

Public Comment  
Toxicity Provisions  
Deadline: 12/21/18 by 12 noon



December 21, 2018

VIA EMAIL - [COMMENTLETTERS@WATERBOARDS.CA.GOV](mailto:COMMENTLETTERS@WATERBOARDS.CA.GOV)

Ms. Felicia Marcus, Chair and State Water Board members  
Jeanine Townsend, Clerk to the Board  
State Water Resources Control Board  
P.O. Box 100, Sacramento, CA 95812-2000

Re: Comment Letter – Toxicity Provisions  
Client-Matter No. 41395.00000

Dear Chair Marcus and Members of the State Water Resources Control Board:

On behalf of the City of San Bernardino Water Department (Department) and the San Bernardino Valley Municipal Water District (District), we submit the following detailed comments. The Department and District have been very engaged in this process since your staff began preparing a “Toxicity Policy” prior to 2008. We have carefully reviewed the most recent draft Water Quality Control Plan for Inland Surface Waters, Enclosed Bays, and Estuaries of California; and Toxicity Provisions (Toxicity Provisions) and the Draft Staff Report, including the Draft Substitute Environmental Documentation (SED), for the Toxicity Provisions. We write to express our sincere disappointment that most, if not all, of our concerns expressed over the last 10 years, have still not been addressed. Because many of the State Water Resources Control Board (State Water Board) members were not present the last time this topic formally came before the Board, we have updated, expanded, and hereby resubmit our concerns in writing. We also provide a redline markup to and comments on the Toxicity Provisions document in **Attachment 1**.

**I. The Proposed Toxicity Provisions Fail to Comply with Administrative Procedures Act and Clean Water Act Requirements**

The State Water Board follows truncated requirements under both the Administrative Procedures Act (APA) and the California Environmental Quality Act (CEQA) when adopting statewide Water Quality Control Plans. However, under the APA, all such plans must be submitted to the Office of Administrative Law (OAL) and must be reviewed for compliance with the standards of Necessity, Authority, Clarity, Consistency, Reference, and Non-Duplication as set forth in APA section 11349.1. (See Gov’t Code §11353(a) and (b)(4).) In addition, all plans must be reviewed for compliance with requirements of the Federal Water Pollution Control Act (also known as the

Clean Water Act or CWA). (See Gov't Code §11353(b)(4) and (b)(7); Water Code §13372 (construe state law to ensure consistency with the requirements for state programs implementing the CWA); 33 U.S.C. §40 C.F.R. §131.6.) For the reasons set forth herein, the Toxicity Provisions cannot meet the applicable APA or CWA requirements.

**A. The Toxicity Provisions Fail to Meet the APA Requirement for Necessity.<sup>1</sup>**

**1. No Need has been Demonstrated to Alter Precedential Order Requirements.**

For the last fifteen (15) years, most of the State of California has been following the multiple State Water Board precedential decisions that require dischargers under an NPDES permit with a demonstrated reasonable potential to cause or contribute to an instream exceedance for Whole Effluent Toxicity (WET) to have: 1) a *narrative* effluent limitation for chronic toxicity, along with 2) a *numeric* trigger that requires accelerated monitoring and a special study to attempt to determine the cause of any toxicity. While the proposed Toxicity Provisions mention *one* of these orders (Order No. 2003-0012), the Toxicity Provisions fail to discuss the holding in that and the subsequent, consistent State Water Board decisions. The holding in Order No. 2003-0012 was as follows (footnotes not included; emphasis added):

In reviewing this petition and receiving comments from numerous interested persons on the propriety of including numeric effluent limitations for chronic toxicity in NPDES permits for publicly-owned treatment works that discharge to inland waters, we have determined that this issue should be considered in a regulatory setting, in order to allow for full public discussion and deliberation. We intend to modify the SIP to specifically address the issue. We anticipate that review will occur within the next year. We therefore decline to make a determination here regarding the propriety of the final numeric effluent limitations for chronic toxicity contained in these permits. Pending modification of the SIP, we will ensure that the permits contain adequate narrative effluent limitations. The final numeric effluent limitations for chronic toxicity will be replaced by the following:

“There shall be no chronic toxicity in the effluent discharge.”

US EPA has also stated that if a narrative effluent limitation is used, the permits must also contain (1) numeric benchmarks for triggering accelerated monitoring, (2) rigorous toxicity reduction evaluation (TRE)/toxicity investigation evaluation (TIE) conditions, and (3) a reopener to establish numeric effluent limitations for either chronic toxicity or the chemical(s) causing toxicity. We find that the permits already contain a numeric

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<sup>1</sup> “Necessity” means the record of the rulemaking proceeding demonstrates by substantial evidence the need for a regulation to effectuate the purpose of the statute, court decision, or other provision of law that the regulation implements, interprets, or makes specific, taking into account the totality of the record. (Gov't Code §11349(a).)

trigger of 1 TUc for conducting accelerated monitoring and rigorous TRE/TIE conditions, but there is a need for a reopener. We will make that revision to the permits.

The addition of an enforceable narrative effluent limitation for chronic toxicity, along with the existing TRE/TIE requirements and the reopener for a numeric effluent limitation for chronic toxicity, if necessary, will ensure that the requirements to perform a TRE/TIE and to implement it to eliminate toxicity are clear and enforceable. We also expect that where the TRE/TIE indicates a pollutant is causing the toxicity, the Regional Board will reopen the permit to include numeric effluent limitations for that constituent.

This Order as well as its companion, Order, No. 2003-0013, deleted the numeric chronic toxicity limits in the challenged permits and replaced them with the specified narrative effluent limitation, added a new reopener provision, and revised the Monitoring and Reporting Program to substitute “the trigger in Effluent Limitation A.12.c” for “the limitation,” where the trigger was set as an “exceedance of the 1 TUc effluent monthly median.” (*See accord* WQO 2003-0013 at pgs. 2-3.)

These narrative limits and triggers were carried over into the subsequent permits for the applicable Water Reclamation Plants, which were not objected to by the U.S. Environmental Protection Agency (USEPA). In fact, in 2007, USEPA wrote a comment letter not objecting to the draft Long Beach/Los Coyotes permits, that contained essentially identical toxicity provisions, confirming that “At minimum, the permits need to specify the WQBEL: “There shall be no chronic toxicity in the effluent discharge.” (USEPA Letter from Douglas E. Eberhardt, Chief of Clean Water Act (CWA) Standards and Permits Office to Deborah Smith, Los Angeles Regional Board (May 31, 2007).)

These precedential decisions were later upheld and followed in other, subsequent State Water Board orders, including WQO 2008-08 (City of Davis) and WQO 2012-0001 (City of Lodi). The most recent 2012 Lodi order at page 22 recognized that “[t]he Board previously addressed this issue in a precedential decision” and “concluded that a numeric effluent limitation for chronic toxicity was not appropriate in the permit under review, but that the permit had to include a narrative effluent limitation for chronic toxicity.” In the *Lodi* case, the State Water Board determined that because the discharge had the reasonable potential to cause or contribute to an excursion above the Basin Plan’s narrative toxicity objective, the Central Valley Water Board, on remand, was ordered to “amend Order No. R5-2007-0113 to add an appropriate narrative chronic toxicity limitation.” *See also* State Water Board WQO 2008-0008 at pgs. 5-7 (concluding that a numeric effluent limitation for chronic toxicity is not appropriate at this time).

The *City of Davis* Order also held the following (original footnotes not included, emphasis added):

The Permit includes several mechanisms to prohibit toxicity in the discharge.

