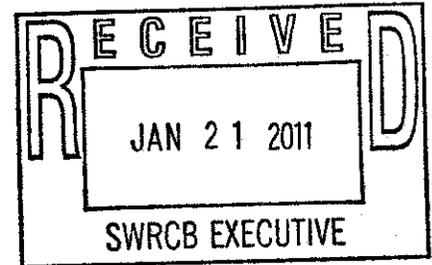


January 21, 2011

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

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



Re: Comment Letter – Policy for Toxicity Assessment and Control

Dear State Water Resources Control Board Members:

Our firm represents numerous water districts and industrial and municipal wastewater dischargers throughout California. We also represent agricultural water districts, urban water districts, agricultural dischargers subject to the agricultural waste discharge requirements (“WDR”) waiver, urban POTWs with extensive histories of successful compliance with permit terms, and a number of municipal, construction, and industrial stormwater dischargers. Our clients from both southern and northern California have been statewide leaders in the capture and use of stormwater and in the development and use of recycled water, for both urban and agricultural purposes. If there is one thread that unites our clients, it is their desire to find reasonable and cost-effective ways to serve the needs of California’s growing population for municipal drinking water, for water to grow crops, and for the treatment and reuse of wastewater.

We have actively followed the discussion that the State Water Resources Control Board (“SWRCB”) began by issuing the draft Policy for Toxicity Assessment and Control (“WET Draft Policy”) on October 20, 2010.<sup>1</sup> Our clients believe that the SWRCB is serving the public interest in attempting to ensure that California has a uniform statewide policy for the control of toxicity in surface waters. Our clients also fully support the SWRCB’s goal of basing that policy on the best available scientific information. As was demonstrated in the context of the SWRCB’s Recycled Water Policy, it is important to use science – not unfounded and generalized “public concern” – to ensure that California’s waters are protected from heretofore unknown threats. Using the best available science allows the SWRCB to focus on real problems and to

<sup>1</sup> These comments incorporate by reference and build upon the comments submitted to the SWRCB by the California Association of Sanitation Agencies (“CASA”) and the California Storm Water Quality Association (“CASQA”). Neither organization, however, has endorsed these comments.

find the most cost-effective solutions to those problems. Particularly in this dire fiscal climate, California does not have the resources to chase imaginary problems; particularly when we have more than enough real water quality issues to address.

1. *Summary of the Problem*

In the discussions and comments that have followed the SWRCB's release of the WET Draft Policy, there seem to be several key concerns that have been expressed by the various parties (including the SWRCB). In no particular order, those concerns are:

- Toxicity in California's surface waters in amounts that cause either significant acute or chronic effects is not acceptable. Given the variability of California's waters, though, any definition of toxicity must recognize and respect the differences in water quality, temperature, and other constituents.
- There needs to be a way for the SWRCB to be reasonably assured that California's surface waters are not being subjected to unaddressed instream toxicity as a result of "false negatives" from the existing monitoring regime.
- Any regulatory regime should be focused on remediating continuing toxicity problems rather than trying to identify and resolve fleeting toxicity "hits" without clear impacts (either acute or chronic) on the instream aquatic ecosystem.
- Dischargers must be reasonably assured that they will not be subjected to criminal fines or civil penalties for "false positive" toxicity test results.
- The Policy should not require activities that currently do not require a National Pollutant Discharge Elimination System ("NPDES") permit or WDR to obtain such a permit and the Policy should not seek to expand the scope of present water quality regulations.
- Small communities (and others) should not be subject to the very high costs associated with toxicity testing and remediation unless there is a clear and documented problem in the applicable receiving water. To the extent that the Policy requires such agencies to incur substantial costs, the SWRCB should assist small and disadvantaged communities and others in securing funding for such efforts, recognizing the limits of Proposition 13, Proposition 218, Proposition 26, and other similar provisions of law.
- Remediation of identified problems will require reasonable compliance schedules to allow dischargers to undertake source control/pre-treatment activities and/or to plan, design, conduct environmental review, construct and finance any new infrastructure needed to control toxicity.

