

**City of Palo Alto**  
Public Works Department

August 20, 2012

**Via email:** [commentletters@waterboards.ca.gov](mailto:commentletters@waterboards.ca.gov)

Jeanine Townsend  
Clerk to the Board  
State Water Resources Control Board  
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**Subject: Draft Policy for Toxicity Assessment and Control**

Dear Ms. Townsend:

The City of Palo Alto appreciates the opportunity to comment on the State Water Resources Control Board's (State Water Board) Draft Policy for Toxicity Assessment and Control (Policy). The City of Palo Alto operates the Regional Water Quality Control Plant, a wastewater treatment plant for the East Palo Alto Sanitary District, Los Altos, Los Altos Hills, Mountain View, Palo Alto and Stanford University. Palo Alto's wastewater treatment plant is an advanced secondary plant that is extremely effective at removing pollutants. In addition, Palo Alto has been a leader in preventing pollution at the source for more than 20 years.

Our agency appreciates the State Water Board's goal of state-wide consistency in toxicity monitoring and enforcement, as well as the efforts that have already gone into this Policy. However, this Policy, if adopted in its current form, will have significant impacts on our agency. We support the letter submitted by the Bay Area Clean Water Agencies, which comments on region-wide impacts of the Policy, and would like to share our concerns about the specific burdens that will fall on our agency pertaining to increased costs and increased violations.

**Violations based on a single test result**

The current draft policy contains a Maximum Daily Effluent Limit (MDEL) that would assess a permit violation as a result of a single test result. Even though the MDEL involves a higher effect level, our agency believes that the use of a single toxicity test result to assess a permit violation is inappropriate.

The result of a single bioassay is not a conclusive demonstration that a sample is toxic, since there are numerous sources of uncertainty in toxicity testing. EPA guidance and approved methods note the variability and occasional anomalous results inherent in biological testing, and the TST method itself has a built-in allowance for a 5% false positive rate. Analysis of past EPA inter-laboratory data by the TST method indicates that the false positive rate may be even higher for some test species.

Recently the City of Palo Alto experienced false positives during a chronic toxicity test using *Ceriodaphnia dubia*. Under the proposed policy, these false positives would have triggered a violation that would tarnish our image of being a leader in environmental protection and a highly effective treatment plant. The lab determined that the values were false positives by looking at the dose-response curves, which suggested pathogen interference. The proposed TST method does not incorporate the use of dose-response curves; therefore, we would have both incurred a violation and lacked critical information to invalidate the test results.

The City of Palo Alto's current National Pollution Discharge Elimination System (NPDES) permit includes narrative requirements with numeric effluent triggers which are extremely effective at indicating potential toxicity. Based on this recent experience, our agency strongly recommends that the statewide Toxicity Policy include a state-wide narrative toxicity objective translated into consistent numeric effluent triggers that would require dischargers, if the trigger were exceeded, to aggressively conduct accelerated testing and potentially a Toxicity Reduction Evaluation (TRE).

#### **Increased costs of routine testing**

The Policy will result in the same frequency of chronic toxicity testing required by our current permit. However, with the TST method, we assume additional monthly monitoring 3 times per 5-year permit cycle, due to the minimal false determination of toxicity rate of 5%, which is built into the TST method.

While the Policy only requires testing at a single concentration, we believe that performing a series of tests with different effluent concentrations to obtain a dose-response curve is crucial to avoiding false determinations of toxicity. As mentioned previously, the City of Palo Alto experienced interference in our chronic toxicity test that was only seen in the dose-response curve. Therefore, the City of Palo Alto will continue to use the multiple concentration test method to avoid false positive results, which will increase chronic toxicity monitoring costs.

Savings resulting from termination of acute toxicity testing requirements are not assured by this proposed policy. The Economic Impacts analysis in Appendix H of the Staff report bases a large part of the estimated cost saving on the assumption that acute toxicity will no longer be required. However, since this is ultimately left to the discretion of the Regional Boards, we have to assume that Region 2 could continue to require acute testing.

Acute testing with the TST method requires more replicates, and therefore more tanks. This change represents a significant cost increase for Palo Alto, since our current building lacks the space required for the additional tanks. Furthermore, we have already invested significant resources into developing acute toxicity testing capability in-house, so even if the acute toxicity testing is not required, we will not realize the savings described in the Staff report. These investments were made because the City of Palo Alto's NPDES permit requires flow-through bioassays for acute toxicity testing, making it impractical and costly to perform the test off-site.