Section IV.A.1 of the Permit (Effluent Limitations and Discharge Specifications) contains effluent limitations for all toxic pollutants that have the reasonable potential to cause or contribute to an exceedance of water quality standards, both numeric and narrative. These pollutant-specific limitations are intended to ensure that no known toxic pollutants are discharged. In addition to chemical-specific effluent limitations, the Permit includes Whole Effluent Toxicity (WET) requirements, intended to detect the effects of any other unknown pollutants, as well as any combined effects from various pollutants that may cause toxicity to receiving water organisms. Finally, Section V. 16 of the Permit (Receiving Water Limitations) states that the discharge shall not cause “toxic substances to be present, individually or in combination, in concentrations that produce detrimental physiological responses in human, plant, animal, or aquatic life.”

The range of permitted survivability appropriately reflects uncertainty in existing test methods. All such test results are, at best, analytical estimates that are prone to some degree of inaccuracy, due to factors beyond practicable control. This is particularly true for WET tests because of their high inherent variability of test organisms and test environmental conditions, as well as other factors. In fact, the coefficients of variation for toxicity test results (acute and chronic alike) range from 14.8 percent to 67.6 percent. [*Understanding and Accounting for Method Variability in Whole Effluent Toxicity Applications Under the National Pollutant Discharge Elimination System Program*, (EPA 833-R-00-003) June 30, 2000.] A permit limitation requiring 70 percent survival of test organisms in the test environment does not mean that it allows 30 percent mortality for aquatic organisms in the receiving water. Instead, the requirement reflects an established laboratory procedure.

The WET test is a tool to assess toxicity in the effluent under certain conditions, for a specific set of species that are used in such laboratory tests. In addition to the 70 percent survival requirement, there is also a 90 percent survival requirement as a median for three test results. The median requirement basically ensures that, in three tests, two of the results will show a survival rate of 90 percent or better. Among the permits issued in this state that have numerical acute toxicity limitations, all allow some degree of mortality of organisms during the tests. To account for the test variability, the U.S. Environmental Protection Agency’s (USEPA’s) “Guidance for NPDES Permit Issuance, February 1994” states the following:

Achievement of narrative criterion, as applied herein, means that ambient waters shall not demonstrate for acute toxicity: 1) less than 90 percent survival, 50% of the time, based on the monthly median, or 2) less than 70% survival, 10% of the time, based on any monthly median.

Thus, the USEPA guidance provides for a level of mortality in test results that is similar to the acute WET numeric limitations in this Permit. The Central Valley Water Board's use of a percentage for acute mortality is consistent with USEPA guidance. . . .

In Order WQO 2003-012, we stated that, pending adoption of a policy, it was not appropriate to include final numeric effluent limitations for chronic toxicity in NPDES permits for publicly owned treatment works, but that permits must contain the following:

1. A narrative limit such as: "There shall be no chronic toxicity in the effluent discharge;"<sup>2</sup>
2. Numeric benchmarks for triggering accelerated monitoring;<sup>3</sup>
3. Rigorous toxicity reduction evaluation/toxicity investigation evaluation conditions; and
4. A reopener to establish numeric effluent limitations for either chronic toxicity or the chemical(s) causing toxicity.

The regulatory process set forth in these precedential orders was reasonable and achieved the goal of getting to the root of any potentially toxic discharges and solving any toxicity problem without placing dischargers in unnecessary compliance jeopardy. Thus, additional, new objectives and implementation procedures to replace those that have been working for the last 15 years fail to meet the definition of "Necessity." In addition, these decisions went beyond the proposed Toxicity Provisions to require that effluent limits for the pollutant(s) causing toxicity be prescribed. Moreover, during this time, TMDLs for toxicity were undertaken, and the cause(s) of toxicity has been or is being addressed. No need exists or has been specified to justify a change from this clear, effective, and enforceable approach. In fact, this approach is not recognized as the current baseline. Instead, the Toxicity Provisions presume illegal permits, adopted contrary to these clear, binding precedential decisions, constitute the baseline.

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<sup>2</sup> Narrative limits meet the statutory requirements for being an "effluent limitation" as it is a restriction on the discharge from a point source. 33 U.S.C. §1362(11); 40 C.F.R. §122.2. However, it is not clear whether these definitions actually apply to toxicity, since toxicity is not a constituent or "pollutant," but instead an effect. "Toxicity tests estimate the effects of discharges to surface waters on the survival, growth, and reproduction of aquatic species in the receiving water." Draft Staff Report at p. vii.

<sup>3</sup> USEPA guidance acknowledges the use of triggers for additional monitoring to confirm the presence of toxicity. "EPA recommends that regulatory authorities evaluate the merits of a step-wise approach to address toxicity. This approach can determine the magnitude and frequency of toxicity and appropriate follow-up actions for test results that indicate exceedances of a monitoring trigger or permit limit." USEPA, *Understanding and Accounting for Method Variability in Whole Effluent Toxicity Applications under the NPDES System*, EPA 833-R-00-003 at p. 7-4 (June 2000); 65 Fed. Reg. 44528-9 (July 18, 2000) ("EPA recommends that NPDES permitting authorities implement the statistical approach as described in the TSD to evaluate effluent and to derived WET limits or monitoring triggers.")

**2. The Toxicity Provisions fail the APA's Necessity Criteria by Not Meeting the Goal of Statewide Consistency.**

If the State Water Board is concerned about statewide inconsistency under the program prescribed by its own precedential orders, then the most appropriate action would be to adopt consistent narrative objectives for chronic and acute toxicity statewide (which is *not* being proposed in the Toxicity Provisions), and to specify which of the promulgated toxicity testing methods set forth in regulation at 40 C.F.R. Part 136 should be utilized. Since USEPA has already specified a preferred method with the same Regulatory Management Decision (RMD) level of 25% effect selected in the Toxicity Provisions, namely the EC/IC 25 approach, the State Water Board should utilize this as the preferred regulatory option over the unpromulgated TST statistical approach that has been in litigation for years and continues to be challenged for its use as an underground federal regulation.

USEPA has sample narrative objectives that could be adopted, such as the following:

Toxic, radioactive, nonconventional, or deleterious material concentrations shall be less than those of public health significance, or which may cause acute or chronic toxic conditions to the aquatic biota, or which may adversely affect designated water uses.

(*See accord* 40 C.F.R. §131.35(f)(1)(ii)(G); (f)(2)(ii)(G); (f)(3)(ii)(G); (f)(4)(ii)(F).) Alternatively, one of the regional narrative objectives could be adopted for statewide use. As stated on page 32 of the Draft Staff Report, "all nine Regional Water Boards have a narrative objective for aquatic toxicity in their Basin Plans that is similar to the following language:

"All waters shall be maintained free of toxic substance in concentrations that produce detrimental physiological responses in human, plant, animal, or aquatic life."

Failure to adopt uniform narrative criteria for toxicity is inconsistent with the Toxicity Provisions' stated goal of statewide consistency, and, therefore, Necessity.

**3. Numeric Objectives and Limits for Chronic Toxicity are Not Necessary to Protect Water Quality.**

As set forth in the Draft Staff Report, some regions have no toxicity at all. (*See* Table 4-2 – Toxicity Assessments of California Waters) The Santa Ana Region is listed as being 100% non-toxic, which begs the question of why additional regulatory tools are needed there. In other regions, the non-toxic waters range from a low of 33% to a high of 85%, showing that the problem is limited. Based on this now more than 10 year old data (from 2001-2008, some before the date of the 2002 Methods), the highest level of toxicity was seen in the Central Coast (at 28%). (*Id.*) However, the Staff Report explains that the sources of toxicity are known (namely

organophosphate pesticides chlorpyrifos and diazinon, and cationic metals. (*Id.* at p. 38). The causes can then be addressed by TMDLs and permit limits (*id.* at pp. 33-34); an important piece of the plan of implementation currently missing from the Toxicity Provisions. Clearly, the current approach is working and no evidence of need has been identified for making the major changes proposed in the Toxicity Provisions.

