City of Atwater

December 19, 2018

CIVIC CENTER
750 BELLEVUE ROAD
ATWATER, CALIFORNIA 95301

Jeannie Townsend
Clerk to the Board
State Water Resources Control Board
1001 I Street
Sacramento, CA 95814

Submitted via electronic mail to: commentletters@waterboards.ca.gov

SUBJECT: Comments on the State Water Resources Control Board's draft *Water Quality Control Plan for Inland Surface Waters, Enclosed Bays, and Estuaries of California* and *Draft Staff Report for the Proposed Establishment of the Water Quality Control Plan for Inland Surface Waters, Enclosed Bays, and Estuaries of California; and Toxicity Provisions*

Dear Ms. Townsend:

The City of Atwater appreciates the opportunity to provide comments to the State Water Resources Control Board (State Water Board) regarding the proposed adoption of the draft Water Quality Control Plan for Inland Surface Waters, Enclosed Bays, and Estuaries of California (proposed Toxicity Provisions) and draft staff report that were released for public comment on October 19, 2018. We also thank the State Water Board and staff for their efforts to inform the public of these provisions through two workshops, a public hearing, and for providing responses to previous comments on the State Water Board's 2012 draft Policy for Toxicity Assessment and Control.

The 2012 draft Policy for Toxicity Assessment and Control was revised to become the proposed Toxicity Provisions; however, many of the previous comments and concerns have not been adequately addressed. We continue to be concerned that the proposed Toxicity Provisions are inconsistent with the United States Environmental Protection Agency (USEPA) guidance and regulations for Whole Effluent Toxicity (WET) testing, and we seek clarification from the State Water Board on numerous elements affecting implementation and interpretation.

Comments provided in Attachment 1 were prepared by Robertson-Bryan, Inc. and are respectfully submitted with the intent of being constructive and with an understanding that they can be addressed by revisions to the proposed Toxicity Provisions. We believe that the requested changes to the proposed Toxicity Provisions will meet the State Water Board's stated goals of developing consistent statewide water quality objectives and an implementation program for acute and chronic toxicity that are protective of California's waters.

Please contact me directly, or Dr. Michael Bryan of Robertson-Bryan, Inc. at (916) 714-1802, if you have any questions regarding these comments.

Sincerely,

Brian Shaw
Interim Public Works Director
City of Atwater

Attachment 1 - Comments on the State Water Board's 2018 Proposed Toxicity Provisions

cc: Dr. Michael Bryan, Robertson-Bryan, Inc.

1. Section III.B.2 - Numeric Effluent Limits. The main goal of the proposed Toxicity Provisions is to protect aquatic life and to achieve this goal by reducing toxicity in effluent discharged to surface waters (draft Staff Report at page 254). There are four specific goals.

    1. Adopt consistent, statewide water quality objectives for acute and chronic toxicity that are protective of California's waters from both known and unknown toxicants;
    2. Adopt a program of implementation to control toxicity in discharges and achieve and maintain the toxicity water quality objectives in California waters;
    3. Create a consistent, yet flexible framework for monitoring toxicity and laboratory analysis; and
    4. Incorporate a statewide statistical approach to analyze test results that will provide a transparent determination of toxicity with high confidence in those results, and provide an incentive for dischargers to generate valid, high quality test data.

    The draft State Water Board report presents an analysis of project options to discuss the rationale for their preferred approach to address each of the seven major issues. Issue A asks: "What types of water quality objectives should be established for chronic and acute toxicity?" The preferred option includes numeric water quality objectives (WQOs) in the form of a null hypothesis and an alternative hypothesis that are evaluated with the Test of Significant Toxicity (TST). Option two establishes numeric WQOs based on an effect concentration (e.g., no observed effect concentration [NOEC] or concentration causing a 25 percent inhibition [IC25]). Option three is for no action. This is an incomplete list of options that the State Water Board should consider and evaluate.

    The State Water Board describes inconsistencies in the application of numeric toxicity limits in NPDES permits throughout California, the interest in adopting consistent WQOs, and a consistent implementation program. They do not indicate that numeric limits are required by law. Moreover, the State Water Board does not adequately explain why numeric effluent limits are needed to improve receiving water quality, or how numeric effluent limits would result in a more effective approach to improving receiving water quality than the current toxicity controls with narrative limits and numeric triggers for accelerated monitoring and toxicity reduction evaluation (TREs).

