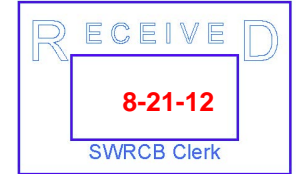


**DEPARTMENT OF TRANSPORTATION**  
DIVISION OF ENVIRONMENTAL ANALYSIS, MS 27  
1120 N STREET  
P. O. BOX 942874  
SACRAMENTO, CA 94274-0001  
PHONE (916) 653-4446  
FAX (916) 653-6366  
TTY (916) 653-4086



*Flex your power!  
Be energy efficient!*



August 21, 2012

Jeanine Townsend, Clerk to the Board  
State Water Resources Control Board  
P.O. Box 100, Sacramento, CA 95812-0100 (mailed)  
1001 I Street, 24th Floor, Sacramento, CA 95814 (hand-delivered)  
[commentletters@waterboards.ca.gov](mailto:commentletters@waterboards.ca.gov)

Subject: Comment Letter – Policy for Toxicity Assessment and Control

Dear Ms. Townsend:

The California Department of Transportation (Caltrans) appreciates this opportunity to provide comments on the Draft Policy for Toxicity Assessment and Control (Draft Policy) released June 2012, by the State Water Resources Control Board (State Board). The Draft Policy is intended to supersede the toxicity control provisions of the Policy for the Implementation of Toxic Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California (SIP) and all toxicity testing provisions in Regional Water Quality Control Plans (Basin Plans). We are concerned that the provisions may be applied to the Caltrans NPDES Permit at the discretion of the State Board.

Our comments are directed at the draft policy as it applies to stormwater and to Appendix E, which provides the technical guidance for toxicity testing of stormwater discharges. Regarding policy related issues, we support the policy-level comments provided by the California Stormwater Quality Association (CASQA). This includes supporting the following:

- The use of a narrative objective instead of a numeric objective to provide protection of aquatic health.
- Justifying the use of chronic toxicity testing for stormwater discharges.
- Removing stormwater from the toxicity policy and issuing Appendix E as a separate guidance document.

Regarding Appendix E, Caltrans has considerable experience with stormwater monitoring, and has been conducting such activities since 2001. To support and provide consistency in monitoring methods among the various Caltrans monitoring programs and projects, Caltrans prepared a Comprehensive Protocols Guidance Manual (Guidance Manual) that has provided consistency in monitoring protocols over time. The Guidance Manual includes specific toxicity monitoring protocols (Section 1.4). Based on this extensive in-the-field experience, Caltrans has a number of concerns with the stormwater-specific monitoring guidance provided in

*"Caltrans improves mobility across California"*

Appendix E of the Draft Policy.

Our comment letter further elaborates on our concerns below.

1. The Draft Policy should provide justification for requiring chronic toxicity testing for stormwater dischargers.

The variable nature of stormwater runoff presents unique challenges in accurately characterizing water quality and potential receiving water impacts. This is especially true for toxicity monitoring, where the science required to effectively characterize stormwater toxicity is lacking, and the application of methods derived for continuous wastewater discharges is not appropriate. The standard EPA whole effluent toxicity (WET) test methods were developed for continuous point source wastewater discharges and do not take into account the unique features of stormwater discharges. The applicability of the WET method for use on intermittent stormwater samples has never been properly validated. Of primary concern is the mismatch between the exposure periods for toxicity testing, typically lasting four to ten days, and the duration of stormwater discharges, typically lasting some number of hours, and rarely exceeding one full day. Part B.2 of the Draft Policy recommends that "...stormwater dischargers implement a chronic toxicity monitoring program" but does not provide justification for a chronic exposure period. Mandating toxicity test chronic exposure periods that can be seven days or more is overly conservative for assessing stormwater events and inconsistent with actual stormwater discharge and exposure conditions in the field. This inconsistency with real exposure conditions is even greater for the default Appendix E recommendation to collect discrete samples during the rising phase of the storm discharge hydrograph.

Additionally, Appendix E recommends a chronic toxicity test renewal strategy (replacing sample water with new sample water over the life of a test, at least every 48 hours) using the initial stormwater sample – thus exposing the test organism to stormwater for periods far exceeding the duration of exposure to stormwater under field conditions.

The Method EPA-821-R-02-013 required by the policy states that freshly prepared solutions are used to renew the tests daily immediately after cleaning the test chambers. For on-site toxicity studies, fresh effluent or receiving water samples should be collected daily, and no more than 24h should elapse between collection of the samples and their use in the tests. Similar language is found in the other tests methods mandated by the policy. This language is not consistent with EPA methods. If implemented, it would result in a large increase in sampling, handling and analytical costs.

**Caltrans Request:** Caltrans recommends that the duration of toxicity testing align with the period of exposure of aquatic life to stormwater discharges.

2. Appendix E of the Draft Policy should specify that toxicity testing only be performed for discharges if there is toxicity detected in the receiving waters.

The Draft Policy allows the "applicable Water Board" to authorize in-stream waste concentrations (IWCs) of less than 100%, and that the IWC is for the test sample. In

Caltrans draft permit, the IWC for Caltrans discharges is given as 100% (i.e. no dilution or mixing credit is to be given). Past studies have already shown that highway runoff discharges may frequently be toxic. Given this, it makes sense to do toxicity testing on discharges only if there is any evidence of toxicity in the receiving water. This is particularly true since many Caltrans discharges intermix with other municipal runoff and therefore undergo some form of modification or transformation before entering the receiving water. If the receiving water demonstrates toxicity, it is recommended to monitor only outfalls that discharge directly to receiving waters and use an IWC equivalent to the estimated percentage of the discharge in the receiving water. If deemed necessary, we recommend allowing an IWC < 100% for non-direct discharges. This lower IWC could be implemented as the percentage of the discharge in receiving water, or the percentage in the downstream mixed discharges.