The CWA does not require numeric water quality criteria/objectives<sup>4</sup> and generally only requires a permit to contain water quality based effluent limitations (WQBELs) in certain instances. (40 C.F.R. §122.44(d)(1).) The requirements for the inclusion of WQBELs for toxicity are set forth in the federal regulations specifically acknowledge narrative criteria for toxicity and limit the need for limits, as follows:

“Except as provided in this sub-paragraph, when the permitting authority determines, using the procedures in paragraph (d)(1)(ii) of this section, toxicity testing data, or other information, that a discharge causes, has the reasonable potential to cause, or contributes to an in-stream excursion above a narrative criterion within an applicable State water quality standard, the permit must contain effluent limits for whole effluent toxicity. Limits on whole effluent toxicity are not necessary where the permitting authority demonstrates in the fact sheet or statement of basis of the NPDES permit, using the procedures in paragraph (d)(1)(ii) of this section, that chemical-specific limits for the effluent are sufficient to attain and maintain applicable numeric and narrative State water quality standards.”

(40 C.F.R. §122.44(d)(1)(v)(all emphasis added).)

This federal regulation acknowledges that toxicity limits are *not required* where chemical-specific limits for the pollutants most likely to be the cause of toxicity are included in the permits. (*Id.*) The most likely pollutants to cause toxicity are usually assigned effluent limitations within the permit (e.g., chlorine, ammonia, metals, etc.) such that WET limits are not required under 40 C.F.R. section 122.44(d)(1)(v). For instance, in the Los Angeles Region, ammonia was identified as the constituent responsible for nearly all of the historical incidences of Publicly Owned Treatment Works (POTW) toxicity. Numeric ammonia limits were incorporated into the NPDES permits for POTW facilities and treatment upgrades made to remove ammonia from the effluent were fully implemented more than ten years ago. As a result, numeric effluent limitations for toxicity are not necessary to protect water quality. The Toxicity Provisions fail to acknowledge and incorporate this review of permits to determine if likely sources of toxicity are already regulated through specific toxic pollutant limits.

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<sup>4</sup> The CWA recognizes that the goal of water quality which provides for the protection and propagation of fish, shellfish, and wildlife is limited to “*wherever attainable.*” (33 U.S.C. §1251(a)(2).) In addition, the CWA has a national policy that the “discharge of toxic pollutants in toxic amounts be prohibited,” but does not require regulation of toxicity as an effect, only regulation of *toxic pollutants.* (33 U.S.C. §1251(a)(3).)

The use of numeric toxicity limits to control for rare and sporadic incidences of chronic toxicity are not feasible for POTWs since proactive measures to address such incidences prior to observation are not possible nor are numeric toxicity limits necessary to protect beneficial uses. Where numeric limits are infeasible to comply with, non-numeric requirements and best management practices (BMPs) should be required instead. (40 C.F.R. §122.44(k)(3)-(4).)

Feasibility encompasses an inability to comply with numeric effluent limitations. *See City of Tracy v. SWRCB*, Statement of Decision at pg. 42, Case Number: 34-2009-80000392 (2011):

The State Board construes “infeasibility” to refer to “the ability or propriety of Establishing” numeric limits. (*See State Board Order WQ 2009-0015*, p.7; *State Board Order WQ 2006-0012*, pp. 14-16.) Thus, according to the State Board, feasibility turns on the ability and propriety of establishing numeric effluent limitations, rather than the ability of a discharger to comply. However, this argument is unfounded and is not supported by case law or by the Board's own Water Quality Orders. It will nearly always be possible to establish numeric effluent limitations, but there will be many instances in which it will not be feasible for dischargers to comply with such limitations. In those instances, states have the authority to adopt non-numeric effluent limitations.

*Communities for a Better Environment* makes clear that one factor a board may consider in determining whether a numerical effluent limitation is “feasible” is the “ability of the discharger to comply.” (*See Communities for a Better Environment*, supra, 109 Cal.App 4th at pp 1100.) The court expressly approved the regional board's consideration of this factor in upholding the determination that numeric effluent limits were not “appropriate” for the refinery at issue in that case. (*Id.* at p. 1105 [approving determination that numeric WQBEL was not feasible “for the reasons discussed above,” which included inability of discharger to comply.]

Likewise, in Water Quality Order 2003-0012, the State Board declined to impose numeric effluent limitations in a waste discharge permit because of a concern that numeric limitations would not be appropriate (State Board Order WQ 2003-0012.)

When the likelihood of false failures range from 14% to over 50% (*see California Association of Sanitation Agencies (CASA) comment letter submitted on the Toxicity Provisions and attached study*), consistent compliance is clearly impossible.<sup>5</sup> For these reasons, numeric triggers, confirmatory testing, and TRE/TIE requirements continue to represent the most effective means to identify and ultimately control discharges of toxicity and provide full protection of water quality.

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<sup>5</sup> “The law never requires impossibilities.” Cal. Civ. Code §3531; *see also San Diego Cty. v. Milotz* (1953) 119 Cal.App.2d Supp. 871, 883 (“Where an act is impossible of performance, implied exceptions are recognized to mandatory requirements, but such exceptions are based upon impossibility.”).

**4. No Need Exists to Save the State Money on Monitoring.**

One of the issues raised by State Water Board staff at the workshops was the need to save the State money on monitoring by not requiring five concentrations. (See Draft Staff Report at p. 50 (“...would require these programs to conduct all toxicity tests with multiple concentrations (i.e., dilutions of the receiving water). This requirement would add additional cost to these programs.”).) However, this is a red herring “need” because the promulgated 2002 Methods (see **Attachment 2**, in section 2.2.4 and Section 8.11, and included below) specifically authorize receiving water samples to be run with just two treatments, while still encouraging the use of multi-concentration tests to estimate the degree of toxicity:

2.2.4 Receiving (ambient) water toxicity tests commonly employ two treatments, a control and the undiluted receiving water, but may also consist of a series of receiving water dilutions.

**8.11 RECEIVING WATER TESTS**

8.11.1 Receiving water toxicity tests generally consist of 100% receiving water and a control. The total hardness of the control should be comparable to the receiving water.

8.11.2 The data from the two treatments are analyzed by hypothesis testing to determine if test organism survival in the receiving water differs significantly from the control. Four replicates and 10 organisms per replicate are required for each treatment (see Summary of Test Conditions and Test Acceptability Criteria in the specific test method).

8.11.3 In cases where the objective of the test is to estimate the degree of toxicity of the receiving water, a multi-concentration test is performed by preparing dilutions of the receiving water, using a  $\geq 0.5$  dilution series, with a suitable control water.

Therefore, the need to save the State the cost of running a full dilution series fails as a valid justification for the requirements contained in the Toxicity Provisions.

**B. The Toxicity Provisions Fail to Meet the APA Requirements for Authority and Consistency.<sup>6</sup>**

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<sup>6</sup> “Authority” means the provision of law which permits or obligates the agency to adopt, amend, or repeal a regulation. (Gov’t Code §11349(b).) “Consistency” means “being in harmony with, and not in conflict with or contradictory to, existing statutes, court decisions or other provisions of law.” (Gov’t Code §11349(d).)

The Clean Water Act clearly requires water quality criteria, where no numerical criteria guidance are available (as is the case with toxicity), to be “based on biological monitoring or assessment methods consistent with information published pursuant to section 1314(a)(8) of this title.” (33 U.S.C. §1313(c)(2)(B).) Section 1314(a)(8) required USEPA to “develop and publish information on methods for establishing and measuring water quality criteria for toxic pollutants on other bases than pollutant-by-pollutant criteria, including biological monitoring and assessment methods.” (33 U.S.C. §1314(a)(8) and (h).) These “biological monitoring and assessment methods” mentioned in both CWA sections above refer to the test methods found in 40 C.F.R. 136.