    An option not considered or evaluated, that would meet all the program objectives, would be to continue the use of narrative toxicity limits with numeric accelerated monitoring and TRE triggers based on the TST statistical analysis. This approach would overcome unfounded concerns of the State Water Board that toxicity is potentially missed (i.e., false negatives) with the current NOEC and IC25 statistical approaches and would continue to ensure that TREs are conducted when warranted to protect California's waters from toxicants (Goals 1 and 4). Adopting this option into toxicity provisions with standardized numeric triggers for accelerated monitoring and TREs would meet Goals 2 and 3. This option may also be more

acceptable to dischargers who submitted 59 comment letters to the State Water Board on its 2012 Draft Policy for Toxicity Assessment and Control.

In considering how numeric limits might be more effective than narrative limits the State Water Board should consider that its previous responses to comments on the 2012 Draft Toxicity Policy for Toxicity Assessment and Control provided a flawed rationale for numeric limits (see responses to comments 26 and 47.8) when claiming that "...dischargers have an incentive to identify and control toxicity." This assumes dischargers are not currently incentivized to resolve instances of toxicity. However, incentive to quickly identify and control toxicity already exists with the current toxicity monitoring approach. The cost of accelerated monitoring, Toxicity Identification Evaluation (TIE) testing, and other TRE investigative efforts greatly incentivize identifying the cause of toxicity and resolving it as quickly as possible. A single chronic toxicity test can cost 100 times more than analysis of a conventional pollutant and a single TIE test regime can cost 1000 times more than a conventional pollutant analysis. Moreover, TREs are also confounded when toxicity is low-level, intermittent, seasonal, and within the variability of the test (e.g., multiple labs may not agree that samples are toxic). These challenges often result in TREs ending when toxicity is no longer present even though the cause of toxicity was not identified or knowingly controlled. TREs are expensive, costing up to and exceeding hundreds of thousands of dollars. In addition, failure to implement TRE activities currently constitutes a violation of an NPDES permit. Therefore, numeric effluent limits are simply punitive and will not further incentivize dischargers to prevent effluent toxicity beyond that which they do currently when permitted with narrative limits and numeric TRE triggers.

We request that the State Water Board work with stakeholders to identify additional viable project options and reconsider numeric limits as the recommended option. This could include an option where the TST is used to determine compliance with a narrative toxicity limit through numeric accelerated monitoring and TRE triggers. Additional options should demonstrate how the preferred option would be more effective than the other options at meeting the program goals and protecting receiving water quality from toxicity caused by NPDES permittee discharges in California. Or, if numeric effluent limits are retained as the preferred option, then the State Water Board Staff Report should provide additional discussion demonstrating how this option is expected to be more effective at protecting California's waters from toxicity than the current approach with narrative toxicity limits and numeric triggers, if this current approach were to be standardized statewide for consistency.

2. Section III.B.2.a – **It would be helpful to clarify how the % effect can be interpreted in relation to the Regulatory Management Decision (RMD)** given that compliance with the proposed toxicity WQOs are statistically evaluated exclusively through the TST. It seems that the null hypothesis can be accepted and the effluent sample is determined to 'Fail' when the numeric percent effect is less than the 25% RMD for a chronic endpoint (<20% for an acute endpoint).

For example, a chronic *C.dubia* reproduction test with 17% effect[1] can be concluded to Fail, depending on the data variability, based on the TST spreadsheet tool[2] currently available from the State Water Resources Control Board (Beta version 1.8 updated 12/31/13). Such a failed test can be driven by a single mortality in one of the 10 effluent replicates at the critical concentration. In fact, the TST Test Drive reported that effects <10% can be found by the TST to Fail, albeit infrequently. There has been some confusion by reviewers who interpreted the proposed Toxicity Provisions to mean that only effects greater than the RMD can trigger violations. Please provide an example of data and conclusions in Appendix B where the percent effect is less than the RMD (i.e., <25% for a chronic test and <20% for an acute test) and the TST determines a "Fail" and indicate whether such results are determined to be a violation.

