



THE CITY OF SAN DIEGO



August 21, 2012

Electronic Submission: commentletters@waterboards.ca.gov

Jeanine Townsend, Clerk to the Board
State Water Resources Control Board
1001 I Street, 24th Floor
Sacramento, CA 95814

Subject: Comment Letter – Draft Policy for Toxicity Assessment and Control

Dear Ms. Townsend:

Thank you for the opportunity to comment on the State Water Resources Control Board's (State Board) Draft Policy for Toxicity Assessment and Control (Draft Policy). The City of San Diego, Transportation & Storm Water Department (The City) is committed to protecting and improving water quality in our region.

The City's position can be generally summarized as supporting the new draft Policy for Toxicity Assessment and Control and its improved approach to assess toxicity in effluents and receiving waters of the State using the Test of Significant Toxicity (TST) statistical approach with recognition of a few remaining areas of concern highlighted herein. Two primary outstanding concerns relate to the currently proposed method to establish Reasonable Potential to cause toxicity leading to numeric effluent limits in permits, and the recommendation to conduct chronic toxicity tests for stormwater samples.

- 1) The City feels strongly that the use of a 10% effect criteria outlined in the policy to establish Reasonable Potential is much too restrictive. There is no scientific justification for this value and given natural variability observed in toxicity tests it is highly unlikely that any sample will pass four rounds of 3-species tests without at least one not having a 10% difference from control. The TST is defensible and should suffice for this determination. Available historical data should also be considered for this determination. This over-restrictive policy will result in unjustifiable testing, mandating the City to allocate limited resources based on a single non-significant result.
- 2) Current chronic whole effluent toxicity test methods were developed for continuous point source dischargers, and not storm water events which are transient and dynamic in nature. Acute testing of storm water over a 96-hour period is conservative and more representative than a longer-term chronic test. Protection of the receiving water is the goal, thus receiving water sampling and testing is recommended over end-of-pipe monitoring. Chronic tests would be more applicable and acceptable for receiving water monitoring.



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One additional overall comment is that while the Draft Policy states that it aims to provide consistency in application of toxicity requirements across the State, Water Board discretion in application is mentioned several times, effectively circumventing and confusing this goal. These comments, along with others, are highlighted further in the attached table for reference.

If you have additional questions, please contact Ruth Kolb at (858) 541-4328 or at rkolb@sandiego.gov.

Sincerely,



Kris McFadden
Deputy Director

KM\rk

Attachment: City of San Diego Draft Ocean Plan Amendment Comment Table

cc: Almis Udrys, Deputy Director, Office of the Mayor
Garth K. Sturdevan, Director, Transportation & Storm Water Department
Ruth Kolb, Program Manager, Transportation & Storm Water Department

Section-Specific Comments:

#	Page	Section	Topic	Comments
1	3	Definitions	Regulatory Management Decision	Need to specify <i>for what</i> the “maximum allowable error rate” is intended; i.e., what, specifically, is the decision error rate supposed to control for or protect against?
2	6	Part III (A)(1)	Reasonable Potential Analysis – Time Frame	A specific time-frame is lacking for the four test events required to determine Reasonable Potential. Are they to be conducted over four months? Over a year? Please clarify.
3	7	Part III (A)(1)	Reasonable Potential Analysis – Determination Method	<p>To reiterate a comment submitted by The City in January 2011, the two-tier process for determining “Reasonable Potential” for toxicity is contradictory and unjustifiable. This comment was not responded to by the State Board from previous comments. A sample that has an 11 percent difference from the control and is classified as “Pass” according the TST statistical procedure, would be defined as a “Fail” under the 10 percent rule of the Reasonable Potential analysis, resulting in a numeric effluent limitation. In effect, the 10 percent difference from control becomes the <i>de facto</i> Reasonable Potential criteria without addressing statistical differences. The associated TST staff report (June 2012) when discussing average monthly effluent limits (AMELs), recognizes that the TST statistical result is the primary outcome of toxicological significance and the percent difference is of secondary importance when it states, “The percent effect that accompany this determination are secondary outputs that ignore the statistical aspects of the TST approach.” (Staff Report Section IV, Issue 2C(4)). A statistically insignificant 10% difference in response from a given control is common in toxicity tests given the inherent variability in biological responses. In no way should a single test with a 10% effect imply reasonable potential. It is unlikely that any discharge or receiving water sample will pass four rounds of 3-species chronic tests (12 tests total) without at least one not having a 10% difference from control due to natural variability alone. In fact, this 10% difference is half of the 20% effect on survival allowed in clean water controls</p>