- Any program adopted by the SWRCB should be able to be implemented by all dischargers at a reasonable cost.

We believe that it is the responsibility of the SWRCB to craft a revised policy that reasonably addresses all of these concerns, even if it does not fully satisfy all stakeholders. The purpose of the remainder of these comments is to provide the SWRCB with a "roadmap" for such a revised policy.

## 2. *Summary of a Revised Policy for Toxicity Assessment and Control*

We believe that a revised policy for toxicity assessment and control should have five key elements.

First, a revised policy should be able to address the SWRCB's concerns about the potential effects of "false negatives" without creating a large number of "false positives." We believe that the best way to achieve this balance is to require dischargers to engage in regular testing of effluent (to be prescribed based on the size, frequency and type of discharge), to base test results on regular testing intervals rather than on single tests, and to allow for several statistical methods to be used (both the promulgated EC/IC25 and NOEC methods as well as the Test of Significant Toxicity ("TST") method proposed by the United States Environmental Protection Agency ("USEPA")). Further, if it appears that there may be toxicity present that could cause adverse effects in the receiving water, the discharger should be required to begin a program of accelerated monitoring to determine whether the apparent presence of toxicity is a statistical fluke or evidence of actual toxicity. We have prepared proposed narrative objectives for acute and chronic toxicity that reflect these concepts; these draft objectives, along with an implementation construct for each, are attached to these comments as Exhibit A and are incorporated herein by reference. It is important to note that these proposed objectives and the accompanying implementation construct would, if adopted by the SWRCB, establish a uniform statewide standard of no acute or chronic toxicity for California's surface waters.

Second, a revised policy should include an enforceable program for monitoring and the identification of the potential cause and source(s) of toxicity, for the evaluation of how a discharger must remediate that toxicity, and for the implementation of that remediation program. An important portion of that program will be the inclusion of compliance schedules that provide a discharger that must undertake the tasks needed to remediate actual toxicity in receiving waters with adequate time to do so. The parameters for a compliance schedule, as required by Water Code section 13242 for any new objectives, are also included in Exhibit A.

Third, a revised policy should recognize that the costs of monitoring for and remediating aquatic toxicity can be quite substantial. Particularly for small or disadvantaged communities, these costs can be prohibitive and these communities can be forced to choose between providing essential local services and monitoring for and remediating aquatic toxicity. A revised policy

should include regulatory relief for small communities as well as a recognition that the State Revolving Fund or other mechanisms are available to assist these communities in implementing a revised policy.

Fourth, as the SWRCB is aware, a large number of technical details must be considered in developing a revised policy. Those technical details, while important, should be included within the framework described in the preceding paragraphs. Because it is not possible in a short comment letter to fully develop a comprehensive revised policy that addresses all nuances of the issue, we urge the SWRCB to direct one or two of its Members and staff to convene a small group of stakeholders (i.e. not more than 8-10) that will attempt to more fully develop the concepts described in this letter and its attachment with the goal of providing the SWRCB members with a construct for a completely revised policy. The model for those discussions would be those that were facilitated by Vice-Chair Spivy-Weber and former Vice-Chair Wolff in the context of the SWRCB's Recycled Water Policy, with the difference that, in this context, the SWRCB would provide the stakeholders with the framework of a proposed policy.

Fifth, and last, the WET Draft Policy could be read to extend the State of California's permitting authority, either under the federal Clean Water Act or under the Porter-Cologne Water Quality Control Act, to virtually all surface waters in California and virtually all diversions, impoundments, discharges, and releases of water to or from surface waters. We do not believe that this was the intent of the SWRCB and believe that such an expansion of the current regulatory regime would be subject to successful legal challenge. A revised policy should respect the limits of the federal Clean Water Act and/or the Porter-Cologne Water Quality Control Act and expressly not subject water diversions or releases or activities subject to the agricultural discharge waiver to new or additional regulatory requirements.