3. **Section III.B.2.a – It is inconsistent with the definition of a Regulatory Management Decision to impose violations on dischargers based on toxicity test results where the percent effect is <25% for a chronic test and <20% for an acute test when the RMD is ≥25% effect level for a chronic test and ≥20% for an acute test.** The draft Staff Report (see definition of Water Quality Objectives; page vii) describes RMDs as thresholds that would result in an unacceptable risk to aquatic life. Therefore, effects <25% for chronic endpoints and <20% for acute endpoints are not unacceptable. We understand that the TST can statistically conclude that a sample result is a fail when the data are insufficient to reject the null hypothesis. However, the RMD has been specifically described as ≥25% for a chronic toxicity endpoint and ≥20% for an acute toxicity endpoint. Therefore, violations based on percent effects less than those defined by the RMD are inconsistent with the basis of this threshold for unacceptable toxicity. We request that the State Water Board use the TST to determine the need for monthly median effluent limit (MMEL) compliance testing but require a percent effect that meets the RMD (i.e., ≥25% for a chronic test and ≥20% for an acute test) to conclude that an MMEL violation has occurred, if numeric limits for toxicity are retained.

4. **Section IV.B.1.b – Not all test species listed in Table 1 have promulgated test methods** in the references provided (EPA-821-R-02-013, EPA-821-R-02-014; EPA-600-R-95-136). Specifically, whole effluent toxicity (WET) testing methods for *Hyalella azteca* are not described in the listed reference nor are they promulgated in 40 CFR 136.3[3]. The State Water Board's response to comments on the 2012 Draft Toxicity Policy for Toxicity Assessment and Control correctly identifies that "*Hyalella* spp." and other species are included in the Supplemental List of Acute Toxicity Test Species in Appendix B of USEPA's[4] acute WET test guidance

[1] Example with neonates/female in the Control: 36, 30, 30, 26, 31, 32, 28, 35, 35, 34; Critical Concentration: 25, 0, 29, 32, 28, 29, 31, 30, 29, and 28.

[2] https://www.waterboards.ca.gov/water_issues/programs/state_implementation_policy/tx_ass_cntrl.html

[3] https://www.federalregister.gov/documents/2017/08/28/2017-17271/clean-water-act-methods-update-rule-for-the-analysis-of-effluent

[4] USEPA. 2002. Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater Organisms. 5th edition. EPA-821-R-02-012. October.

(response to comment 48.5, page 121). However, no methodology or testing parameters such as organism age, feeding regime, test duration, or test acceptability criteria are described. The draft Staff Report states that these aquatic toxicity test methods are described (Section 2.6.2, page 23). However, without this information for *H. azteca* it is unclear how the test would be conducted. While 40 CFR 136.3 Table IB – List of Approved Inorganic Test Procedures - includes specific acute WET test methods from USEPA (2002), the appendices were not adopted by USEPA as approved test methods; thus, this is not a federally approved test species for WET.

We, therefore, request that the State Water Board remove *Hyalella azteca* from Table 1. We also recognize that toxicity testing with *Hyalella azteca* could still be required by the permitting authority under the discretion allowed for additional toxicity testing (Section IV.B.1.h) which does not require standard methods or species listed in Table 1, but that testing with additional species could not be used to determine compliance with toxicity effluent limitations specified in Section IV.B.2.e of the Provisions.

5. **Section IV.B.2.c – The maximum daily effluent limit (MDEL) is not appropriate for chronic toxicity test endpoints.** Chronic WET tests are typically based on test organism exposures to multiple samples collected over several days to measure effects that are typically manifested over four to eight days. The USEPA has repeatedly confirmed that it is inappropriate to assess single sample (i.e., daily) violations for WET analyses due to the variability and uncertainty inherent in testing biological organisms. A National Policy Regarding Whole Effluent Toxicity Enforcement memorandum (USEPA 1995) stated that, "EPA does not recommend that the initial response to a single exceedance of a WET limit, causing no known harm, be a formal enforcement action with a civil penalty." The chronic WET guidance reaffirms this caution based on the understanding that biological data does not always fit neatly into statistical analyses when it states, "...the interpretation of the results of the analysis of the data from any of the toxicity tests described in this manual can become problematic because of the inherent variability and sometimes unavoidable anomalies in biological data. If the data appear unusual in any way, or fail to meet the necessary assumptions, a statistician should be consulted." The courts have also cautioned against the use of a single WET test failure to bring enforcement actions where they concluded that USEPA's permitting system must account for the fact that sometimes a test will give a correct result, and sometimes the test will report (for example) twice the "true" level of toxicity.[5] The inaccuracy of WET tests was recently demonstrated in an inter-laboratory comparison study among California labs[6] where *C. dubia* reproduction was found to have up to 60% effects in non-toxic laboratory dilution water. The reported variability among labs for copper

