



December 21, 2018

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

VIA EMAIL: [commentletters@waterboards.ca.gov](mailto:commentletters@waterboards.ca.gov)

**Subject: Comment Letter – Toxicity Provisions**

Ms. Townsend,

The Bay Area Clean Water Agencies (BACWA) appreciates the opportunity to comment on the proposed Establishment of the Water Quality Control Plan for Inland Surface Waters, Enclosed Bays, and Estuaries of California; and Toxicity Provisions (proposed Toxicity Provisions). BACWA is a joint powers agency whose members own and operate publicly-owned treatment works (POTWs) and sanitary sewer systems that collectively provide sanitary services to over 7.1 million people in the nine-county San Francisco Bay Area. BACWA members are public agencies, governed by elected officials and managed by professionals who protect the environment and public health.

BACWA has been working with State Water Resources Control Board (State Water Board) staff on different iterations of these proposed Toxicity Provisions for over a decade. While we still have significant concerns pertaining to the introduction of numeric limits for toxicity testing, and the use of the Test of Significant Toxicity (TST), we thank State Water Board staff for providing multiple venues for discussion over that time period. These proposed Toxicity Provisions incorporate many of our previous recommendations on ways to mitigate those concerns. At this juncture, BACWA's comments are largely focused on the proposed Toxicity Provisions' determination of Reasonable Potential, monitoring frequency, and test scheduling. In addition to our comments herein, we also support the comments provided by the California Association of Sanitation Agencies.

**1. All dischargers should be allowed to assess Reasonable Potential prior to the assignment of numeric effluent limits**

In previous communications with the State Water Board, BACWA and other POTWs have argued that the establishment of toxicity numeric limits does not yield any water quality benefits

beyond those provided by numeric triggers. In either case, after the observation of apparent toxicity, the sole route available to a discharger is to investigate and reduce the observed toxicity to the extent feasible. The only additional consequence of having numeric limits, rather than triggers, is the threat of a violation upon the occasion of a WET test failure, with the associated Federal liabilities.

The proposed Toxicity Provisions do not allow dischargers with permitted capacity at or above 5 mgd to perform a Reasonable Potential Analysis (RPA) prior to being assigned numeric limits. The draft Staff Report provides the justification that due to their size, larger dischargers have a higher potential to introduce toxicity to receiving waters since their influent is less understood, and that the 5 mgd threshold is justified because it is the same as that established for Federal Pretreatment requirements. However, larger facilities have been doing chronic toxicity monitoring for decades, and many of our larger agencies have never observed toxicity. Given their track record, there is no reason to assume that their effluent is more likely to be toxic than that of a smaller POTW, and that they should have automatic numeric limits.

It is worth noting that the State Water Board previously considered, and rejected, using a similar automatic or default reasonable potential determination for regulation of Priority Pollutants. Seven alternative approaches for conducting reasonable potential analyses were presented in the Third Public Draft Functional Equivalent Document for Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California (January 31, 2000). Chapter 1.1 Determination of Pollutants (pp. V-5 – V-22).

Alternative 7 was to “Require effluent limitations for all priority pollutants”. “The RWQCB would make a “reasonable potential” determination by using the following method:

*Step 1. Determine applicable water quality criteria or objectives for the receiving water body.*

*Step 2. Effluent limitations are necessary for all pollutants for which criteria or objectives apply.”*

This Alternative 7 required no data or data analysis. It simply assumed that all dischargers by default had reasonable potential. This alternative 7 was rejected in favor of Alternative 4, the approach currently included in the State Implementation Plan (SIP). While toxicity is not a priority pollutant, EPA has asserted that it is considered equivalent to a chemical constituent in terms of ability to be measured. Therefore it is appropriate that a data based reasonable potential approach be used for assessing reasonable potential for POTWs with flow rates equal to or greater than 5.0 mgd.