**Caltrans Request:** Modify Appendix E to reorder the questions to ask first whether there is toxicity in the receiving water prior to initiating outfall toxicity monitoring. If outfall monitoring is required, an IWC should be applied based on the percentage of the discharge in the receiving water.

3. Appendix E (guidance for stormwater dischargers) should more explicitly allow discretion in the trigger for storm monitoring.

Appendix E provides a recommended default trigger for storm monitoring of 50% Probability of Precipitation (POP). From Caltrans' experience, this trigger results in too many false mobilizations. Since the Caltrans permit requirement is to capture only 3 storms per season, we request that the Draft Policy allow Caltrans to continue to use our standard 75% POP as a trigger for monitoring. Additionally, Appendix E recommends that the trigger for storm monitoring be 0.25" Quantitative Precipitation Forecast (QPF). From Caltrans experience, this trigger should be adjusted for local rainfall patterns. As an example, 0.25" is too high for Southern California but may be too low for Humboldt County.

Appendix E also states that samples that are successfully collected from a storm that are < 0.1" precipitation should be discarded and another storm sampled. This may be difficult to do in dry areas, and result in wasteful expenditure. Caltrans recommends allowing more flexibility to assess whether a successfully captured storm is determined to be reasonably representative. This determination could be based on technical criteria (e.g., the range of expected storm events for a region) or simply on best professional judgment and a sufficient rationale for the determination. There is more than sufficient regional precipitation information (in addition to Caltrans experience) to make informed decisions about minimum targeted and representative precipitation events.

**Caltrans Request:** Appendix E should be modified to conform to long-standing existing Caltrans monitoring guidance. Specifically, it should clearly specify higher POP and flexibility to adjust the QPF monitoring triggers based on regional conditions. Additionally, the policy should allow more flexibility (based on technical rationale or best professional judgment of the stormwater permittee) to determine whether a successfully captured storm is determined to be reasonably representative.

4. The State Board should clearly state that data from tests initiated within 72 hours would be acceptable for regulatory purposes.

Appendix E of the Draft Policy discusses the difficulties associated with meeting the 36-hour hold time for toxicity, and implies that a 72-hour hold time is acceptable with regulatory approval. However, the guidance only states that 36 hours should be targeted but no more than 72 hours should elapse before initial use of the sample.

**Caltrans Request:** Provide a clarifying statement that data from tests initiated within 72 hours will be acceptable for regulatory purposes.

5. The Draft Policy should allow flexibility to identify the most sensitive species for toxicity testing based on past data.

The screening tests recommended by the Appendix E of the Draft Policy are not in the Caltrans draft permit. This recommendation, if implemented, would increase costs, since all the ASBS and TMDL sites would require screening tests.

**Caltrans Request:** The policy should be modified to allow flexibility to identify most sensitive species based on past data.

6. There should be no requirement in the Toxicity Policy Appendix E for dry weather toxicity monitoring in stormwater systems.

The Appendix E guidance, in which dry weather toxicity monitoring is recommended for stormwater management programs, appears in conflict with the Clean Water Act that requires the MS4 to effectively prohibit non-stormwater flows (i.e., dry weather flows). Furthermore Caltrans current draft Tentative Order (No. 2012-xx-DWQ, NPDES NO. CAS000003; April 27, 2012) requires Caltrans to effectively prohibit dry weather discharges to stormwater management systems. Based on this objective, there is no need to further characterize dry weather discharges, and monitoring of toxicity (or any chemical constituents) is not necessary to determine compliance or the effectiveness of Caltrans' management in reducing and eliminating these discharges. Procedures and monitoring needed to determine program compliance and effectiveness in eliminating these discharges is documented in Caltrans' Stormwater Management Plan and referenced in the permit. (e.g., visual monitoring of MS4s or outfalls that discharge directly to receiving waters, with appropriate follow-up source investigations).

**Caltrans Request:** Eliminate the language in Appendix E indicating that the default sampling frequency includes two dry weather sampling events.

7. Caltrans is potentially subject to multiple methods requiring toxicity testing from the Regional Boards. The policy states that its imposition on Caltrans is at the discretion of the State Board. Imposition of the policy may provide consistency for Caltrans, as the nine Regional Boards have differing requirements. However, this does not prevent the Regional Boards from requiring their own toxicity standards in addition to this policy. Application of

Ms. Townsend  
August 21, 2012

Page 5

multiple standards and analyses would result in increased costs.

**Caltrans Request:** Provide for consistent regulation within Caltrans' statewide permit by limiting Caltrans to one toxicity monitoring policy.

Caltrans appreciates the opportunity to comment on the Draft Policy. If you have any questions, please contact me at (916) 653-4446.

Sincerely,

 for Scott McGowen

G. SCOTT MCGOWEN  
Chief Environmental Engineer

CC: Vicky Whitney, Deputy Director, State Water Board  
Bruce Fujimoto, Manager Surface Water/Permitting Section – State Water Board  
Keith Jones, Environmental Engineering Liaison, Caltrans  
Bhaskar Joshi, Office of Stormwater Program Development, Caltrans