[5] Edison Elec. Inst., NACWA, et al. v. EPA, et al., No. 96-1062 (D.C. Cir. Dec. 10, 2004) (rehearing denied 2005)
[6] Schiff, K.C. and D. Greenstein. 2016. Stormwater Monitoring Coalition: Toxicity Testing Laboratory Guidance Document. Southern California Coastal Water Research Project Technical Report 956. December.

spiked and runoff samples ranged up to 100%. This demonstrated that toxicity results tended to not be reproducible among laboratories.

The use of MDELs for publicly owned treatment works (POTWs) is also inconsistent with current federal NPDES regulations and toxicity guidance. The draft Staff Report (section 5.4.3, page 83) references 40 C.F.R. 122.45(d), where it states that only average weekly and average monthly discharge limitations are appropriate for POTWs, "For continuous discharges, all permit effluent limitations, standards, and prohibitions, including those necessary to achieve water quality standards, shall unless impracticable be stated as: (1) Maximum daily and average monthly discharge limitations for all dischargers other than publicly owned treatment works; and (2) Average weekly and average monthly discharge limitations for POTWs."

The draft Staff Report and response to previous comments support the use of MDELs for WET by referencing USEPA's 27-year old technical support document (TSD; at section 5.2.3)[7] which recognized that MDELs may be appropriate for acute toxicity, "A MDL, which is measured by a grab sample, would be toxicologically protective of potential acute toxicity impacts." The TSD rejected MDELs for chronic toxicity, "EPA believes that a maximum daily permit limit can be directly used to express an effluent limit for all toxic pollutants or pollutant parameters except chronic whole effluent toxicity." Although, it goes on to recognize that "...a permit contain a notation indicating that when chronic toxicity tests are required in a permit the MDL should be interpreted as signifying that maximum test result for the month." The State Water Board did not recognize all of the TSDs recommendations given that the proposed Toxicity Provisions refers to MDELs for chronic and acute toxicity without a notation that they refer to maximum test results for the month. Despite recommendations in the TSD, more recent USEPA guidance, federal regulations, and courts have rejected these earlier arguments that MDELs are appropriate for monitoring chronic toxicity from POTWs, as noted above.

The draft Staff Report refers to MDELs for aquatic toxicity currently included in non-storm water NPDES permits of California and other states as evidence that they are not impracticable. However, their limited use is not evidence that MDELs are appropriate or consistent with USEPA guidance or regulations and the Staff Draft Report does not indicate if these MDELs are for acute or chronic toxicity. Finally, the draft Staff Report (section 5.4.3) refers to the USEPA (2014) Region 9 Permit Quality Review for California[8] recommendation to "...develop, clarify and standardize the approach for calculating numeric limitations for toxic pollutants and whole effluent toxicity." This recommendation is not a requirement and the State Water Board could achieve consistency in NPDES permitting for toxicity throughout

[7] USEPA. 1991. Technical Support Document for Water Quality-based Toxics Control. EPA-505-/2-90-001.
[8] USEPA. 2014. NPDES Permit Quality Review State of California. San Francisco, Los Angeles, Central Valley, and San Diego Regional Water Quality Control Boards. San Francisco CA: EPA Region 9.

California, meeting the deficiency identified by USEPA (2014) and the rationale for toxicity provisions, through MMELs and, if necessary, implementing an MDEL applicable only to acute toxicity.

To be consistent with current regulations and guidance supporting the use of WET for NPDES compliance, we request that the State Water Board eliminate MDELs for chronic toxicity from the proposed Toxicity Provisions.

6. **Section IV.B.2.c – Calendar Month Consistency and Flexibility** - It is not clear why a calendar month is defined differently for non-stormwater NPDES dischargers conducting monthly toxicity testing (i.e., by non-storm water dischargers ≥5 MGD) and dischargers conducting routine monitoring at a frequency less than monthly. A calendar month can begin either when defined in the permit by the regulatory agency (i.e., for non-storm water dischargers ≥5 MGD) or at the start of the toxicity test for NPDES dischargers with less frequent monitoring; however, neither the proposed Toxicity Provisions nor the draft Staff Report explain why this requirement differs.

