

August 21, 2012

Ms. Jeanine Townsend  
Clerk to the Board  
State Water Resources Control Board  
1001 I Street  
Sacramento, CA 95814  
[commentletters@waterboards.ca.gov](mailto:commentletters@waterboards.ca.gov)

Re: Draft Policy for Toxicity Assessment and Control

Dear Ms. Townsend

The Western Plant Health Association (WPHA) appreciates the opportunity to comment upon the State Water Board's (Board) proposed Policy for Toxicity Assessment and Control (TAC). WPHA represents the interests of fertilizer and crop protection manufacturers, distributors, agricultural biotechnology providers, and agricultural retailers in California, Arizona and Hawaii.

**57.1** → WPHA is opposed to the adoption of TAC objectives for general application to ambient waters in California. In January, 2011, WPHA submitted comments pointing out the flaws in the approach and the likely consequences of a policy that presumes discharge waters are toxic unless demonstrated to be non-toxic. This approach inappropriately shifts the burden to dischargers for proving that the ambient water and discharges to the receiving water are not toxic versus proving that agricultural discharges are causing toxicity in the receiving water. As the latest draft of the policy is substantially unchanged from the previous draft, we refer the State Water Resources to our previous comments and provide the following supplementary comments to illustrate our concern with the Test of Significant Toxicity as the basis for determining compliance with water quality objectives.

**57.2** → WPHA believes that the Board's use of the null hypotheses relative to the proposed control strategy is not appropriate. The chronic toxicity objective is expressed as a null hypothesis and a regulatory management decision of 0.75 for chronic toxicity methods, where a 0.25 effect level (or more) at the instream waste concentration (IWC) demonstrates an unacceptable level of chronic toxicity. The acute toxicity objective is expressed as a null hypothesis and a regulatory management decision of 0.80 for acute toxicity methods, where a 0.20 effect level (or more) at the IWC demonstrates an unacceptable level of acute toxicity. In our previous comments we noted that the actual level of protection is much greater than that implied by the Regulatory Management Decision (RMD) criteria.

The State Water Resources Board *Policy for Toxicity Assessment and Control* has the following definition:

**Regulatory management decision (RMD)** is the decision that represents the maximum allowable error rates and thresholds for chronic and acute toxicity (and non-toxicity) that would result in an acceptable risk to aquatic life. Effects as large as the RMD should be permitted. The definition of the RMD and the expression of the null hypothesis state that chronic effect up to 25% and acute effects up to 20% are permitted.

The Test of Significant Toxicity (TST) approach, described in the policy, is discussed in detail in Denton et al. (2011) which shows that an effluent that is performing at the RMD level of producing a 25% effect has the probability of being declared toxic of between 0.8 and 0.95 depending on the alpha-level of the statistical test (Denton et al., 2011, Figure 3). This shows that a 25% effect is NOT allowed under this procedure. The degree to which the effective RMD is less than 25% depends on the variability of the data. At high levels of variability this procedure may require the effluent to perform better than the control to be assessed as nontoxic.

The effective RMD is not the same as coefficient of the mean response (control) as stated in the policy document. However, this coefficient can be fixed so that it is possible to achieve an acceptable risk of being declared toxic at the RMD. For example, for a CV = 0.1, changing the coefficient of mean response (control) from 0.75 to 0.6, gives a probability of being declared toxic that is less than 0.05. A reasonable effect RMD requires fixing the coefficient of mean response at a level that is achievable.

WPHA believes the requirement for Test of Significant Toxicity (TST) method as proposed will lead to a significant number of false positive test results (i.e., incorrectly identifying non-toxic samples as toxic). WPHA believes this is significant considering the fact that such toxicity test results will burden the agricultural communities with many different compliance requirements. Successive toxicity finding or results for irrigated agricultural entities in the Central Valley will require additional toxicity identification evaluations (TIE) and possibly a revised farm management plan.

WPHA thanks you for your consideration of our comments, and looks forward to continuing to work with the Water Board staff members. If you have any questions, please feel free to contact me.

Yours Sincerely,



Afiquir Khan, Ph.D.  
Director, Environmental & Regulatory Affairs

Reference:

Debra L. Denton, Jerry Diamond and Lei Zheng. 2011. Test of significant toxicity: A statistical application for assessing whether an effluent or site water is truly toxic. *Environmental Toxicology and Chemistry*. 30: 1117 – 1126.