### 3. *Problems with the SWRCB's Current WET Draft Policy*

#### (a) *The Potential Scope of the WET Draft Policy*

The WET Draft Policy purports to establish "water quality objectives for toxicity that apply to all inland surface waters, enclosed bays, and estuaries of the state, including both waters of the United States and surface waters of the state." (Policy, p. 1). Thus, the Policy – by its own terms – creates new water quality objectives that water diverters and dischargers must consider whenever an entity wishes to divert water, discharge a pollutant/waste, or convey water from one water body to another. Thus, the WET Draft Policy could be interpreted to apply to waterways such as the Sacramento and Feather Rivers and to potential changes in water quality due to releases from Lake Shasta, Lake Oroville, or other "rim reservoirs" in the Central Valley, provided that those releases had a detrimental effect as measured through the USEPA's unapproved, non-peer-reviewed TST methodology.

Similarly, the WET Draft Policy could be interpreted to apply to efforts to use natural channels to convey water (e.g., via a water transfer). Not only would the WET Draft Policy

apply in the Central Valley, but also elsewhere in California, such as to the introduction of water into terminal reservoirs (e.g., Castaic Lake, Lake Silverwood, or Diamond Valley Lake). Under the terms of the WET Draft Policy, such waters would be within the scope of the Policy if the SWRCB (or a regional board) considers these bodies of water to be "surface waters." The Los Angeles Regional Board considers Castaic Lake and Lake Piru to be surface waters; the Santa Ana Regional Board considers Lake Mathews and Lake Elsinore to be surface waters. Thus, it seems likely that the WET Draft Policy would probably apply to most surface water reservoirs in California, either as a result of water being introduced into those reservoirs or as a result of water being released from those reservoirs into a surface stream. Thus, these drinking water reservoirs will likely be determined to be "toxic" enough given the inherent inaccuracy of the proposed TST test (i.e., 5-15% error rate) to be added to the state's 303(d) list of "impaired waters." The impacts of this designation to water purveyors attempting to sell this water has not been considered anywhere in this WET Draft Policy.

Perhaps as important as the potential application of the WET Draft Policy to all surface waters in California is the potential application of the WET Draft Policy to stormwater. Stormwater is likely to be needed as a major water resource to meet California's future water needs. Southern California water agencies are already making strenuous efforts to use stormwater – which appears episodically and in large quantities – as part of their water supply portfolios. With the specter of climate change, Northern California water agencies are likely to adopt similar strategies to adapt to a smaller snowpack in the Sierras. The SWRCB has – rightly – encouraged water agencies to make such efforts in order to capitalize on a heretofore untapped resource. However, if the WET Draft Policy results in stormwater generally being labeled as "toxic" and so not usable (even for purposes of replenishing a groundwater basin) without additional treatment, California will – in all likelihood – forego the continued development of that resource. The costs and effects on the environment of this implication of the WET Draft Policy have also not been considered.

(b) *The Problems with the WET Draft Policy*

In addition to the comments submitted by others (e.g., CASA, CASQA), the WET Draft Policy suffers from two fundamental flaws. First, for the past half-century, efforts to improve water quality have relied on monitoring/testing by wastewater dischargers to identify potential water quality problems; the WET Policy now extends that burden to agencies discharging or diverting water. Particularly as California seeks to move towards policies that encourage long-term sustainability and water resource management, it is inappropriate for the SWRCB to assume – without evidence – that water-resource activities are somehow harmful to the environment. Indeed, Article X, Section 2 of the California Constitution strikes the right balance in charging the SWRCB to put California's water resources to use for the public welfare while preventing waste or the unreasonable use of water. Second, the WET Draft Policy assumes that the currently used toxicity test methods contain high rate of "false negatives" that mask a host of water quality problems. Yet, rather than seeking to determine whether there may, in fact, be

water quality problems that have not yet been identified or addressed, the WET Draft Policy foregoes science and data in favor of an assumption where – by hypothesis – the data are lacking.