   The draft Staff Report states that, "To the extent feasible, routine monitoring tests would be evenly distributed across the calendar year or period of seasonal or intermittent discharge." As currently written, it would seem to require the permitting authority to track which labs each discharger is using for testing and determine how to stagger monthly testing dates so that labs are not overloaded with tests required at the start of each month.

   A simple and equitable change to the proposed Toxicity Provisions would simplify test scheduling and balance laboratory resources, as identified as a goal in the staff report. Flexibility is needed for dischargers to schedule sampling and testing around other facility operations that can interfere with representative effluent sampling, the availability of test organisms from suppliers, or other logistical challenges (e.g., laboratory availability). To illustrate this periodic need for flexibility we can consider a case study in northern California recently. *C. dubia* cultures crashed at the same time at two private toxicity test facilities and replacement organism purchased from a supplier were so unhealthy that they failed to meet Test Acceptability Criteria. It wasn't until several weeks later when laboratory testing with *C. dubia* could resume at these two labs after restarting and validating the health of new cultures. A rigid requirement for monthly testing starting on a specific date defined in the discharger's NPDES permit would have been impossible to meet under these conditions, through no fault of the discharger, under the requirements of the proposed Toxicity Provisions. We request that the State Water Board consistently define a calendar month as beginning at the initiation of routine toxicity testing for all dischargers to allow equitable flexibility for test scheduling.

7. **IV.B.2.c – The potential for additional violations during a TRE are unnecessary.** Draft Toxicity Provisions require routine monitoring and MMEL compliance testing to continue while

conducting a TRE unless a temporary reduction is granted. Even with a temporary reduction in monitoring during a TRE, the minimum monitoring frequency is twice each year. As stated above, there is no need to penalize dischargers with continued violations, potential penalties, and the threat of enforcement while they are working diligently to identify and reduce the cause of toxicity during a TRE and when toxicity may be caused by external sources beyond their control. Dischargers currently have strong incentives to identify and control toxicity to avoid triggering a TRE and to quickly address the cause of toxicity when in a TRE. Accelerated testing and TREs are expensive, costing up to and exceeding hundreds of thousands of dollars, and failure to implement TRE activities currently constitutes an NPDES permit violation. Therefore, additional effluent limit violations will not create an additional incentive for dischargers to prevent toxicity and are simply punitive. This is particularly concerning to the City because, during the City's past TREs, it has taken multiple rounds of testing to identify the primary factors associated with the toxicity test results. We do not believe it appropriate to be penalized for conducting TRE-required investigative effluent testing.

We request that the State Water Board revise the proposed Toxicity Provisions to allow relief from violations during a TRE, if numeric limits for toxicity are retained.

8. **IV.B.2.c.i.(B) – The potential for a reduced routine monitoring schedule for chronic toxicity is not an option for 5 years.** The proposed provisions state that the permitting authority may approve a reduction in the frequency of routine monitoring for non-storm water NPDES dischargers only when: 1) MDEL and MMELs have not been exceeded for the prior 5 years and 2) toxicity provisions in the NPDES permit have been followed. These requirements would not allow a permitting authority to approve a reduced monitoring frequency for 5 years after first adopting MDELs and MMELs into the discharger's NPDES permit, effectively in the second permit with these toxicity provisions. This lengthy period when the highest monitoring frequency would be required of all dischargers would increase the testing costs, for at least 5 years, for dischargers with no history of toxicity and no change in effluent quality. Data from current compliance testing demonstrating that the discharger has not exceeded accelerated toxicity monitoring or TRE triggers is appropriate for determining compliance and should be used by the permitting authority to inform the routine toxicity monitoring frequency in any new permits that include the proposed toxicity provisions. We request that the State Water Board revise the conditions for approving a reduction in monitoring frequency for non-storm water NPDES dischargers when existing data over the prior five years demonstrates that effluent samples do not exceed permitted triggers (i.e., are not toxic), as shown below.

