



CVCWA Central Valley Clean Water Association

Representing Over Sixty Wastewater Agencies

STEVE HOGG – CHAIR, FRESNO
JEFF WILLETT – SECRETARY, STOCKTON

MICHAEL RIDDELL – VICE CHAIR, CERES
ED CROUSE – TREASURER, RANCHO MURIETA CSD

May 5, 2011

Submitted Via Electronic Mail

Greg Cash
Regional Water Quality Control Board
Central Valley Region
415 Knollcrest Drive, Suite 100
Redding, CA 96002
gdcash@waterboards.ca.gov

Re: Comments on the Tentative Waste Discharge Requirements and Time Schedule Order for the City of Willows, Willows Wastewater Treatment Plant

Dear Mr. Cash:

The Central Valley Clean Water Association (CVCWA) appreciates the opportunity to submit these comments on the tentative waste discharge requirements (Tentative Order) for the City of Willows' (City) Willows Wastewater Treatment Plant and associated tentative time schedule order (Tentative TSO). CVCWA is a non-profit organization that represents more than 50 publicly owned treatment works throughout the Central Valley Region in regulatory matters affecting surface water discharge and land application. We approach these matters with a perspective to balance environmental and economic interests consistent with the law.

CVCWA is concerned with the Tentative Order's application of the State Sources of Drinking Water Policy (Resolution No. 88-63); expression of turbidity requirements as final effluent limitations; and calculation of final effluent limitations for ammonia. For the reasons provided below, we request that the Tentative Order be revised to:

- (1) Reflect that the agricultural drains to which the City discharges are not designated for the municipal and domestic supply (MUN) use, including revising or deleting any water

quality-based effluent limitations (WQBELs) based on the MUN designation and corresponding modification or withdrawal of the Tentative TSO;

- (2) Specify operational requirements for turbidity in lieu of turbidity effluent limitations if they are deemed appropriate; and
- (3) Replace the final concentration-based effluent limitations for ammonia and related provisions consistent with the attached technical memorandum (Attachment 1).

We look forward to continuing to work with the Central Valley Regional Water Quality Control Board (Regional Water Board) and its staff regarding the applicability of Resolution No. 88-63 in the context of agricultural drains. Notwithstanding our comments below, we also request that the Regional Water Board direct its staff to begin the process for amending the water quality control plan for the Sacramento and San Joaquin River Basins (Basin Plan) to ensure that Resolution No. 88-63's exception for agricultural drains is self-implementing.

A. The Tentative Order Improperly Applies Resolution No. 88-63 to the Agricultural Drains

The Tentative Order represents a new interpretation of the beneficial uses of the receiving waters, resulting in application of the MUN designation *under Resolution No. 88-63 for the first time* to the agricultural drain to which the City discharges. (Tentative Order at p. F-14.) The Tentative Order recognizes that Resolution No. 88-63 exempts from the MUN designation water in systems designed or modified to convey or hold agricultural drainage waters. (*Id.* at pp. 8, F-14.) However, the Tentative Order incorrectly concludes that the Regional Water Board must amend the Basin Plan to grant the exception in this case. (*Ibid.*) As a result, the Tentative Order inappropriately includes WQBELs not in the previous permit to protect a nonexistent MUN use. (*Id.* at p. F-14.) Because the City cannot immediately comply with these WQBELs for dibromochloromethane, dichlorobomomethane and nitrate, the Tentative TSO is also being proposed. (*Id.* at pp. F-29, F-30; see Tentative TSO at p. 2.)

As subsequently explained, the exceptions to Resolution No. 88-63 are self-implementing. The Regional Water Board need only find that the exception for agricultural drainage applies in order to exclude requirements in the Tentative Order related to the MUN designation.

1. Resolution No. 88-63 Exempts the Agricultural Drains to Which the City Discharges from the Generally Applicable MUN Designation

Resolution No. 88-63 provides that all surface waters and groundwater are suitable or potentially suitable for the MUN use and the Regional Water Boards should designate them as such with certain exceptions. (Resolution No. 88-63 at p. 1.) One such exception is where:

The water is in systems designed or modified for the primary purpose of conveying or holding agricultural drainage waters, provided that the discharge from such systems is monitored to assure compliance with all relevant water quality objectives as required by the Regional Boards. (*Id.* at p. 2.)

Therefore, waters that meet the exception for agricultural drainage are not part of the class of surface waters or groundwater subject to a MUN designation. The agricultural drains to which the City discharges qualify for the exception to the blanket designation of MUN to surface waters.