Proceeding to change long-standing regulatory policy without justified need or supporting data is bad enough. As noted above, however, the scope of the proposed WET Draft Policy would transform almost every discussion about water resources management in California into a discussion of the potential impacts of that activity on WET. For instance, if the U.S. Fish & Wildlife Service proposes to require the U.S. Bureau of Reclamation to increase releases from Shasta Reservoir in order to provide water for outmigrating salmonid smolts, the change in water temperature or quality may well lead to a change in the survival of the test species under the proposed WET protocol. If so, then it is entirely likely that all water project operations in California (including the Central Valley Project, the State Water Project and local water projects) will fall within the scope of the proposed Policy. Notwithstanding some unconfirmed reports in the media, there are no validated, peer-reviewed studies showing an unaddressed problem with chronic or acute toxicity in California's waters. Adopting the proposed WET Draft Policy with its potentially universal scope in the absence of real data showing harm to the aquatic ecosystem is arbitrary and capricious.

Moreover, there are substantial potential regulatory consequences of adopting the WET Draft Policy in its present form. Most notably, every federal permit/license requires the SWRCB to certify under section 401 of the federal Clean Water Act that the permit is consistent with state water quality objectives. Given the potentially wide scope of the WET Draft Policy and the fact that almost every change in water quality/temperature may be seen as evidence of toxicity, it may be difficult (if not impossible) for the SWRCB to provide section 401 certifications in the future. This is an unintended consequence of the proposed WET Draft Policy that would have profound impacts on a host of projects in California, which has not been explored at all in the staff report accompanying this WET Draft Policy or the SAIC economics analysis.

Similarly, virtually every applicant/permittee that comes before the SWRCB or any of the regional boards is required to comply with the provisions of the California Environmental Quality Act (CEQA). Under that statute, the applicant/permittee or the SWRCB/regional board must consider the potential impacts of a possible permit or project on the environment. An activity that would cause or contribute to the violation of a toxicity water quality objective would be deemed to be a "significant" impact on the environment that requires mitigation. However, given the transitory nature of toxicity events, it is unclear how an applicant/permittee might feasibly be able to mitigate for such an impact. The failure to do so, of course, would open the applicant/permittee – as well as the SWRCB/regional board – to CEQA litigation.

The SWRCB also failed to adequately support the conclusions of no significant or potentially significant effects in its CEQA checklist included with the WET Draft Policy. Because the SWRCB provided no evidence and documentation to show how these conclusions were reached, this action is contrary to law. (See 14 C.C.R. §15252(a)(2); see also *City of Arcadia v. State Water Resources Control Board*, 135 Cal.App.4th 1392, 1420 (2006)(The

Regional Board's environmental checklist for the Trash TMDL was held to be deficient and there was determined to be sufficient evidence of a fair argument that the project may have a significant effect on the environment, thus necessitating an EIR or its functional equivalent.) Further, the checklist did not address any of the potential effects on the environment resulting from the WET Draft Policy identified above. That failing violates CEQA. In this case, the SAIC's economic analysis demonstrates that additional treatment technologies may well be required to implement these new objectives, yet these foreseeable actions are not reflected in the CEQA checklist accompanying the new WET Draft Policy. This failure also violates CEQA.

Last, and perhaps most important, the adoption of the WET Draft Policy is likely to be found by the courts to be inconsistent with the California Constitution's mandate to put the water resources of the state to use for the general welfare. The provision of Article X, Section 2 is most often read for its prohibition on the waste or unreasonable use of water. However, the provision prefaces that prohibition on waste with the following language: "It is hereby declared that because of the conditions prevailing in this State the general welfare requires that the water resources of the State be put to beneficial use to the fullest extent of which they are capable." The plain meaning of this provision is that the waters of the state "be put to beneficial use." If the SWRCB were to adopt this WET Draft Policy, which would stymie most uses of water in California because of the perception that these waters are "toxic," the SWRCB would probably be in violation of this constitutional mandate.