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				for chronic fish and mysid tests per EPA test acceptability criteria (EPA 2002). The Draft Policy in effect establishes a third threshold which is both inappropriate and confusing when 0.20 (acute) and 0.25 (chronic) are considered numeric toxicity objectives (Part II Toxicity Objectives). Finally, the Policy fails to consider historic data for a determination of Reasonable Potential. In many cases a history of information is available and this data would be invaluable for the determination of future Reasonable Potential.
4	7	Part III (A)(2)	Expression of Numeric Effluent Limitations	The City appreciates the State Board's policy change in response to previous public comments by incorporating a two-tiered determination of violation using the statistical result of the TST analysis <u>and</u> percent effect relative to the control (i.e. $\geq 50\%$ chronic or $\geq 40\%$ acute for routine monitoring). In addition, the introduction of a second level evaluation including a median monthly effluent limitation (MMEL) for those tests with $< 50\%$ chronic response ($< 40\%$ for acute) is welcome. The City feels that this will help mitigate unnecessary allocation of limited resources in response to minor, low level differences that would have been considered a violation under the former draft policy. The City is committed to protecting and improving water quality in our region and wants to make the best use of its limited funds by focusing on those instances most likely to have a positive impact on the receiving environment.
5	7, 8	Part III (A)(1)	Reasonable Potential Analysis – Steps if Pass	As written the Draft Policy is unclear on what is required if Reasonable Potential for toxicity is not identified during the initial four tests of the RPA. Part III (A) (4) states that the applicable water board has the discretion to require NPDES and point source dischargers to conduct periodic chronic or acute toxicity in the absence of reasonable potential. Is re-screening required during each Permit re-opener every 5-years? Annually? Is any additional toxicity testing required? Please clarify.
6	8	Part III (A)(4)	Consistency of Application	To reiterate a previous comment submitted by The City in January 2011, the Draft Policy states that one of its main goals is to provide a level of consistency in toxicity testing requirements across the state, yet the policy also states that

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				each Regional Board has the discretion to require reasonable potential analysis for acute toxicity and may require either chronic or acute toxicity monitoring even in the absence of reasonable potential. These two statements are contradictory.
7	10	Part III (A)(6)(c)	Accelerated Monitoring	It is not entirely clear what the implications are during accelerated monitoring if the TST statistical procedure results in a “fail”, but the percent effect is less than 25% for chronic testing or 20% for acute testing.
8	10	Part III (A)(6)(c)	Accelerated Monitoring	It is unclear if the timeframe for completing accelerated monitoring has been shortened from 12 weeks to 8 weeks. The draft policy states 8 weeks, yet the associated staff report recommends 12 weeks (Section IV, Issue 2F(2)). If a shorter time frame is being proposed, no rationale is given for this change.
9	13	Part III (B)	Chronic toxicity testing for storm water	To reiterate a comment submitted by The City in January 2011, chronic toxicity testing should not be applied to storm water discharges during wet weather events as currently recommended. This was a prevailing comment among those received on the 2010 Draft Toxicity Policy. Again, exposing organisms for up to 8 days in a sample that would normally pass within several hours to a day, will undoubtedly lead to an overestimation of toxicity. The City recognizes that a transient storm with a short-term pulse can elicit a toxicological response in the discharge. A composite sample, as proposed by the Board Staff in response to comments (Jan 2011), will mitigate temporal transient spikes, but this method will in no way mimic a short-term storm water exposure in dynamic receiving waters. Current chronic whole effluent toxicity test methods were developed for continuous point source dischargers, not storm water events which are transient and dynamic in nature. To address the unique issues posed by storm water discharges, more representative sampling and testing methods should be considered (<i>For a more detailed explanation of this issue, see attached White Paper by Stransky et al., 2009</i>). Acute testing of storm water over a 96-hour period is conservative and more representative than a longer-term chronic test.

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				Protection of the receiving water is the goal, thus receiving water sampling and testing is recommended over end-of-pipe monitoring. Chronic tests would be more applicable and acceptable for receiving water monitoring, but not end of pipe samples.
10	17	Table 1 – Summary of alpha levels for toxicity test methods. Also applicable to Part II, page 5, Toxicity Objectives	Statistical Power	References to minimum and maximum significant difference criteria are recommended. These values can protect against tests that have high variability and little power to detect differences (potentially invalid), or those that have excessively low variability and the ability to detect a very small difference relative to control that may not be biologically significant (see the EPA 2000 WET Technical Support Document – EPA 833-R-00-003). The new TST approach and % effect criteria addresses these statistical power concerns, but the result (pass/fail) is less meaningful than quantifiable and acceptable measures of statistical power. Several, but not all EPA test methods already include percent minimum and maximum significant difference (PMSD) criteria for chronic endpoints. Suggested PMSDs for the test methods and endpoints listed in the Draft Policy are provided in the EPA 833-R-00-003.
11	20	Appendix C	Degrees of Freedom Formula	The degrees of freedom (15) resulting from the example formula does not match the 16 degrees of freedom in the following sentence. Confirm and revise as appropriate.
12	23	Appendix D	Flow Chart Edit	The bottom triangle “ <i>Do all 4 tests pass with % effect < 0%</i> ” is missing the 1. As stated, we feel this 10% effect level for Reasonable Potential is over conservative and inappropriate (see Comment # 3).