

**Central Valley Regional Water Quality Control Board  
16/17 April 2015 Board Meeting**

**Response to Written Comments on  
Supplemental Notice Concerning Ammonia Effluent Limits in Waste Discharge  
Requirements for  
City of Turlock Regional Water Quality Control Facility  
NPDES Permit Renewal (NPDES No. CA0078948)  
Stanislaus County**

**ITEM # 25**

At a public hearing scheduled for 16/17 April 2015, the Regional Water Quality Control Board, Central Valley Region (Central Valley Water Board) will consider adoption of tentative Waste Discharge Requirements (NPDES No. CA0078948) for the City of Turlock Regional Water Quality Control Facility. A Supplemental Notice was issued by the Central Valley Water Board on 3 March 2015 concerning revisions to the water quality-based effluent limitations for ammonia in the Tentative Order.

The United States Environmental Protection Agency (USEPA) recently published national recommended water quality criteria for the protection of aquatic life from the toxic effects of ammonia in freshwater (the "2013 Recommended Criteria"). The 2013 Recommended Criteria is an update to USEPA's 1999 recommended water quality criteria for ammonia (the "1999 Criteria"). Although the 2013 Recommended Criteria reflects the latest scientific knowledge on the toxicity of ammonia to certain freshwater aquatic life, including new toxicity data on sensitive freshwater mussels in the Family Unionidae, the species tested for development of the 2013 Recommended Criteria may not be present in some Central Valley waterways. The 2013 Recommended Criteria document provides that, "*In the case of ammonia, where a state demonstrates that mussels are not present on a site-specific basis, the recalculation procedure may be used to remove the mussel species from the national criteria dataset to better represent the species present at the site.*" Studies are currently underway to determine how the latest scientific knowledge on the toxicity of ammonia reflected in the 2013 Recommended Criteria can be implemented in the Central Valley Region as part of a Basin Planning effort to adopt nutrient and ammonia objectives.

This document contains responses to written comments received from interested parties in response to the Supplemental Notice. Written comments from interested parties were required to be received by the Central Valley Water Board by 2 April 2015 in order to receive full consideration. Comments were received before the deadline from:

1. City of Turlock (received 31 March 2015)

Written comments from the above interested parties are summarized below, followed by the response of Central Valley Water Board staff.

### **City of Turlock (Discharger)**

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#### **Comment No. 1. Seasonal Ammonia Effluent Limitations in Waste Discharge Requirements.**

The Discharger has requested that the ammonia effluent limitations in the Supplemental Notice be revised to seasonal effluent limitations, which are protective of beneficial uses while also more accurately reflecting actual conditions in the receiving water.

**Response.** Central Valley Water Board staff concurs. The proposed agenda version of the permit includes seasonal effluent limitations for ammonia as shown in the table below.

Parameter	Units	Effluent Limitations		
		Average Monthly	Average Weekly	Maximum Daily
Ammonia Nitrogen, Total (as N) (16 April – 31 October)	mg/L	0.94	2.1	--
	lbs/day <sup>1</sup>	160	350	--
Ammonia Nitrogen, Total (as N) (1 November – 15 April)	mg/L	2.1	4.7	--
	lbs/day <sup>1</sup>	350	784	--

<sup>1</sup> Based on a design flow of 20 million gallons per day (MGD).

**Comment No. 2. Calculation of Average Monthly Effluent Limitation Multiplier for Ammonia.**

The Discharger requested that the average monthly effluent limitation (AMEL) multiplier and seasonal AMEL's for ammonia be recalculated to reflect a weekly sample collection frequency (n=4) as required in the Tentative Permit, rather than the thirty samples (n=30) assumed in the Central Valley Water Board's calculations. The AMEL's for ammonia in the proposed permit and the AMEL's for ammonia requested by the Discharger can be seen in the table below.

	Summer	Winter
	April 16 – October 31	November 1 – April 15
AMEL with n=4 (Discharger Calcs)	1.21 mg/L	2.69 mg/L
AMEL with n=30 (Board Staff Calcs)	0.94 mg/L	2.09 mg/L

**Response.** Central Valley Water Board staff does not concur. Calculations of the AMEL's for ammonia were conducted pursuant to methods recommended by USEPA as described in Section V.A of USEPA's *1999 Update of Ambient Water Quality Criteria for Ammonia* (1999 Update). While typically chronic aquatic life criteria are established as a 4-day average, the 1999 Update includes freshwater aquatic life chronic criteria (criteria continuous concentration or CCC) based on the 30-day averaging period. Due to the longer averaging period, USEPA recommends that the procedures for calculating NPDES permit limits should be modified from those described in its *Technical Support Document for Water Quality-based Toxics Control* (TSD), which uses a 4-day averaging period for calculating the chronic long term average (LTA<sub>C</sub>) from the Wasteload Allocation (WLA). The 1999 Update states that "Consistent with the guidance regarding the calculation of an AM[E]L using a 4-day CCC, the value of "n" (assumed monitoring frequency) used in the AM[E]L calculation should not be less than the averaging period upon which the criterion value is based". Therefore, when calculating an AMEL for ammonia based on a chronic 30-day average criterion the value of "n", or the assumed monitoring frequency, should be set no less than 30, the number of days in the averaging period.