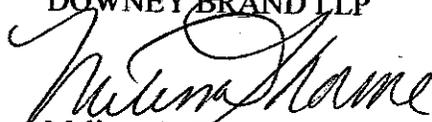
#### 4. *Conclusion*

We believe that the SWRCB is facing a difficult task. The question of whether California's waters are "toxic" to aquatic life poses important issues, both for the regulation of discharges/wastes, but also for the beneficial uses of California's surface waters. We believe that the program that we have described in this comment letter strikes an appropriate balance that protects aquatic ecosystems without bankrupting wastewater, stormwater, agriculture, and water agencies that serve the basic needs of millions of Californians. We stand ready to assist the SWRCB in its efforts to achieve this balance because the alternative – years and years of litigation as occurred over the USEPA's previous attempts to regulate toxicity – will do nothing to improve the quality of California's surface waters.

Thank you for the opportunity to present these comments.

Very truly yours,

DOWNEY BRAND LLP

  
Melissa A. Thorne

  
David R.E. Aladjem

## Draft Alternative

## POLICY FOR TOXICITY ASSESSMENT AND CONTROL

**Applicability of Policy**

This Policy for Toxicity Assessment and Control (Policy) establishes, in Part I, definitions applicable to the Policy. Part II of this Policy establishes water quality objectives for acute and chronic aquatic toxicity that apply to all inland surface waters, enclosed bays, and estuaries of the state, including both waters of the United States and surface waters of the state. This Policy does not apply to ocean waters, including Monterey Bay and Santa Monica Bay. Part II of this Policy also establishes aquatic toxicity test (toxicity test) implementation procedures and assessment methodology for dischargers subject to this Policy. This Policy does not apply to sediment toxicity testing.

This Policy supersedes the toxicity control provisions in Section 4 of the Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California (SIP, 2005) and all Toxicity objectives and toxicity testing and implementation provisions established in Regional Water Quality Control Plans (Basin Plans). This Policy establishes minimum requirements to protect aquatic life beneficial uses including, but not limited to, warm freshwater habitat (WARM), cold freshwater habitat (COLD), wildlife habitat (WILD), estuarine habitat (EST), commercial and sport fishing (COMM), marine habitat (MAR), inland saline water habitat (SAL), and wetland habitat (WET).

**Part I: Definitions**

The following definitions apply to this Policy:

- A. **Acute toxicity tests** measure the adverse effect (usually mortality) of a waste discharge on a group of test organisms during a short-term exposure (e.g. 96 hours).
- B. **Applicable Water Board, or Water Boards** refers to the State Water Resources Control Board or Regional Water Quality Control Board that issues a National Pollutant Discharge Elimination System (NPDES) permit, Waste Discharge Requirements (WDR), or conditional waiver to a qualifying discharger.
- C. **Chronic toxicity tests** measure the sub-lethal effects of a discharge (e.g. reduced growth or reproduction). Certain chronic toxicity tests include an additional measurement of lethality.
- D. **Continuous dischargers** are NPDES permitted dischargers and point source WDR dischargers that discharge without interruption throughout the majority of the operating hours of the facility, except for infrequent shutdowns for maintenance, process changes, or other similar activities (including when water is being recycled instead of discharged).
- E. **Instream waste concentration (IWC)** is the concentration of a toxicant or effluent in the receiving water after mixing (the inverse of the dilution factor). A discharge of 100% effluent will be considered the IWC whenever mixing zones or dilution credits are not authorized by the applicable Water Board.