Despite this clear statutory mandate, along with the clear precedential orders discussed above that the State Water Board mandated to be followed, in the last 6 years, various regional water boards veered from these mandates, adopting permit limits and toxicity testing requirements that differed from and are inconsistent with those required under federal rules adopted under the Clean Water Act. (*See* Water Code §13370(c) (“It is in the interest of the people of the state, in order to avoid direct regulation by the federal government of persons already subject to regulation under state law pursuant to this division, to enact this chapter in order to authorize the state to implement the provisions of the Federal Water Pollution Control Act and acts amendatory thereof or supplementary thereto...”); §13372(a) (“This chapter shall be construed to ensure consistency with the requirements for state programs implementing the Federal Water Pollution Control Act and acts amendatory thereof or supplementary thereto.”))

Instead of reprimanding these rogue regional boards, the State Water Board now intends to adopt these divergent underground “rules” as its new statewide Toxicity Provisions. In fact, those illegal permits are now the baseline used by the State Water Board for both the environmental impact and economic analyses accompanying the Toxicity Provisions.

Although the State Water Board’s draft Toxicity Provisions are premised upon the allegation that the new approach, called the Test of Significant Toxicity or TST, complies with USEPA’s promulgated test methods for toxicity set forth in 40 CFR Part 136,<sup>7</sup> this premise and allegation fails because the draft policy differs from and inconsistent with that binding legal authority in the following substantive ways:

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<sup>7</sup> USEPA’s first WET test methods were promulgated in 1995. 60 Fed. Reg. 53,529 (Oct.16, 1995). As a result of a legal challenge, these WET tests were modified pursuant to a settlement that required USEPA to re-promulgate chronic WET test methods for use in monitoring compliance with NPDES permit limitations after a formal national rulemaking process, in accordance with 40 C.F.R. Part 136. See 67 Fed. Reg. 69,952 (Nov. 19, 2002) (“2002 Methods”). The 2002 Methods specifically included two test methods, a hypothesis test based on the NOEC and a point estimate test based on the 25% Inhibition Concentration (“IC25”). The 2002 Methods constitute USEPA’s formally promulgated 40 C.F.R. Part 136 WET methods.

**1. The Toxicity Provisions Unlawfully Modify the Promulgated Methods.**

Whole Effluent Toxicity (WET) test procedures were promulgated and approved as standard test methods by EPA in 2002 as required by Section 1314 of the Clean Water Act. (67 Fed. Reg. 69,952 (Nov. 19, 2002).) The actual test procedures are described in a series of method manuals. (*Id.* at p. 69,971.) These manuals, and the related procedures for each WET test method, are now specified by rule at 40 C.F.R. §136.3, Table 1A, which as shown below specifies only “NOEC or IC25, percent effluent,” for chronic toxicity; not TST. Similarly, Table 1A only specifies “Toxicity, acute, fresh water organisms, LC50, percent effluent”; not TST.

**TABLE 1A—LIST OF APPROVED BIOLOGICAL METHODS FOR WASTEWATER AND SEWAGE SLUDGE**

Parameter and units	Method <sup>1</sup>	EPA	Standard methods	AOAC, ASTM, USGS	Other
11. Toxicity, chronic, fresh water organisms, NOEC or IC <sub>25</sub> , percent effluent	Fathead minnow, <i>Pimephales promelas</i> , larval survival and growth	1000.0 <sup>27</sup>			
	Fathead minnow, <i>Pimephales promelas</i> , embryo-larval survival and teratogenicity	1001.0 <sup>27</sup>			
	Daphnia, <i>Ceriodaphnia dubia</i> , survival and reproduction	1002.0 <sup>27</sup>			
	Green alga, <i>Selenastrum capricornutum</i> , growth	1003.0 <sup>27</sup>			

<sup>27</sup>Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms, EPA-821-R-02-013. Fourth Edition, October 2002. U.S. EPA.

WET is a “method-defined analyte” that cannot be independently measured apart from a prescribed test procedure. (*See* 67 Fed. Reg. 69,966 (2002) and USEPA’s Brief of Respondents in *Edison Electric Institute, et al v. USEPA, et al.* June 8, 2004 at pp. 45 and 78.) According to USEPA, “method-defined analyte means an analyte defined solely by the method used to determine the analyte.” (40 C.F.R. §136.6(a)(5).) Also according to USEPA, the “determinative technique means the way in which an analyte is identified and quantified.” (40 C.F.R. §136.6(a)(3) (emphasis added).) Federal regulations prohibit any modification of an EPA-approved Clean Water Act analytical method for method-defined analytes. (40 C.F.R. §136.6(b)(3).)

According to USEPA, the TST represents “an alternative statistical approach for analyzing and interpreting valid WET data.”<sup>8</sup> Consequently, the TST provides a new and *different*

<sup>8</sup> USEPA, National Pollutant Discharge Elimination System Test of Significant Toxicity Technical Document. EPA-833-R-10-004 (June, 2010) p. 60 (emphasis added) .

determinative technique for the way in which the analyte toxicity is identified and quantified despite the State Water Board's claim that the TST approach does not result in any changes to the WET test methods. (Draft Staff Report at pp. 12-13.) For method-defined analytes, the statistical technique used to determine the presence or absence of toxicity *is part of the method*. Any change to these techniques constitutes an impermissible modification to the approved method. Such modifications can only be authorized through a formal USEPA rulemaking process like the one used to promulgate the original WET test methods. (33 U.S.C. §1314(h); 40 C.F.R. §136.4.)

Federal regulations require that "those who develop or use a modification to an approved (Part 136) method must document that the performance of the modified method, in the matrix to which the modified method will be applied, is equivalent to the performance of the approved method. If such a demonstration cannot be made and documented, then the modified method is not an acceptable alternative to the approved method." (40 C.F.R. §136.6(b)(1).)

The Draft Staff Report for the proposed policy at page 127 acknowledges that "for a small number of tests, the TST approach may determine a *different outcome* than other statistical approaches." (Emphasis added.) If there were no difference in outcome, then there would be no reason for State Board staff to recommend using the TST in lieu of the promulgated statistical methods. However, the number of times the TST reaches a different outcome is not "small." In fact, data from the State Board's "Test Drive" study showed that the TST came to a different conclusion in about 8% of all *Ceriodaphnia dubia* reproduction tests (the single most common endpoint used to evaluate wastewater discharges to freshwater streams in California). In these tests, the TST was nearly twice as likely to label the sample "toxic" compared to the NOEC metric. Moreover, the TST is three times more likely to label the sample as "toxic" compared to the IC-25 procedure that EPA's method manual states is the preferred approach for NPDES permitting. (See 2002 Methods at p. 41, section 9.5.1 (**Attachment 2**)). Such discrepancies demonstrate that the TST does not provide performance equivalent to that of USEPA's promulgated methods and cannot be used to assess compliance with NPDES permit limits pertaining to toxicity.

**a. Unauthorized Null Hypothesis deeming all water "Toxic."**

Current law presumes that a water sample (either from a river/creek/bay or from a discharge) is *not toxic* until proven to be toxic as set forth in the promulgated methods. The State Water Board's new policy flips that presumption on its head. Under the proposed Toxicity Provisions, all tested water in reservoirs, bays, and rivers, and from drinking water pipes and recycled water discharges to receiving waters will be initially **presumed to be toxic**.<sup>9</sup> This is 180 degrees

<sup>9</sup> The Draft Staff Report at pg. 55 acknowledges the change in hypothesis from those in promulgated methods: "The TST uses a hypothesis testing approach *but in a different way* than traditional hypothesis testing. The TST hypothesis test restates the null and alternative hypotheses. The null hypothesis in the TST approach assumes that the test sample has an unacceptable level of toxicity until demonstrated otherwise (U.S. EPA 2010b)." (Emphasis added.)

opposite of the USEPA rule requirements, and contrary to law. The current “objective of aquatic toxicity tests with effluents or pure compounds is to estimate the ‘safe’ or ‘no effect’ concentration of these substances, which is defined as the concentration which will permit normal propagation of fish and other aquatic life in the receiving waters.” (See USEPA, *Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms*, Fourth Edition (October 2002), EPA-821-R-02-013 (2002 Methods) at Section 2.1.1 and 9.1.1.)