> 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; or,
2) Toxicity Unit (TU) triggers for accelerated monitoring and TREs have not been exceeded.
~~2) The toxicity provisions in the applicable NPDES permit(s) have been followed.~~

9. **IV.B.2.c.i.(B) – The potential for a reduced routine chronic toxicity monitoring schedule during a TRE is limited to one year.** Draft Toxicity Provisions require routine monitoring and MMEL compliance testing to continue while conducting a TRE unless a temporary reduction in routine monitoring is granted by the permitting agency. However, it seems that after one year at most, the discharger would be required to return to a routine monitoring schedule and would need to not exceed MMELs or MDELs for five years before another discretionary reduction in routine monitoring could be granted. "Upon returning to a ROUTINE MONITORING schedule described in Section IV.B.2.c.i.(A), dischargers will need to meet the conditions 1-2 listed in this section to be granted a discretionary monitoring reduction."

   This requirement to comply with chronic toxicity MMEL and MDEL during a TRE is unreasonably burdensome and unnecessarily punitive when a TRE requires more than one year to complete (i.e., to identify and address the cause of toxicity) and when there are no indications of adverse effects to the receiving water (e.g., no fish kills). Requiring routine monitoring and up to two MMEL compliance tests each month during a TRE would interfere with efforts to identify and control the cause of toxicity (e.g., by limiting resources available to conduct the TRE). There is no need to penalize dischargers with continued violations and potential penalties, liability, the threat of enforcement, and third-party lawsuits while they are working diligently to identify and reduce the cause of toxicity during a TRE and when toxicity may be caused by external sources beyond their control. Several TREs in the Central Valley have required over a year to complete where toxicity is found to be caused by an artifact of sampling (i.e., *C. dubia* toxicity due to bacteria growth in auto-samplers lines or by pathogens) or when caused by pesticide applications for vector control to protect human health. Low-level toxicity that is intermittent or seasonal and may be attenuated in stored samples can be very challenging to identify the cause. These TREs can be expensive and take a long time to complete. We, therefore, request that the State Water Board delete or revise the statement referenced above to clarify that continued temporary reduction in the frequency of routine monitoring may be granted when a TRE requires more than one year to complete.

10. **IV.B.2.c.i.(B) – Authority to grant a reduced routine monitoring schedule for chronic toxicity during a TRE.** While the proposed Toxicity Provisions allow for a reduction in routine monitoring during a TRE, this approval would likely take many months if it required scheduling as a Regional Water Board Action. The definition of "PERMITTING AUTHORTIY" indicates that this can include the Executive Officer or Executive Director, which would likely improve the timeliness of this action; however, it could still take many months for staff to review requests and data then bring recommendations to the Executive Officer for a

decision. Rather, the reasonableness of a request to reduce routine monitoring during a TRE should be apparent to the Regional Board permitting staff who, if qualified to make recommendations to the Executive Officer, should be as qualified to grant the request. We request that the State Water Board clarify that the Permitting Authority can approve a reduction in the routine chronic toxicity monitoring frequency during a TRE at the Regional Water Board staff level.

11. IV.B.2.c.iv - MMEL Compliance Testing within a Calendar Month. The proposed Toxicity Provisions require up to two MMEL compliance tests to be conducted if a routine monitoring test is determined by the TST to "fail." The MMEL compliance tests are to be initiated within the same calendar month as the routine monitoring test, but completing a total of three valid tests in a calendar month may not be possible. Further, it is not clear if a discharger would be out of compliance with their permit if they cannot complete these three tests (see comment below), nor is it clear how to determine MMEL compliance when a discharger has fewer than three valid tests.

    A discharger's ability to perform routine monitoring and up to 2 MMEL compliance tests within a calendar month is affected by multiple variables and will, at times, not be possible. Each test requires scheduling coordination at the test facility, sample collection (requiring setup over one day in advance for a 24-hour composite), obtaining and acclimating test organisms, performing the test for up to 8 days, analyzing the data, receiving notification of test results, and reporting. Preliminary results from routine monitoring may not be reported for 8 to 10 days after test initiation. There should be sufficient time to complete up to 3 tests in a calendar month when discharges are continuous and when no issues are encountered. Effluent diversions, cessation of discharge, recycled water demand, or other facility operations may delay or interrupt sampling because effluent is not available. Even though a facility may be placed in recirculation while the discharge has ceased, facility issues being addressed during such diversions will render the recirculated effluent unrepresentative of final effluent quality upon discharge. Laboratory capacity or staffing may affect when a test can be scheduled. As noted above, availability of test organism from suppliers and the health of in-house cultures can prevent or limit when testing can be conducted. For example, *C. dubia* cultures crashed at the same time at two private toxicity test facilities in northern California and replacement organism purchased from a supplier were so unhealthy that they failed to meet Test Acceptability Criteria. Testing could not resume at these labs until several weeks later because *C. dubia* cultures had to be restarted and their health validated. Even when a routine and two MMEL tests can be conducted within a calendar month, there is a possibility that the results of one or more tests are invalid (e.g., do not meet test acceptability criteria).