F. **Major POTW Facilities**, for the purposes of this Policy, are publicly owned treatment works that discharge at an average dry weather flow (ADWF) rate that is equal to or greater than five million gallons per day (MGD). All smaller POTW facilities (less than 5 MGD ADWF) are defined as **Minor POTW Facilities**.

G. **MS4 discharges** are NPDES permitted stormwater discharges from municipal separate storm sewer systems.

H. **Non-continuous dischargers** are NPDES permitted dischargers and point source WDR dischargers that do not discharge on a continuous basis (e.g, stormwater discharges), and include facilities that discharge on an intermittent and/or seasonal basis.

I. **Point source WDR Dischargers** include point source discharges to inland surface waters, enclosed bays, and estuaries of the state that are subject to Waste Discharge Requirements other than an NPDES permit.

J. **Reasonable Potential or RP** is a designation used for a waste discharge that is calculated to cause or contribute to an excursion above a water quality standard. For the purposes of this Policy, Reasonable Potential for both acute and chronic toxicity is to be determined and demonstrated using the methods set forth in the USEPA Technical Support Document (1991) or the USEPA NPDES Permit Writers Manual (2010).

## **Part II. Narrative Aquatic Toxicity Objectives/Implementation**

The following toxicity objectives apply to all inland surface waters, enclosed bays, and estuaries, including waters of the United States and surface waters of the state:

### **Acute Toxicity**

There shall be no acute toxicity to aquatic organisms in ambient waters caused by non-natural or reasonably controllable water quality factors, outside any designated mixing zone. The median mortality in undiluted effluent for any three consecutive 96-hour static or continuous flow bioassay tests shall be no more than 10%, with no single test having more than 30% mortality.

### **Acute Toxicity Permit Requirements and Compliance Determination**

1. **Effluent Limitation** - All Dischargers that exhibit a Reasonable Potential (RP) to exceed the Acute Aquatic Toxicity Objective, expressed as 1 TUa at the maximum permitted IWC, shall include a narrative acute toxicity effluent limitation, or for MS4 discharges a receiving water limitation, that requires the following:

**“Acute Whole Effluent Toxicity.** Mortality of aquatic organisms in 96-hour Bioassay tests shall be no more than:

- i. 30% of that shown by the control group, maximum for any one bioassay; and
- ii. 10%, median for any three consecutive bioassays.”

2. **Compliance Determination** - To determine compliance with this objective and effluent limitation, the Discharger shall conduct acute toxicity testing to determine whether the effluent is contributing acute toxicity to the receiving water. The Discharger shall meet the following acute toxicity testing requirements:

a. **Monitoring Frequency** – For Major POTW Facilities and other continuous dischargers with an effluent limitation for acute toxicity that are not performing chronic toxicity testing shall perform quarterly or annual acute toxicity testing as prescribed by the Applicable Water Board. For continuous dischargers that do not exhibit RP, Minor POTW Facilities, and for non-continuous dischargers, the Discharger shall perform testing on a frequency specified for that discharge by the Applicable Water Board, but no less than once in a permit cycle.

b. **Sample Types** – For Static Non-renewal and Static Renewal testing of continuous discharges, the samples shall be 24-hour flow proportional composites and shall be representative of the volume and quality of the discharge. For non-continuous dischargers, samples shall be composite or grab samples representative of the effluent quality. The effluent samples shall be taken at the effluent monitoring location(s) as specified in the permit.

c. **Test Species** – Test species shall be fathead minnows (*Pimephales promelas*) or rainbow trout (*Oncorhynchus mykiss*), unless other species are justified or approved by the Applicable Water Board.

d. **Test Methods** – The acute toxicity testing samples shall be analyzed using EPA-821-R-02-012, Fifth Edition, or the most recent edition of this test method, and related guidance documents. Temperature, total residual chlorine, and pH shall be recorded at the time of sample collection. The Discharger may only make pH adjustments to reduce ammonia-related toxicity, otherwise no pH adjustments will be allowed unless approved by the Executive Officer.

e. **Test Failure** – If an acute toxicity test does not meet all test acceptance criteria, as specified in the test method, the Discharger must re-sample and re-test as soon as possible, not to exceed seven (7) days following notification of test failure.

f. **Reporting** - Acute toxicity test results shall be submitted with the routine discharger self-monitoring reports and reported as percent mortality. Percent mortality equal to or below the above specified percentages shall be deemed to be in compliance with the objective/limit.