Flipping the hypothesis also flips the error percentage. The 2002 Methods determined a 5% alpha error rate (non-toxic water declared toxic),<sup>10</sup> but did not specifically define a potentially higher beta error rate (toxic water not declared toxic), but this rate has been recognized to be “up to 20%.” (See *Edison Electric*, 391 F. 3d at 1272.) Under the Toxicity Provisions, the beta error rate of up to 20% flips to become the alpha error rate, which creates more potential liability for dischargers (from false Failures).<sup>11</sup> This “guilty until proven innocent” approach, and statistical guarantee to be in violation up to 20% percent of the time (if not more depending on test species used), when it is undeniable that proving a negative is difficult if not impossible, should not be the State Water Board’s discretionary policy selection. This would be the equivalent of deeming everyone to be a criminal until proven otherwise. There is no authority in United States law for such a presumption, particularly under a strict liability statute such as the CWA that ascribes civil and even criminal penalties and even potentially jail time for violations that at least one-fifth of the time could be wrong.

**b. Unauthorized “Pass/Fail” hypothesis endpoint.**

The EPA rules for hypothesis testing prescribe specific test endpoints (e.g., NOEC/LOEC). (See 2002 Methods at section 9.3.1.1 (“When hypothesis tests are used to analyze toxicity test data, it is not possible to express precision in terms of a commonly used statistic. The results of the test are given in terms of two endpoints, the No-Observed- Effect Concentration (NOEC) and the Lowest-Observed-Effect Concentration (LOEC).”) The Toxicity Provisions propose a *new* test endpoint of **Pass/Fail** despite USEPA discouraging the use of pass/fail. The 2002 Methods incorporated into 40 C.F.R. Part 136 state the following (emphasis in original):

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<sup>10</sup> USEPA determined that application of a relatively simple concentration-response evaluation procedure to chronic toxicity tests run using the NOEC hypothesis test analysis reduced the false positive rate among non-toxic blank samples from over 14% to less than 5%. USEPA, *Guidelines Establishing Test Procedures for the Analysis of Pollutants; Whole Effluent Toxicity Test Methods; Final Rule*, 67 Federal Register 69,963 (November 19, 2002).

<sup>11</sup> With the new “Pass/Fail” limits proposed, implemented using the two-concentration TST method, which is not approved under 40 C.F.R. Part 136 as a standard method, Permittees are more likely to be in violation of NPDES permits even when there is no real toxicity in the effluent due to a single test false Failure error rate estimated to be 14-20%.

2.2.3 Use of pass/fail tests consisting of a single effluent concentration (e.g., the receiving water concentration or RWC) and a control is **not recommended**.

Because Pass/Fail is not an authorized test endpoint, the State Water Board has no authority for adoption of Pass/Fail as a test endpoint,<sup>12</sup> or use of Pass/Fail as an effluent limitation is inconsistent with law. In fact, USEPA's 2002 Methods express concern that "single concentration, pass/fail, toxicity tests do not provide sufficient concentration-response information on effluent toxicity to determine compliance. It is the Agency's policy that all effluent toxicity tests include a minimum of five effluent concentrations and a control."<sup>13</sup>

Therefore, in order to maintain the procedural safeguards guaranteed by the 2002 Methods and *Edison Electric* case,<sup>14</sup> the Toxicity Provisions must be modified to accurately reflect allowable and required 40 C.F.R. Part 136 protocol evaluation procedures that include the ability to conduct and utilize the results from multiple concentration tests and an appropriate concentration response relationship evaluation. Currently, as discussed below, the Toxicity Provisions direct that five concentrations be run, but the information gleaned cannot be utilized in determining the result.

Because of the general unreliability and inaccuracy of these biological tests, and the amplifying effects on the false Failure error rate imposed by the two-concentration TST method, strictly construed "Pass/Fail" effluent limits for toxicity are inappropriate, infeasible to consistently comply with, and should not be proposed.

### c. **Unauthorized Statistical Approach.**

Instead of using one of Part 136's four specified hypothesis testing statistics, the new policy proposes the **TST statistical approach**, which was *not* included or incorporated by reference in USEPA's Part 136 test methods. Relying upon the one highlighted sentence in the EPA test methods set forth below, and ignoring the other context in the same paragraph, the policy

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<sup>12</sup> The Toxicity Provisions only define the word "Endpoint" in Appendix A as "A measured RESPONSE of a receptor to a stressor. An endpoint can be measured in a toxicity test or field survey." This definition is of a BIOLOGICAL ENDPOINT, and should be defined as such (*see accord* Draft Staff Report at p. 11), while a TEST ENDPOINT represents the result of the test itself (NOEC/LOEC, EC/IC25, etc.). This currently does not comply with the requirement for "**Clarity**." (Gov't Code §11349(c).)

<sup>13</sup> *See* USEPA, *Whole Effluent Toxicity: Guidelines Establishing Test Procedures for the Analysis of Pollutants - Supplementary Information Document* (SID) at pg. 28 (Oct. 2, 1995).

<sup>14</sup> *Edison Electric v. EPA*, 391 F.3d 1267, 1272-1274 (D.C. Cir. 2004). In the legal challenge to the 2002 Methods, the court found that "[t]he ratified WET tests are not without their flaws" and cautioned that "[e]ven by EPA's calculations, WET tests will be wrong some of the time." *Edison Electric* at 1272-1274. However, the court upheld those methods because USEPA had provided adequate safeguards within those methods to protect against the concerns raised by the plaintiffs. One of these safeguards was the requirement to use a multiple-concentration test that includes a concentration-response evaluation.

attempts to justify use of an unpromulgated statistical approach. The entire section of the 2002 Methods states the following (highlighting and underlining added):

9.4.1.2 The statistical methods recommended in this manual are not the only possible methods of statistical analysis. Many other methods have been proposed and considered. Certainly there are other reasonable and defensible methods of statistical analysis for this kind of toxicity data. Among alternative hypothesis tests some, like Williams' Test, require additional assumptions, while others, like the bootstrap methods, require computer-intensive computations. Alternative point estimation approaches most probably would require the services of a statistician to determine the appropriateness of the model (goodness of fit), higher order linear or nonlinear models, confidence intervals for estimates generated by inverse regression, etc. In addition, point estimation or regression approaches would require the specification by biologists or toxicologists of some low level of adverse effect that would be deemed acceptable or safe. The statistical methods contained in this manual have been chosen because they are (1) applicable to most of the different toxicity test data sets for which they are recommended, (2) powerful statistical tests, (3) hopefully "easily" understood by nonstatisticians, and (4) amenable to use without a computer, if necessary.