**BACWA recommends that all agencies should need to establish Reasonable Potential prior to receiving limits.** Agencies with flows of greater than 5 mgd could be required to do routine monitoring regardless of their Reasonable Potential. Routine monitoring without numeric limits for agencies without Reasonable Potential would provide “standardized and comparable measurements of toxicity based on measurements of biological responses”, which is what staff

stated as intent of establishing limits in their Response to BACWA's 2012 Comment Letter. A reopener clause would allow the permitting authority to introduce numeric limits at any point after apparent toxicity was observed.

## **2. The threshold for determining Reasonable Potential should be greater than 10%**

For agencies that are required to do RPAs, the proposed Toxicity Provisions establish a threshold of 10 percent effect at the Instream Waste Concentration (IWC) as the determinant of Reasonable Potential. Staff have stated that the Reasonable Potential threshold is so much lower than the effluent limit of 25 percent effect so that limits will be imposed before there is a toxicity problem that requires a response. However, since this threshold is within the inherent variability of most test species, few agencies will *not* have reasonable potential. In their comment letter, Central Contra Costa Sanitary District presents data from their tests, using the *Americamysis bahia* species. Their data show that a TST run using the reference toxicant control versus the control from the chronic test calculates a percent effect of up to 17.5%. Other species such as *Ceriodaphnia dubia* are expected to have even higher variability, and be even less likely to pass the 10 percent effect threshold, even in the absence of toxicity.

Although the TST only considers the data point measured at the IWC, dischargers still must run their tests at multiple concentrations to comply with EPA test methods, so data from higher concentrations is available. **Instead of setting the Reasonable Potential threshold at 10% at the IWC to be protective, BACWA recommends that the Toxicity Provisions set the threshold at 25%, but determine Reasonable Potential using an effluent sample more concentrated than the IWC, where that data is available.**

## **3. Reduced routine monitoring frequency should be allowed using historic data**

BACWA thanks State Water Board staff for providing a provision whereby agencies with good compliance records can reduce the frequency of their routine monitoring. Since toxicity testing is currently the most expensive analysis done by POTWs, this provision will allow agencies with no recent history of toxicity problems to allocate some of those resources to more critical issues.

As written, the proposed Toxicity Provisions only allow agencies who have not exceeded their MDEL or MMEL within five years to access the reduced monitoring frequencies. This means that the reduced routine monitoring schedule will not be available for an entire permit term after implementation of these Toxicity Provisions in NPDES permits, since agencies do not currently have these limits included their permits.

To close this gap, BACWA recommends that the following language be added to Section IV.B.2.c.i.(B)

*The PERMITTING AUTHORITY may approve a reduction in the frequency of the ROUTINE MONITORING specified in Section IV.B.2.c.i.(A) for dischargers upon*

*reissuance, renewal, or reopening (to address toxicity requirements) of an NPDES permit when during the prior five consecutive years the following conditions have been met:*

- 1. The MDEL and MMEL as specified in Section IV.B.2.e have not been exceeded;*
- 2. If the discharger's prior NPDES permit did not include the MDEL and MMEL as specified in Section IV.B.2.e, then no test from data generated within five years, with a minimum of 10 tests, has resulted in a "fail" at the IWC, or the nearest sample with higher concentration if no test was run at the IWC;*
- 2.3 The toxicity provisions in the applicable NPDES permit(s) have been followed.*

#### **4. Requiring three tests in one calendar month is not feasible**

Toxicity testing requires significant logistical resources and planning to in order to be conducted in a timely manner. BACWA thanks the State Water Board for allowing the Permitting Authority discretion to set the beginning of the Calendar Month at any point during the actual month. This will hopefully prevent a rush of agencies all vying for limited capacity at contract labs, and the associated demand to purchase test organisms at the same time every month.

BACWA also supports the concept of a median limit, if numeric limits are required. Since a certain rate of false determination of toxicity is built into the statistical test method, having a three sample median will help reduce the likelihood of violations due to these false determinations of toxicity.