    To account for the possibilities described above, a discharger will need to sample and require their testing facility (contract or in-house) to initiate the first MMEL test without having results from the routine test to determine if an MMEL test is actually needed. This would

result in increased costs, staff time, etc. that would not be necessary were additional time provided for conducting MMEL testing. Beyond this, the proposed Toxicity Provisions do not indicate whether a violation will occur when a single routine test exceeds the MMEL threshold, yet the discharge has ceased and representative effluent samples cannot be collected to conduct MMEL tests within the compliance period. It is inappropriate to issue MMEL violations under such circumstances because the effluent discharge may have ceased to rectify abnormal plant operations (benefiting aquatic resources in the receiving water) or to provide recycled water (benefiting the local community and meeting the State Water Board's intent to beneficially reuse treated effluent).

The City requests that the State Water Board revise the proposed Toxicity Provisions to allow MMEL compliance to be determined from valid WET tests initiated within 45 days after the beginning of a routine compliance test. This will provide the time necessary to conduct a valid routine test and 2 MMEL tests, and will limit the potential for test failures, laboratory scheduling issues, facility staff availability, etc. to interfere with completing MMEL testing. Additionally, we request that the State Water Board clarify how MMEL compliance will be determined when a facility ceases discharge and/or has fewer than three valid test results within the MMEL compliance period.

12. **General – How will the TST be incorporated into existing laboratory accreditation programs used to validate laboratory performance?** The proposed Toxicity Provisions require using the TST to determine compliance with water quality objectives. However, the TST statistic is not currently included in the statistical approaches used by programs such as the Discharge Monitoring Report-Quality Assurance (DMR-QA) or the State's Environmental Lab Accreditation Program (ELAP) to ensure the integrity of reported data and validate laboratory performance. Major discharger participation in these programs is required by section 308 of the Clean Water Act (33 U.S.C. § 1318) and California Water Code section 13176. ELAP is run by the State Water Board to ensure laboratories generate environmental and public health data of known, consistent, and documented quality to meet stakeholder needs. Similarly, the purpose of DMR-QA studies is to ensure the integrity of data submitted by the permittee and to evaluate performance of the laboratories to analyze wastewater samples.

    The current DMR-QA program evaluates toxicity testing proficiency using the NOEC and IC25, and dischargers' testing facilities (in-house or outside contractors) are required to meet the acceptable range of toxicity results for each of these endpoints in all certified toxicity tests. Laboratories must complete the DMR-QA study annually and report results for spiked lab water samples within the acceptable range for each of the endpoints. Given the importance of these programs at ensuring toxicity data are of sufficient quality for regulatory decisions, we are concerned that the draft Staff Report and proposed Toxicity Provisions provide no indication if or how either the DMR-QA program or the ELAP certification/audit process will be adapted to validate laboratory results based on the TST.

The DMR study is currently designed only to analyze endpoints consisting of the NOEC and a point estimate (i.e., IC25) for a dilution series test with spiked lab water. The dilution series is a crucial component of determining if a laboratory produces an acceptable result on the spiked lab water sample; that is, a dilution series is needed to identify a NOEC and point-estimates from toxicity endpoints. In contrast, the TST is a binary result (pass/fail) conducted on a single test concentration. Thus, incorporating the TST into the current DMR study framework is not straightforward. For example, acceptable chronic toxicity results from a recent DMR-QA validation test included a *C. dubia* NOEC ranging from 12.5 to 50% and an IC25 ranging from 19.6 to 54.8%. Acceptable fathead minnow growth results ranged from an IC25 of 13.4 to 72.3%. Determinations of toxicity (e.g., pass/fail) are not included in the method validation because it is understood that a relatively high range of variability is acceptable for testing based on a biological response. Rather, the laboratory must report results within the acceptable range for each of the endpoints to meet validation requirements. It is not clear how the TST results would be used to validate laboratory performance if reported to the accreditation agency. Both 'pass' and 'fail' conclusions from the TST could be determined to be within the range of acceptable effects described above. It is also not clear what the correct conclusion should be, for the purpose of laboratory toxicity test validation, if half of the labs determine a 'pass' and half determine a 'fail' using the TST. Would a lab fail their DMR-QA testing if the NOEC and IC25 are within the acceptable range but the TST conclusion is not?