Thus, although the 2002 Methods realize other statistical procedures *exist*, USEPA selected the 4 specific statistical methods contained therein (namely (1) Dunnett's Test, (2) the t test with the Bonferroni adjustment, (3) Steel's Many-one Rank Test, or (4) the Wilcoxon Rank Sum Test with the Bonferroni adjustment) after due consideration for the four reasons specified. (67 Fed. Reg. 69964; *see also Attachment 2.*) Neither the TST nor any other statistical methods besides those specified in section 9.5.1 (underlining added; bold in original) and discussed in detail in Section 9.6 are authorized:

9.5.1. The recommended statistical analysis of most data from chronic toxicity tests with aquatic organisms follows a decision process illustrated in the flowchart in Figure 2. An initial decision is made to use point estimation techniques (the Probit Analysis, the Spearman-Karber Method, the Trimmed Spearman-Karber Method, the Graphical Method, or Linear Interpolation Method) and/or to use hypothesis testing (Dunnett's Test, the t test with the Bonferroni adjustment, Steel's Many-one Rank Test, or the Wilcoxon Rank Sum Test with the Bonferroni adjustment). **NOTE: For the NPDES Permit Program, the point estimation techniques are the preferred statistical methods in calculating end points for effluent toxicity tests.** If hypothesis testing is chosen, subsequent decisions are made on the appropriate procedure for a given set of data, depending on the results of the tests of assumptions, as illustrated in the flowchart. A specific flow chart is included in the analysis section for each test.

Neither the text of the 2002 Methods, nor the related flowchart (*see Attachment 2*), allow for the TST approach to be used in lieu of the promulgated statistical or point estimate approaches. The

Toxicity Provisions also contradict the June 18, 2010 USEPA Headquarters memo accompanying the TST Implementation Document, from James Hanlon, the Director of the USEPA Office of Wastewater Management, which stated: “The TST approach does not preclude the use of existing recommendations for assessing WET data provided in EPA’s 1991 Water Quality-based Technical Support Document (TSD) which remain valid for use by EPA Regions and the States.” The TST method was to be used for *additional* information, not for compliance determination purposes.

The 2010 USEPA guidance document, *National Pollutant Discharge Elimination System Test of Significant Toxicity Implementation Document*, EPA 833-R-10-003, introduced the TST protocol for analysis of chronic toxicity testing data. This guidance document made it clear in numerous places that the intent of the guidance was to introduce a new method of analyzing data collected during a valid WET analysis, not for permitting (emphasis added):

“This document presents TST as a useful alternative data analysis approach for valid WET test data that may be used in addition to the approaches currently recommended in EPA’s Technical Support Document (USEPA 1991) and EPA’s WET test method manuals.” (EPA 833-R-10-003 at p. 7)

“The TST approach is an alternative statistical approach for analyzing and interpreting valid WET data; it is not an alternative approach to developing NPDES permit WET limitations.” (EPA 833-R-10-003 at p. 60)

Therefore, the Toxicity Provisions go beyond even the intent and scope of the TST guidance. In sum, there is no authority for the State Water Board to utilize or expand upon an approach only found in federal guidance, and not authorized by federal rules. (See CWA, 33 U.S.C. §1314(a)(7)(requiring rules for establishing and measuring water quality) and §1314(h)(requiring promulgated test procedures). Such a proposal also lacks consistency with federal law and regulations.

#### **d. Unauthorized Direction to Ignore Mandated Dose Concentration Response Curves and Other Safeguards.**

Instead of requiring the quality assurance steps touted by a federal judge as reason for upholding the USEPA 2002 rules, the proposed policy removes the safeguards intended to reduce the likelihood that random “noise” in a biological test on live organisms will result in a false positive result. The new policy on the one hand still requires the cost and effort to conduct multi-concentration tests, but on the other hand forbids use of the important information that might be gleaned.<sup>15</sup> The policy instead **relies on just two concentrations (the test sample and the**

<sup>15</sup> While the Toxicity Provisions require that dischargers monitor the chronic toxicity of the effluent using five or more effluent dilutions (including 100% effluent and negative control), only the two-concentration TST result will be considered for compliance purposes. This conflicts with promulgated freshwater chronic toxicity test methods. The Draft Staff Report at pg. 60 acknowledges that there is no dose-response consideration: “Typically, using other

**control**), which is not allowed under USEPA rules without an approved Alternative Test Procedure (ATP) under Part 136. Therefore, a two-concentration compliance approach for effluent testing is not legal. The 2002 Methods state as follows:

2.2.2 Effluent chronic toxicity is generally measured using a multi-concentration, or definitive test, consisting of a control and a minimum of five effluent concentrations. The tests are designed to provide dose-response information, expressed as the percent effluent concentration that affects the hatchability, gross morphological abnormalities, survival, growth, and/or reproduction within the prescribed period of time (four to seven days). The results of the tests are expressed in terms of the highest concentration that has no statistically significant observed effect on those responses when compared to the controls or the estimated concentration that causes a specified percent reduction in responses versus the controls.

The Toxicity Provisions require that multiple concentrations are tested, but that the results be ignored. This contradicts the 2002 Methods, which explicitly recognize that:

10.2.6.1. The concept of a concentration-response, or more classically, a dose-response relationship is “the most fundamental and pervasive one in toxicology” (Casarett and Doull, 1975).

In a challenge to the 2002 Methods, the federal court upheld those methods because USEPA had provided adequate safeguards within those methods to protect against the concerns raised by the plaintiffs. One of these safeguards was the requirement to use a multiple-concentration test that includes a concentration-response evaluation.<sup>16</sup> “EPA also offered an additional safeguard by designing the tests to give permittees the benefit of the doubt, limiting false positive rates to at most 5%, while allowing false negative rates up to 20%.” *Edison Electric*, 391 F. 3d at 1272.

The importance of the five-concentration test to meet test acceptability criteria was also recognized in an October 22, 2013 Memo from Robert Wood, USEPA Headquarters, to Alexis Strauss, USEPA Region IX (“as stated in the promulgated CWA WET methods and re-iterated in the ‘EPA’s National Pollutant Discharge Elimination System Test of Significant Toxicity

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statistical approaches, after the data analysis step there could be a need to conduct an additional data interpretation review (U.S. EPA 2000 and 2010a). However, with the TST approach, there is no need to review and make an assessment of within-test variability nor to review the concentration response curve, as required for the traditional hypothesis approach, or when using a point estimate approach.”

<sup>16</sup> *Edison Electric*, 391 F. 3d at 1273 citing 67 Fed. Reg. at 69,957-58 (holding that “exposing multiple batches of organisms to the effluent at various concentrations, as well as to a ‘control’ sample of pure water, and then aggregating the effects on each batch” followed by a statistical analysis “to ensure that any observed differences between the organisms exposed to a given effluent concentration and those exposed to the control blanks most likely are not attributable to randomness - that they are statistically significant” will be a “safeguard [that] addresses petitioners’ concerns.”)

Implementation Document,' these methods require a control plus five effluent concentrations under the methods' test acceptability criteria. As such, **the promulgated methods do not allow for only two concentrations for use in NPDES permits.**") (*See Attachment 3* (emphasis added). Thus, the unpromulgated TST guidance itself does not authorize failing to utilize the information gleaned from all five concentrations.

Other USEPA guidance, which addresses concentration-response evaluations, states that an "evaluation of the concentration-response relationship generated for each sample is an important part of the data review process that should not be overlooked."<sup>17</sup> The same reference further concludes that "reviewing concentration-response relationships should be viewed as a component of a broader quality assurance and data review and reporting process." (*Id.*) This process includes data review, evaluation of test acceptability, evaluation of reference toxicant testing results, organism health evaluations, and test variability evaluation.

In addition, EPA's 2002 WET Method Manual describing the requirement to demonstrate adequate test sensitivity using the Percent Minimum Significant Difference (PMSD) metric. "The PMSD is the smallest percentage decrease in growth or reproduction from the control that could be determined as statistically significant in the test." (2002 Methods, section 10.2.8.2.1) This requirement was added to the 2002 Methods to reduce the risk of false negatives (e.g., a toxic effluent passes the WET test). If a test passes when the test sensitivity is poor then the test must be re-run (*see* 2002 Methods, section 10.2.8.2.4.2).