As acknowledged by State Water Board staff at the November 28<sup>th</sup> State Water Board Hearing, initiating three tests within a 30 day period is possible, but very difficult. This makes it for all practical purposes, infeasible on an on-going basis across the State. For example, for agencies that do the test in-house and use *Ceriodaphnia dubia* as their test species, the test methods requires an initial 6-7 day period "tracking board" to ensure the test organisms meet the criteria. The tracking board method involves ensuring the following:

- All neonates used to start the test must be within an 8 hour old age group and less than 24 hours old from the 3rd brood.
- Neonates used in test initiation is 3rd brood (i.e. parent must have 3 separate reproduction events).
- Organisms must have known parentage via tracking individual cultures.

This time period to perform the tracking board is also used to perform additional evaluations of quality control parameters for control/dilution water, food combinations, and test organisms to provide optimal conditions for a successful test. Because of this lead time required before running the second two tests, the total time required for the test staging and the test itself is 12 to 14 days. In the best case scenario, the third test could not be initiated

until day 25 of the calendar month. This leaves agencies extremely vulnerable to small slippages in the timeline due to unforeseen events.

For a 7-day chronic toxicity test, agencies that use contract laboratories get final results back after two to three weeks, or just under two weeks for preliminary results. The second test can then be initiated immediately only if the laboratory has organisms prepared, with the constraints listed above. Factors outside of an agency's control, such as: control failures, upsets, problems with availability of organisms, unexpected lack of capacity at the contract lab, and other unforeseen events, can effect testing and result reporting. Since contract laboratories are an integral part of the process, and given agencies' relative lack of control over the logistics needed for successful completion of a toxicity test for the reasons listed above, more time must be provided.

Some agencies are not able to collect samples on the first day of their assigned calendar month. For example, per the NPDES permit for the Southeast Water Pollution Control Plant, the San Francisco Public Utilities Commission can only collect samples for toxicity testing during dry weather conditions. The occurrence of multiple wet weather events can repeatedly interrupt 7-day toxicity tests. Additionally, POTWs occasionally shut down due to unanticipated events during a 24 or 48-hour composite sample collection. In this case, the samples would not be representative and the sampling event needs to be repeated at a later time. A median monthly effluent limit with no flexibility built in could make it impossible for three tests to be conducted within a 30-day period in these, and other instances that are outside of an agency's control.

For all the reasons described above, BACWA requests that the State Water Board reevaluate its median limit requirements. The proposed Toxicity Provisions, as written, set up agencies for failure due to factors outside their labs' control in the worst case scenario, or waste of resources due to planning unnecessary testing under the best case scenario. **Instead of a median monthly limit, BACWA recommends that the Toxicity Provisions allow a six-week period to initiate all three tests.** Since at least one of the tests may be initiated within the next calendar month, agencies required to do monthly testing and fail their routine monitoring test should have the ability to use the first median effluent limit compliance test as the routine monitoring test for the subsequent month.

The following table illustrates this proposal:

Month 1	Month 2 (Routine test for Month 2, 1 <sup>st</sup> compliance test for Month 1)*	(2 <sup>nd</sup> Month 1 compliance test by 6 weeks from Month 1)	Month 3	Next steps
Pass	Pass	N/A		Continue routine monitoring
Fail	Fail Violation	N/A		Accelerated monitoring in month 3
Fail	Pass	Pass No violation		Continue routine monitoring
Fail	Pass	Fail Violation	Pass	Continue routine monitoring
Fail	Pass	Fail Violation 1	Fail Violation 2	TIE/TRE

\*Month 2 routine test is also the first compliance test following a “fail” in Month 1.

The proposed Toxicity Provisions, Section IV.B.2.c.iv, might be revised as follows, assuming that the median monthly effluent limit (MMEL), is modified to a median effluent limit (MEL):

*If an acute or chronic toxicity ROUTINE MONITORING test results in a “fail” at the IWC, then NON-STORM WATER NPDES DISCHARGERS shall conduct a maximum of two MMEL COMPLIANCE TESTS. The MMEL COMPLIANCE TESTS shall be initiated within ~~the same CALENDAR MONTH~~ six weeks of the day that the first ROUTINE MONITORING test was initiated that resulted in the “fail” at the IWC. If the first chronic MMEL COMPLIANCE TEST results in a “fail” at the IWC, then the second MMEL COMPLIANCE TEST is waived. For the purposes of MMEL COMPLIANCE TEST, for dischargers that conduct ROUTINE MONITORING at a less than monthly frequency, the CALENDAR MONTH begins from the initiation of the ROUTINE MONITORING test. The first COMPLIANCE TEST that is initiated within six weeks of the day the first ROUTINE MONITORING test was initiated that resulted in the “fail” at the IWC may also be considered as the ROUTINE MONITORING test for the subsequent CALENDAR MONTH for dischargers that conduct ROUTINE MONITORING at a monthly frequency.*