2. The Basin Plan Requires Case-By-Case Consideration of Beneficial Uses and Incorporates Resolution No. 88-63's Exceptions to MUN Designations

The Beneficial Uses chapter of the Basin Plan recognizes that it is impractical to list the beneficial uses of every surface water body in the region. (Basin Plan at p. II-2.00.) As a result, the Basin Plan states: "For unidentified water bodies, the beneficial uses will be evaluated on a case-by-case basis." (*Ibid.*) In addition, the chapter incorporates Resolution No. 88-63 into the Basin Plan: "Water Bodies within the basins that do not have beneficial uses designated in Table II-1 are assigned MUN designations *in accordance with* the provisions of State Water Board Resolution No. 88-63 which is, by reference, a part of this Basin Plan." (*Id.* at p. II-2.01, emphasis added.) Moreover, the Basin Plan reads: "In making any exemptions to the beneficial use designation of MUN, *the Regional Board will apply the exceptions* listed in Resolution 88-63." (*Ibid.*, emphasis added.)

The Basin Plan does not specifically designate beneficial uses for the agricultural drains to which the City discharges. (Tentative Order at p. 8; see Basin Plan at pp. II-5.00 to II-8.00.) Therefore, the Basin Plan directs the Regional Water Board to consider the agricultural drains' beneficial uses on a case-by-case basis. (Basin Plan at p. II-2.00.) In so doing, the Basin Plan requires that the Regional Water Board designate unidentified water bodies as MUN "in accordance with" Resolution No. 88-63, which includes the self-implementing exception at issue. (*Id.* at p. II-2.01.) The Basin Plan incorporates Resolution No. 88-63 without qualification, and Resolution No. 88-63 directs Regional Water Boards not to apply the MUN designation to certain agricultural drains. Therefore, the plain language of the Basin Plan requires the Regional Water Board to apply Resolution No. 88-63's exception for waters in an agricultural drain in this case absent a Basin Plan amendment.

B. The Turbidity Requirements Should Be Expressed as Operational Specifications Rather Than Effluent Limitations

The Tentative Order includes a maximum daily final effluent limitation of 5 nephelometric turbidity units (NTU) and daily average final effluent limitation of 2 NTU for turbidity. (Tentative Order at p. 14.) CVCWA is concerned that the Tentative Order provides no basis for these

effluent limitations. Since there is no discussion of the basis for turbidity limits in the Tentative Order, CVCWA requests the removal of these effluent limitations. If the Board finds sufficient basis for turbidity requirements and document the basis, then CVCWA request that the specification of the turbidity requirements be included in the "Construction, Operation and Maintenance Specification" section of the "Special Provisions" section of the Tentative Order. In accordance with the State Water Board's Stockton Order,¹ turbidity requirements in waste discharge permits are properly intended as a check on treatment plant performance (i.e., turbidity operational requirements) rather than WQBELs. (Stockton Order at p. 8.) Further, National Pollutant Discharge Elimination System permits recently issued by the Regional Water Board specify such turbidity operational requirements under the heading "Construction, Operation and Maintenance Specification" of "Special Provisions." (See e.g., Order No. R5-2010-0099 (Galt) at p. 30; Order No. R5-2010-0092 (Placer County) Provision C.4.a. at p. 26.)

C. The Final Effluent Limitations for Ammonia Were Calculated in Error and Must be Revised

The Tentative Order expresses final concentration-based effluent limitations for ammonia for Agricultural Drain C and GCID Lateral 26-2 that are inappropriately low as a result of errors in calculating the limitations. (See Tentative Order at p. 14; Attachment 1.) In addition to the issues resulting from these errors, the Tentative Order does not clearly explain how the criteria that were used to calculate the effluent limits were derived (the pH and temperature used to derive the criteria found in Tables F-6 to F-9 and in Attachment G are not listed anywhere and these criteria do not match the criterion of 2.14 mg/L listed in the Fact Sheet on page F-22). The Tentative Order includes a maximum daily effluent limitation (MDEL) for ammonia of 0.86 mg/L and an average monthly effluent limitation (AMEL) of 0.43 mg/L. Assuming that the criteria on which these limitations were based were derived using applicable pH and temperature values, these limitations should be corrected to 1.27 mg/L (MDEL) and 0.63 mg/L (AMEL) as explained in more detail in the attached technical memorandum. (See Attachment 1 at pp. 2-3.)

¹ *In the Matter of the Petitions of City of Stockton, et al.*, Order WQ 2009-0012 (Oct. 6, 2009).

Thank you for considering our comments and requests for changes to the Tentative Order and revision or withdrawal of the Tentative TSO. If you have any questions or we can be of further assistance, please contact me at (530) 268-1338.