The Toxicity Provisions remove the USEPA required and judicially recognized quality assurance safeguards from the test methods. Prior to release of the Toxicity Provisions, the State Water Board sought USEPA's approval of an Alternative Test Procedure (ATP) authorizing the TST using the two-concentration test method, which compares an effluent sample at the instream waste concentration (IWC), which is set at 100% effluent where there is no dilution credit,<sup>18</sup> to a control blank using the TST statistical test, and starts with the presumption that that the sample is toxic at the IWC.<sup>19</sup> Although EPA Region IX inappropriately approved that ATP request,<sup>20</sup> the ATP was withdrawn as the result of litigation (*SCAP v. USEPA*, Eastern District Court, Case No.

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<sup>17</sup> USEPA, *Method Guidance and Recommendations for Whole Effluent Toxicity (WET) Testing* (40 CFR Part 136), EPA 821-B-00-004 (July 2000) at p. 4-3.

<sup>18</sup> Recent (December 2016) corrections made to the 2002 Methods documents (found at [https://www.epa.gov/sites/production/files/2018-04/documents/wet-methods-errata\\_dec-2016.pdf](https://www.epa.gov/sites/production/files/2018-04/documents/wet-methods-errata_dec-2016.pdf)) show that references to "100% effluent" were removed from the Methods manuals.

<sup>19</sup> Even if USEPA's ATP approval was arguably proper, it is not clear that the any discharger can be *required* to use the two-concentration TST method. Dischargers or laboratories must request approval to use an ATP (40 C.F.R. §136.5), and analytical results obtained by using a non-promulgated method cannot be used for NPDES compliance determination purposes until that method has been incorporated into 40 C.F.R. Part 136. (*See accord* 40 C.F.R. §122.44(i)(iv), 40 C.F.R. §122.41(j)(4); 40 C.F.R. §122.21(j)(5)(viii))

<sup>20</sup> Background material on EPA's involvement in orchestrating the approval of the State's 2014 ATP is included in **Attachment 3**.

CV-01513-MCE-DAD) challenging that ATP approval.<sup>21</sup> Without a valid ATP, there is no authority to modify the 2002 Methods.<sup>22</sup>

The State Water Board is not a proper party to request an ATP under Part 136. Section 136.5(a) of the federal regulations states that “Any person may request the Regional ATP Coordinator to approve the use of an alternate test procedure in the Region.” (40 C.F.R. §136.5(a).) However, “[w]hen the request for the use of an alternate test procedure concerns use in a State with an NPDES permit program approved pursuant to section 402 of the Act, *the requestor shall first submit an application for limited use to the Director of the State agency having responsibility for issuance of NPDES permits within such State (i.e., permitting authority).*” (40 C.F.R. §136.5(b)(emphasis added).) The Director will then forward the application to the Regional ATP Coordinator or permitting authority with a recommendation for or against approval.” (40 C.F.R. §136.5(b).) In the case of a State-requested ATP, the State Water Board/permitting authority must send the ATP request to the Regional ATP Coordinator directly, bypassing a required step in the regulatory process for the requestor to send the ATP request to the State. While a lab or discharger may request use of the two-concentration TST as an ATP, the State Water Board may not. Without a valid ATP, no authority exists to utilize the two-concentration TST for regulatory purposes.

**e. Different Compliance Approach.**

1) Single Chronic Toxicity Tests Being Used for Compliance Determination.

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<sup>21</sup> See Draft Staff Report at p. 13, footnote 4, describing this history and stating: “As of the date of this writing, the state has not submitted a new ATP application. If USEPA indicates that a new ATP application is needed prior to approval or implementation of the Provisions, the state will submit a new ATP application.” This ignores the fact that NPDES permits are being written in California using the TST and two-concentration approach illegally without a valid ATP. As the Draft Staff Report at page 60 states, “roughly 20 percent of all active NPDES permits require the TST approach to analyze chronic toxicity data.” Instead of now retroactively authorizing this approach as proposed in the Toxicity Provisions, the State Water Board should have taken these permits up on their own motion and ruled that the use of the TST without an approved ATP was unlawful and contrary to binding precedential State Water Board decisions.

<sup>22</sup> Pursuant to USEPA rules related to ATPs, a “limited use” ATP can apply to applications for single discharger, single laboratory facility uses, or to multi-discharger, multi-laboratory facility uses. (40 C.F.R. §136.5(d).) Nationwide ATPs can also be applied regionally. (40 C.F.R. §136.4(c)(2).) However, no ATP can be authorized for toxicity because EPA lacks an ATP protocol for toxicity:

“It should be noted that in its ATP program, EPA considers for review only those methods for which EPA has published an ATP protocol. Presently, EPA has published protocols for chemistry, radiochemical, and culture microbiological methods. EPA does not have ATP protocols for Whole Effluent Toxicity (WET) methods or genetic methods.”

75 Fed. Reg. 58,035 (emphasis added); see also **Attachment 3** (EPA Memo at p. 1 (Oct. 22, 2013)) (“we do not yet have guidance for requesting or evaluating WET ATP requests...”).

Contrary to USEPA regulations and guidance and precedential State Water Board orders (which prescribe a narrative toxicity limit), the Toxicity Provision prescribes a Maximum Daily Effluent Limitation (MDEL) for chronic toxicity that would result in an effluent limit and corresponding permit violation as a result of a single sample exceedance. Single sample violations for chronic toxicity analyses are inappropriate due to the variability and uncertainty inherent in testing biological organisms for non-lethal endpoints.

The preamble to the 2002 WET Rule says “EPA policy states 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.**’” (67 Fed. Reg. 69968 (citing EPA memo entitled National Policy Regarding Whole Effluent Toxicity Enforcement (1995a) (emphasis added).) The appropriate response to a chronic toxicity test indicating the presence of toxicity is not to declare a violation, but to investigate the cause, starting with follow-up testing to confirm the initial result. (See *accord* 67 Fed. Reg. 69,968 (USEPA policy suggests additional testing is an appropriate initial response to a single WET exceedance); *see also* Los Angeles Basin Plan at 3-17 (recommending a TIE to identify cause of toxicity prior to imposing effluent limitation to implement the narrative Toxicity objective); *accord* State Water Board’s State Implementation Policy (SIP) at pp. 30-31 (requires TRE, and the failure to conduct required toxicity tests or a TRE results in establishment of chronic toxicity limits in the permit).)

Instead of relying on multiple tests to prove persistent toxicity that could realistically translate into potential instream impacts, the proposed MDEL allows a single test result to be deemed a violation, which is discouraged by USEPA. The Draft Staff Report even acknowledges that “[a] statistically significant difference may or may not be biologically significant.” (Draft Staff Report at p. 47.) A limit set on a single chronic toxicity sample result substantially increases the likelihood of violations for a false “Fail” result, which is anticipated to occur statistically at least 5%-20% of the time, and with certain test species such as *Ceriodaphnia dubia* may be much higher (>50%).

Chronic toxicity tests and subsequent statistical analyses included in the promulgated methods were developed to exhibit no more than a 5% single test false positive failure rate. However, the USEPA Interlaboratory Variability Study on non-toxic blank samples, conducted as a part of the test method promulgation process in 2001, showed a substantially higher single test false positive error rate (failing when there is no actual toxicity) for certain endpoints including the freshwater test species used to determine compliance in the Permits. (USEPA, *Final Report: Interlaboratory Variability Study of EPA Short-term Chronic and Acute Whole Effluent Toxicity Test Methods*, Vol. 1; EPA-821-B-01-004 (Sept., 2001).) This places the regulatory usefulness of numeric limits for chronic toxicity in question and raises constitutional due process issues in the context of strict liability for permit violations. Even USEPA itself has determined that “the accuracy of toxicity tests cannot be determined.” (See *Short Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms*; EPA/600/4-91/002 at 139, 193, and 225 (July 1994).) Even if there is only presumed to be a 5% false failure level (as was stated to be statistically set for the TST, but was never verified through an actual study of known, non-toxic samples), this false indication of toxicity would constitute a violation subject to citizen

suits and discretionary Regional Board enforcement.<sup>23</sup> No reason exists to put permittees in compliance jeopardy unnecessarily when there is no real confirmed toxicity, or where the existence of actual, lingering chronic toxicity is not confirmed.