The TST test-drive compared TST results with the NOEC endpoint for single samples. However, the TST endpoint is affected by within-test variability in a significantly different manner than analyses with the NOEC or IC25, and the effects of this within-test variability on the comparability across labs has not been assessed by the State or USEPA. The fact that there is an on-going DMR-QA program and USEPA has expended considerable effort to evaluate variability in the NOEC and point-estimates across laboratories is evidence that assessing inter-laboratory variability and the reproducibility of results is of considerable importance to both regulators and the permitted community.

We request that the State Water Board describe how intra and inter-laboratory variability will be assessed for the TST endpoint, and if/how the TST will be incorporated into the DMR-QA program and the State ELAP accreditation program to evaluate the accuracy and precision of toxicity testing using the TST.

13. **General – The draft Staff Report does not address exactly how mandatory minimum penalties (MMPs) will be assessed when a violation of a MMEL and/or MDEL occurs.** The October 26, 2018, Responses to Comments on the 2012 Draft Policy for Toxicity Assessment and Control lightly address the issue of violations and MMPs by referring to the SWRCB's 2017 Water Quality Enforcement Policy. The Responses to Comments state:

> The goal of the 2017 Water Quality Enforcement Policy (Policy) is to protect and enhance the quality of the waters of the State by defining an enforcement process that addresses water quality problems in the most fair, efficient, effective, and consistent manner. The Water Boards have ability to impose civil liability administratively in amounts specified in Water Code section 13385. In addition, mandatory minimum penalties are usually not assessed for violations of toxicity effluent limitations. The October 2018 Draft Toxicity Provisions do not change the process or frequency in which enforcement actions are taken by the Water Boards, and as such a discussion on penalties is not required or included in the economic analysis section in the 2018 Draft Staff Report.

The above response notes that MMPs are "usually" not assessed for violations of toxicity effluent limitations, but does not state the reason this has been the case, or how MMPs for toxicity effluent limitations violations will be assessed in the future. Mandatory penalty provisions are required by California Water Code section 13385, subdivisions (h) and (i), for specified violations of NPDES permits. California Water Code section 13385(h) requires that a MMP of $3,000 be assessed by the Regional Water Boards for each serious violation. A serious violation is any waste discharge that exceeds the effluent limitation for a Group I pollutant by 40% or more, or a Group II pollutant by 20% or more (see Appendix A to 40 CFR 123.45). Toxicity is not listed as either a Group I or Group II in Appendix A to 40 CFR 123.45.

California Water Code section 13385(i) requires that a MMP of $3,000 be assessed by the Regional Water Boards for each non-serious violation, not counting the first three violations unless any of the defenses in section 13385(j) apply. A non-serious violation occurs if the discharger, four or more times in any period of 180 days, violates a WET effluent limitation where the WDRs do not contain pollutant-specific effluent limitations for any toxic pollutants. There is no violation definition (i.e., serious or non-serious) if the discharger, four or more times in any period of 180 days, violates a WET effluent limitation where the WDRs do contain pollutant-specific effluent limitations for toxic pollutants. It is also unclear if non-discharge violations would be assessed if a discharger is unable to collect sufficient samples to conduct a valid routine compliance test or determine a MMEL due to limited discharge days (i.e., 15 days) and/or WET test results that are rejected (e.g., do not meet test acceptability criteria). All POTWs fall into this uncertain category because their NPDES permits contain pollutant-specific effluent limitations for toxic pollutants. Thus, despite the SWRCB 2017 Water Quality Enforcement Policy and the October 26, 2018 Responses to Comments on the 2012 Draft Policy for Toxicity Assessment and Control, there is still no clear definition of how MMPs will be assessed for violations of the proposed MDEL and MMEL in the 2018 Toxicity Provisions. Please clarify how MMPs will be assessed for toxicity violations when a violation of a toxicity WQO occurs and how regulatory authorities will impose these MMPs consistently state-wide.