Sincerely,



Debbie Webster
Executive Officer

cc: Greg Tyhurst, City of Willows
Pamela Creedon, Regional Water Board

ATTACHMENT 1



Memorandum

DATE: April 21, 2011

TO: Debbie Webster

COPY TO: Betsy Elzufon

Airy Krich-Brinton

707 4th Street, Suite 200
Davis, CA 95616
530.753.6400 x226
530.753.7030 fax
airyk@LWA.com

SUBJECT: **Ammonia Effluent Limits Calculation for the City of Willows**

Introduction

The Central Valley Regional Water Quality Control Board (Regional Water Board) has issued a Tentative Order (No. R5-2011-XXXX, NPDES permit No. CA0078034) for the City of Willows Wastewater Treatment Plant (WWTP) containing water quality based effluent limits (WQBELs) for ammonia. This memorandum presents the errors contained within the WQBELs calculation and the corrected WQBELs.

Fact Sheet Background Information

A discussion of the ammonia water quality criteria, reasonable potential analysis (RPA), and effluent limits calculations can be found on page F-22 of the Tentative Order Fact Sheet.

The section describing the water quality criteria states that an acute criterion of 2.14 mg/L was calculated from the permitted pH of 8.5. However, the RPA (shown in Attachment G) uses a criteria of 0.52 mg/L and WQBELs calculation shown in Tables F-6-F-9 use acute criteria ranging from 2.7 to 6.1 mg/L. 2.14 does not appear to have been used anywhere.

The section describing the RPA on p. F-23 does not provide the water quality criterion that was compared with the maximum effluent concentration to determine whether there is reasonable potential. A criterion of 0.52 mg/L is shown in Attachment G but the pH used to calculate this is

not presented or explained. The maximum effluent concentration of 1.05 mg/L, described in this section, does not exceed the acute criterion of 2.14 mg/L described in the previous section on p F-23.

The section describing the effluent limits calculations states that “the LTA corresponding to the 30-day CCC was calculated assuming a 30-day averaging period”; however, the subsequent tables F-6 through F-9 incorporate the 30-day averaging period into the 4-day CCC calculation, substituting the 4-day averaging period into the 30-day CCC calculation (the denominators 4 and 30 were switched). This error should be corrected in Tables F-6 through F-9.

Correction of Fact Sheet WQBELs Calculations

The corrected tables F-6 through F-9 are shown below. The ECA multipliers were calculated using a 4-day averaging period for the 4-day CCC and a 30-day averaging period for the 30-day CCC, as described on page F-23 of the Fact Sheet.

Table F-6. WQBEL Calculations for Ammonia – Ag Drain C – May-October

	Acute	Chronic 4-day	Chronic 30-day
Criteria (µg/L) (mg/L)	5.403	2.689	1.075
Dilution Credit	No Dilution		
ECA	5.403	2.689	1.075
ECA Multiplier		0.780	0.527
		0.321	0.780
LTA		2.10	0.57
	1.73	1.42	0.84
AMEL Multiplier (95 th %)			1.55
AMEL (µg/L) (mg/L)			0.88
			1.30
MDEL Multiplier (99 th %)			3.11
MDEL (µg/L) (mg/L)			1.76
			2.61

Table F-7. WQBEL Calculations for Ammonia – GCID – May-October

	Acute	Chronic 4-day	Chronic 30-day
Criteria (µg/L) (mg/L)	1.945	1.308	0.523
Dilution Credit	No Dilution		
ECA	1.945	1.308	0.523
		0.780	0.527
ECA Multiplier	0.321	0.527	0.780
		1.02	0.28
LTA	0.62	0.69	0.41
AMEL Multiplier (95 th %)			1.55
			0.43
AMEL (µg/L) (mg/L)			0.63
MDEL Multiplier (99 th %)			3.11
			0.86
MDEL (µg/L) (mg/L)			1.27

Table F-8. WQBEL Calculations for Ammonia – Ag Drain C – November-April

	Acute	Chronic 4-day	Chronic 30-day
Criteria (µg/L) (mg/L)	6.070	2.959	1.184
Dilution Credit	No Dilution		
ECA	6.070	2.959	1.184
		0.780	0.527
ECA Multiplier	0.321	0.527	0.780
		2.31	0.62
LTA	1.95	1.56	0.92
AMEL Multiplier (95 th %)			1.55
			0.97
AMEL (µg/L) (mg/L)			1.43
MDEL Multiplier (99 th %)			3.11
			1.94
MDEL (µg/L) (mg/L)			2.88

Table F-9. WQBEL Calculations for Ammonia – Ag Drain C – November-April

	Acute	Chronic 4-day	Chronic 30-day
Criteria (µg/L) (mg/L)	2.968	1.602	0.641
Dilution Credit	No Dilution		
ECA	2.968	1.602	0.641
		0.780	0.527
ECA Multiplier	0.321	0.527	0.780
		1.25	0.34
LTA	0.95	0.84	0.50
AMEL Multiplier (95 th %)			1.55
			0.52
AMEL (µg/L) (mg/L)			0.78
MDEL Multiplier (99 th %)			3.11
			1.05
MDEL (µg/L) (mg/L)			1.56