### **Issue of monthly effluent limitations**

Currently in the San Francisco Bay Area, there are only a handful of reliable contract labs. While we support the multiple test approach set forth for the monthly effluent limitations for POTWs, we are very concerned that the use of a calendar month for testing will result in a flood of sampling at the beginning of each month and overwhelm the few trusted laboratories able to perform the testing. This will undoubtedly result in increased testing costs as laboratories will be required to hire additional staff to accommodate this unnecessary increase in toxicity testing early in each month. We recommend that the final Policy allow the Regional Water Boards to define calendar month on a discharger-specific basis (e.g. the 5<sup>th</sup> of April through the 4<sup>th</sup> of May) and stagger the definition of calendar month across the 30 days.

### **Inconclusive TREs/TIEs**

We are concerned that the Policy fails to differentiate real, persistent toxicity from episodic low-level toxic events and the false determinations of toxicity that are built in to the TST method. Costs associated with conducting TREs and Toxicity Identification Evaluations (TIEs) can be high and long lasting, as can be the cost associated with unnecessary treatment upgrades in response to false determinations of toxicity.

The City has spent over \$50,000 per year each of the past five years on chronic toxicity testing, on TIEs and related special toxicity investigations, and on associated consultant support.

Within the past year, the City of Palo Alto's wastewater treatment plant experienced episodic apparent toxicity that did not follow the typical dose-response curve associated with true toxicity. After lengthy study, extra analysis, and meetings with staff and our contract lab, we determined that the observed effect was actually pathogen interference with *Ceriodaphnia dubia*, not toxicity. If the City had been using only the TST method, then we would have been in violation and not realized that these results were actually anomalous.

Despite considerable time and expense, the City of Palo Alto determined that there was no real toxicity, and that the observed toxicity was due to interference. The City of Palo Alto continues to aggressively implement its Pretreatment and Pollution Prevention Programs that have been in place since the early 1980s. The success of these programs is evidenced by the fact that there were only four\_CTR toxic pollutants (out of 126) detected in our effluent at levels above applicable CTR water quality objectives and therefore required permit limits in our most recent NPDES permit reissuance.

Our aggressive monitoring efforts and TRE/TIE source identification activities would not have differed if numeric toxicity effluent limits had been in place. The only difference would have been that we would have been subject to additional penalties for violations over which we had no control.

### **Stormwater should be addressed through a separate policy and Appendix E should be issued as a separate guidance document from the Draft Policy.**

The City of Palo Alto manages a stormwater program that complies with state and local laws related to stormwater discharges. Toxicity is a critical environmental issue for

aquatic life beneficial uses and must be addressed through a progressive and technically sound approach. However, the Draft Policy should recognize that toxicity monitoring for stormwater discharges presents specific challenges. Stormwater discharges are intermittent, with variable quality, and therefore the occurrence of toxicity can be brief due to the transient nature of storm events. Ongoing routine aquatic toxicity monitoring generates additional data that are not necessary to our characterization of stormwater discharges, but diverts considerable resources away from addressing known causes of toxicity. Considering the resources required to identify and manage toxicity, and the limited resources currently available to us, we believe that the State should focus the toxicity policy on addressing the occurrences and causes of recurring toxicity. Therefore, we request that the State Board remove stormwater dischargers (Part III B) from the Draft Policy. We recommend that the State Board craft a separate policy to appropriately address toxicity related to stormwater discharges.

The City of Palo Alto hopes that the State Water Resources Control Board will take these comments and the comments by Pacific EcoRisk under serious consideration. The additional costs due to the Policy will be burdensome for our agency with little additional environmental benefit. Even in the absence of these cost increases, we are concerned about the increase of violations that are corollary to this Policy. Thank you for your consideration of our comments. Feel free to contact Karin North at 650-329-2104 or [Karin.north@cityofpaloalto.org](mailto:Karin.north@cityofpaloalto.org) if you require further information.

Sincerely,

A handwritten signature in black ink that reads "Phil Bobel". The signature is written in a cursive, flowing style.

Phil Bobel  
Assistant Director Environmental Services