### Chronic Toxicity

There shall be no chronic toxicity to aquatic organisms in ambient waters caused by non-natural or reasonably controllable water quality factors, outside any designated mixing zone. Chronic toxicity is defined as a significant detrimental physiological effect on growth rate, reproduction, and fertilization success of a resident organism, population, or indicator species.

#### Chronic Toxicity Permit Requirements and Compliance Determination

1. **Effluent Limitation.** All Dischargers that exhibit a Reasonable Potential (RP) to exceed the Chronic Aquatic Toxicity Objective, expressed as 1 TUc as a monthly median at the maximum permitted IWC, shall include a narrative chronic toxicity effluent limitation, or for MS4 discharges a receiving water limitation, that requires the following:

“Chronic Whole Effluent Toxicity. The effluent shall not cause or contribute to chronic toxicity in the receiving water.”

2. **Monitoring Frequency** – For Major POTW Facilities and other continuous dischargers with an effluent limitation for chronic toxicity, the Discharger shall perform monthly chronic toxicity testing. For continuous dischargers that do not exhibit RP, Minor POTW Facilities, and

for non-continuous dischargers, chronic toxicity tests shall be performed no less than once per year, or on a frequency specified for that discharge by the Applicable Water Board.

3. **Compliance Determination** - To determine compliance with this objective and effluent limitation, critical life stage tests for at least three species with approved testing protocols shall be used to screen for the single most sensitive species. The test species used for initial screening shall include a vertebrate, an invertebrate, and an aquatic plant. The most sensitive species shall then be used for routine monitoring. Typical endpoints for chronic toxicity tests include survival, growth, and reproduction.
4. **Test Methods** - The Discharger shall conduct critical life stage chronic toxicity testing in accordance with "Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms," Fourth Edition, Environmental Monitoring Systems Laboratory, USEPA (EPA 821-R-02-013, Oct. 2002), or the "Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Marine and Estuarine Organisms, Third Edition, Environmental Monitoring Systems Laboratory, USEPA (EPA 821-R-02-014, Oct. 2002) or "Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to West Coast Marine and Estuarine Organisms," First Edition, National Exposure Research Laboratory, USEPA (EPA 600-R-95-136, Aug. 1995), or the most recent editions of these test methods, depending on the salinity of the receiving water.
5. **Monitoring Results.** Results for the survival and reproduction endpoints shall be reported in TUc, where  $TUc = 100/IC25$  or  $EC25$  (where the  $EC/IC25$  is the percent effluent concentration estimated to cause a 25% effect) and/or  $100/NOEC$ . The Inhibition Concentration (IC) is a point estimate of the toxicant concentration that causes a given percent reduction in reproduction or growth, calculated from a continuous model (e.g., the USEPA Interpolation Method). The Effective Concentration (EC) is a point estimate of the concentration that would cause a given percent reduction in larval development or survival calculated from a continuous model (e.g., Probit). The No Observed Effect Concentration (NOEC) is the highest concentration of toxicant to which organisms from the most sensitive species are exposed in a chronic test that causes no observable adverse effect on the test organisms (e.g., the highest concentration to which the values for the observed responses are not statistically significant or different from the controls). Alternatively, at the Discharger's option, result for the survival and reproductive endpoints may be reported using the USEPA Test of Significant Toxicity (TST) method.
6. **Notice of Results.** The Discharger shall establish procedures to ensure that the toxicity testing laboratory notifies the Discharger of the results of the toxicity testing by the end of the next day following the completion of such tests.
7. **Accelerated Monitoring.** The Discharger shall implement accelerated monitoring when the results for monthly median chronic toxicity for continuous dischargers or the single sample test for intermittent dischargers exceeds the numeric trigger of 1 TUc at the maximum permitted IWC or receives a fail result under the TST. Accelerated monitoring is required to confirm the chronic toxicity by running six more tests within ninety (90) days. If less than two of those six tests exhibits chronic toxicity, then the discharger returns to normal compliance monitoring frequency. If the source(s) of the toxicity is easily identified (i.e. temporary plant upset), the Discharger shall make necessary corrections to the facility and shall continue accelerated monitoring until four (4) consecutive accelerated tests do not exceed the monitoring trigger. Upon confirmation that the effluent toxicity has been removed, the Discharger may cease accelerated monitoring and resume normal chronic toxicity monitoring frequency.