Implementing a median effluent limit where violations are based on two test failures within a six week period, rather than a thirty day period, builds in the flexibility to help agencies avoid violations from not being able to comply with the Toxicity Provisions due to factors outside of their control. It also allows them to collect samples for routine testing at times other than the beginning of their calendar month. It is important to take this opportunity to build into the

proposed Toxicity Provisions an orderly and strategic timeline to allow agencies to comply with the testing schedule.

#### **5. Laboratory capacity limitations are outside of dischargers' control**

Because of the level of complexity and expertise required to perform WET tests, most agencies send their sample to contract laboratories. There are limited accredited laboratories available to perform toxicity testing; at present there are three in the San Francisco Bay area. It is likely that at some point an agency will not be able to locate a laboratory able to accept their sample, or turn around reports to meet the schedule stipulated. The proposed Toxicity Provisions should avoid penalizing an agency in this situation. Similar consideration must be given to the very real possibility that a test may be invalidated due to laboratory error, quality control failure, and unavailability of test organism due to seasonal nature, and permittees are not able to meet the required time limits.

**BACWA requests that the Permitting Authority be given discretion to extend the allowable schedule for effluent testing if an agency can prove that they are unable to conduct their test for reasons outside of their control, such as lack of species availability, control failure, or capacity at any of the available contract laboratories.**

#### **6. The Toxicity Provisions should specify a method for expanding the list of allowable species**

In our 2012 comment letters, both BACWA and Pacific EcoRisk Labs recommended that *Thalassiosira pseudonana* be added to the list of approved test species. In the response to comments, State Water Board staff replied that, "Expanding the list is outside the scope of this project." Use of *Thalassiosira pseudonana* has many advantages, as laid out in the 2012 comment letters, and BACWA would like to explore ways to include it on the list of allowable species in the future. **BACWA requests that a route for expanding the species list be included in the Toxicity Provisions, or the Staff Report.**

#### **7. The Economic Analysis does not reflect actual costs associated with WET tests**

BACWA reviewed the July 2018 Economic Considerations of Proposed Whole Effluent Toxicity Control Provisions for California (Economic Analysis) with some concern. The cost estimation methods in the Economic Analysis do not reflect the true costs of toxicity tests at contract laboratories, at least in the San Francisco Bay Region. Our concerns with the document include the following:

- Exhibit 4.4 – Costs presented in this Table are much lower than actual costs paid by our members, which are approximately \$3,000 per sample, more or less, depending on the species. It is possible that the quotes obtained by the researchers did not include reference toxicant tests that are required to be run as part of the method, or left out other key factors necessary to run the test.
- The cost estimating methods do not include the costs of collecting and shipping samples to contract laboratories, because the Economic Analysis assumes that the samples can be collected and shipped together with samples collected for priority pollutant analysis. BACWA notes that the timing for collecting toxicity samples may be different than chemical pollutants, and toxicity laboratories are different entities than the chemical analysis contract laboratories used by our agencies.

BACWA has no request at this time pertaining to the Economic Analysis, other than to enter into the public record that the costs therein likely underestimate the true costs associated with complying with the Toxicity Provisions.

BACWA would appreciate the opportunity to discuss our comments with State Water Board staff prior to the adoption of final Toxicity Provisions. Please do not hesitate to contact Lorien Fono, BACWA Regulatory Program Manager, at [lfono@bacwa.org](mailto:lfono@bacwa.org) to discuss next steps.

Respectfully Submitted,

*David R. Williams*

David R. Williams  
Executive Director

cc: BACWA Executive Board  
Adam Link, California Association of Sanitation Agencies