factor (“D”) is the available upstream dilution, in this case 19.9. **The City requests that a dilution factor of 19.9 be used that considers all available harmonic dilution in accordance with the SIP.**

If the City’s request is granted, the final effluent limitations for Discharge Point No. 2 would be as follows:

Dichlorobromomethane	
	Human Health
Criteria (µg/L)	0.56
Dilution Credit (D)	19.9:1
ECA	10.7
AMEL (µg/L)	10.7
MDEL/AMEL Multiplier	1.45
MDEL (µg/L)	15.5

Chlorodibromomethane	
	Human Health
Criteria (µg/L)	0.41
Dilution Credit (D)	19.9:1
ECA	7.6
AMEL (µg/L)	7.6
MDEL/AMEL Multiplier	1.91
MDEL (µg/L)	14.5

Carbon Tetrachloride	
	Human Health
Criteria (µg/L)	0.25
Dilution Credit (D)	19.9:1
ECA	4.2
AMEL (µg/L)	4.2
MDEL/AMEL Multiplier	2.87
MDEL (µg/L)	12.1

6. **Section IV.B.1.a., Table 7, Fact Sheet Section IV.C.2.ii., Calculation of Effluent Limitations for Nitrate at Discharge Point No. 2, pages 12 and F-35.**

The final effluent limitation for nitrate calculated by Regional Water Board staff implements a performance-based calculation that is more protective than allowing the 400 m nitrate mixing zone justified by the City’s previously submitted study. The final effluent limitation was calculated before some of the City’s data for 2009 was available. In 2009, there was one nitrate effluent concentration occurrence (31 mg/L) that exceeded the previously calculated performance-based effluent limitation. This maximum value is also higher than the average plus 3.3 times the standard deviation (15.9 mg/L plus 3.3 times 3.68 mg/L equals 28 mg/L, for data between 8/3/2006 and 7/8/2009). Based on the June 2008 mixing zone model output submitted to the Regional Board, a 29.7 m long, 0.57 m deep and 3.66 m wide mixing zone would be required so that the dilution (D) is sufficient to result in an achievable final effluent limitation. The Tentative Order requires that these modeled mixing zones be field verified during the permit term. **The City requests that the allowable mixing zone be modified and the final effluent limitation for nitrate be increased to 31 mg/L.**

7. **Section IV.B.1.a., Table 7, Table F.24, and Fact Sheet Section IV.C.3.cc., Addition of Final Effluent Limitations for Silver at Discharge Point No. 2, pages 12, F-65, and F-74.**

Regional Water Board staff reassessed reasonable potential and identified silver and lead as new effluent limitations for the City’s proposed discharge to the San Joaquin River. The Regional Water Board staff’s calculation considers worst case hardness conditions in the San Joaquin River and the effluent, along with the “concave-up” criteria vs. hardness curve. The basis for silver reasonable potential was an effluent concentration exceedance (2.6 µg/L) of the calculated criteria (2.3µg/L). The historic reporting limit for this constituent (2.0 g/L) is near to the newly calculated criteria and essentially any analytical error around this reporting limit exceeds the criteria and resulting effluent limitations. Although the laboratory quality assurance data do not indicate any analytical errors causing the detected concentrations, it is possible that detected values are false positives, contamination, or related to “contamination” of treatment additives. There are no known sources of silver in the influent, and the limited silver influent concentration data are similar to the effluent concentration data. Because the final effluent limitation for silver applies in May 2010 (though more time for compliance activities is provided in the separate Time Schedule Order), there is insufficient time for the City to confirm the effluent quality characterization results prior to the final effluent limitation becoming effective.

The City requests that the final effluent limitations for silver at Discharge Point No. 2 be removed from the Tentative Order, and instead, pursuant to Section 1.2 of the SIP, the Regional Water Board include a special provision requiring the City to conduct additional effluent and receiving water quality characterization prior to the initiation of direct discharge to the San Joaquin River via Discharge Point No. 2, and if reasonable potential exists at that time, reopen the NPDES permit to include effluent limitations for silver. The City proposes the following language:

“Silver Detection Limit Study – This Order may be re-opened based on a reassessment of reasonable potential for silver at Discharge Point No. 2. Data collected to date in the effluent and the San Joaquin River have reporting limits near the hardness based silver criteria. Following approval of a study that adequately characterizes the effluent and San Joaquin River concentrations using a sufficient number of data points with sufficiently low analytical reporting limits ($\leq 0.5 \mu\text{g/L}$) for a minimum of one year, and prior to discharge via Discharge Point No. 2, reasonable potential will be more accurately evaluated.”