8. **TIE/TRE Workplan.** If two or more of those six tests exhibit chronic toxicity above the numeric trigger of 1 TUc at the maximum permitted IWC, then the Discharger shall submit a Toxicity Identification Evaluation (TIE)/Toxicity Reduction Evaluation (TRE) workplan. Once approved by the Applicable Water Board, the Discharger shall implement the workplan, which may include the initiation of a TIE and accelerated monitoring schedule, as approved by the Applicable Water Board Executive Officer. If during the course of the TIE/TRE process, the chronic toxicity is no longer evident in the effluent sampling results before the conclusion of the TIE/TRE process, the Discharger may terminate or suspend the TIE/TRE process and return to normal compliance monitoring frequency.

9. **Additional Requirements/Compliance Schedules.** If a toxicant is conclusively determined under a TIE/TRE and has not been resolved, effluent limits for that specific toxicant(s) can be imposed by the Applicable Water Board to control chronic toxicity. This permitting action and/or other source control or pretreatment actions may be taken as part of the TRE process to reduce the likelihood of future chronic toxicity excursions. The Applicable Water Board may provide a compliance schedule for new source control or pretreatment actions, or for actions necessary to comply with any new effluent limits needed to control toxicity, which shall be as short as possible, but no longer than ten (10) years from the date of the new requirements.

10. **Reporting.** Regular chronic toxicity monitoring results shall be reported to the Applicable Water Board and shall be submitted with the routine discharger self-monitoring reports following completion of the test, and shall contain, at a minimum:

- a. The results expressed in TUc at the maximum permitted IWC, measured as 100/NOEC, and/or as 100/LC50, 100/EC25, 100/IC25, or 100/IC50, as appropriate. Alternatively, the results may be reported using the USEPA TST method.
- b. The statistical methods used to calculate endpoints;
- c. The statistical output page, which includes the calculation of the Percent Minimum Significant Difference (PMSD);
- d. The dates of sample collection and initiation of each toxicity test;
- e. The results compared to the numeric toxicity monitoring trigger of 1 TUc at the maximum permitted IWC, unless the TST is used.
- f. Additionally, the discharge self-monitoring reports shall contain an updated chronology of chronic toxicity test results expressed in TUc at the maximum permitted IWC, and organized by test species, type of test (survival, growth or reproduction), and monitoring frequency, (i.e., either annually, quarterly, monthly, accelerated, or TRE).
- g. Reports for TREs shall be submitted in accordance with the schedule contained in the Discharger's approved TIE/TRE Work Plan.

11. **Quality Assurance (QA).** The Discharger must provide the following information for QA purposes for whole effluent toxicity testing:

**EXHIBIT A**

- a. Results of the applicable reference toxicant data with the statistical output page giving the species; NOEC, LOEC, and/or IC/EC; type of toxicant; dilution water used; concentrations used; PMSD; and dates tested.
- b. The reference toxicant control charts for each endpoint, which include summaries of reference toxicant tests performed by the contracting laboratory.
- c. Any information on deviations or problems encountered and how resolved.

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