2) Use of a Daily Maximum Limit is Impracticable and Inconsistent with to Federal Regulations.

Where effluent limitations are authorized, federal regulations provide that for discharges from POTWs, all permit effluent limits shall, unless impracticable, be stated as average weekly and average monthly discharge limitations. (40 C.F.R. §122.45(d)(2) (emphasis added); *see also* State Water Board WQO 2002-12 at pp. 20-21.) Nevertheless, the Toxicity Provisions prescribe daily maximum limitations for chronic toxicity in NPDES permits, without making the requisite determination of impracticability, or without evidence to support its findings of impracticability (where made).<sup>24</sup> Without a valid and supported impracticability analysis, daily maximum limits are unlawful. (*See accord* Statement of Decision, *City of Los Angeles v. State Water Resources Control Board*, Los Angeles County Superior Court Case No. BS 060957 (April 4, 2001) and Statement of Decision, *City of Burbank v. State Water Resources Control Board*, Los Angeles County Superior Court Case No. BS 060960 (April 4, 2001).)<sup>25</sup>

In addition to being contrary to federal regulations, imposition of an MDEL makes no logical sense when the test itself takes up to 9 days of exposure. Use of a daily maximum chronic toxicity limit to protect against a short duration event capable of exceeding the water quality objective for Toxicity makes no sense when a single freshwater chronic test itself typically consists of three (3) or more discrete samples collected over an exposure period of four (4) to eight (8) days, depending on the test organism. (*See* 67 Fed. Reg. 69953 (2002 Final WET Rule)(“short term methods for estimating chronic toxicity use longer durations of exposure (*up to nine days*) to ascertain the adverse effects of an effluent or receiving water on survival, growth

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<sup>23</sup> Such a violation would be subject to discretionary enforcement, but would not be subject to Mandatory Minimum Penalties or “MMPs” (Water Code section 13385(i)(1)(D)) if there are any other toxic pollutant limits in the permit.

<sup>24</sup> Although there may be a cursory and general finding of impracticability and a statement that because such limits are in other permits they must be practicable (Draft Staff Report at p. 83), these findings are not specific to toxicity and are unsupported by evidence in the record to demonstrate practicability. Practicability or feasibility does not reflect the ability to calculate or impose the limit, but ability to comply with the limit. (*City of Tracy v. SWRCB*, Statement of Decision, Case Number: 34-2009-80000392 (2011)(Recognizing that federal regulations do not require numeric effluent limits where infeasible, which turns on the ability of the discharger to comply, not the ability or propriety of establishing the limit) .) Orders not supported by the findings or findings not supported by the evidence constitute an abuse of discretion. *See* 40 C.F.R. §124.8(b)(4); *Topanga Association for a Scenic Community v. County of Los Angeles*, 11 Cal.3d 506, 515; *California Edison v. SWRCB*, 116 Cal. App. 751, 761 (4<sup>th</sup> Dt. 1981). Without evidence to support the findings, the imposition of daily limits is unlawful.

<sup>25</sup> The State Water Board did not appeal the Superior Court’s decisions in the *City of Los Angeles* and *City of Burbank* cases with respect to the inclusion of daily maximum effluent limitations for POTWs. Thus, the Superior Court’s decision stands and binds the State Water Board. *See City of Burbank*, 35 Cal.4th 613, 623, n.6. (“Unchallenged on appeal and thus not affected by our decision are the trial court’s rulings that . . . the permits improperly imposed daily maximum limits rather than weekly or monthly averages...”).

and/or reproduction of the organisms.”) (*italics added*.) Therefore, the use of a daily maximum limit for chronic WET is itself impracticable and a chronic toxicity limit (as is recognized for other long-term chronic objectives<sup>26</sup>) should be expressed only in narrative form of “There shall be no chronic toxicity in the effluent discharge,” interpreted as a monthly average, or a median monthly if the monthly average is demonstrated to be impracticable. (*See accord In the Matter of the Own Motion Review of City of Woodland*, Order WQO 2004-0010, 2004 WL 1444973, \*10 (June 17, 2004) (“Implementing the limits as instantaneous maxima appears to be incorrect because the criteria guidance value, as previously stated, is intended to protect against chronic effects.” The limits were to be applied as monthly averages instead); *see also* WQO 2003-0012, WQO 2003-0013, WQO 2008-0008, and WQO 2012-0001; and USEPA Letter to Regional Board on Long Beach/Los Coyotes WRP Permits at pg. 4 (May 31, 2007)(“At minimum, the permits need to specify the WQBEL: ‘There shall be no chronic toxicity in the effluent discharge.’”).)

Another recent decision upheld the need for weekly, as opposed to daily limits, for POTWs because the USEPA Technical Support Document guidance cited by the Toxicity Provisions at pp. 83-84 cannot be used to *overrule* the express terms of the regulations. (*See accord California Sportfishing Protection Alliance (CSPA) v. Cal. Regional Water Quality Control Board, Central Valley Region*, Sacramento Superior Court, Case No. 34-2013-80001358-CU-WM-GDS, Ruling on Submitted Matter: Petition for Peremptory Writ of Mandate (Aug. 18, 2014)(Holding “To the extent that the applicable law does not represent a reasonable approach to establishing effluent limitations, the law may need to be changed, Until it is changed, however, that law unequivocally requires the establishment of a weekly limitation. Respondent [Regional] Board was obligated to do what the law required...”)) Thus, reliance on USEPA’s Technical Support Document guidance was overturned, and the permit was remanded. The Draft Staff Report’s similar reliance is misplaced as well.

For these reasons, a daily maximum limit for chronic toxicity fails to meet the requirements for Authority and Consistency.<sup>27</sup> MDELs also fail to meet the requirements for Necessity. MDELs are unnecessary to protect aquatic life because chronic toxicity, by definition, is neither “highly toxic” nor “short-term.” Chronic toxicity testing is meant to assess *long-term* impacts to biological communities of organisms in the ambient receiving waters, not the impact of a single day’s discharge. (*See accord* 40 C.F.R. §131.38(b)(1), *fn. d.*)

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<sup>26</sup> Chronic toxicity can be compared to other chronic water quality criteria, such as the Criteria Continuous Concentration (“CCC”) under the California Toxics Rule and National Toxics Rule, which is defined as “the highest concentration of a pollutant to which aquatic life can be exposed for an extended period of time (4 days) without deleterious effects.” 40 C.F. R. §131.38(b)(1), note d; 40 C.F.R. §131.36(b)(1), note d. These criteria are not imposed as daily maximum limits in NPDES permits.

<sup>27</sup> The Monthly Median Effluent Limitation (MMEL) is also inconsistent with 40 C.F.R. §122.45(d)(2) as applicable to POTWs, since only weekly and monthly averages are prescribed, unless demonstrated to be impracticable. As currently proposed, the MMEL is not practicable because it may be impractical if not impossible to schedule 3 chronic toxicity tests within a calendar month. The State Water Board should consider the current requirements in San Bernardino’s RIX permit as a more feasible and practical alternative.

3) Numeric Limits Based on a Two-Concentration TST are Highly Problematic.

Reanalysis of actual WET test data, from a wide variety of real-world samples, demonstrates that the TST statistical hypothesis test consistently “detects” the existence of toxicity more frequently than the NOEC statistical hypothesis test, especially for freshwater test species. See State Water Board, *Effluent, Stormwater and Ambient Toxicity Test Drive Analysis of the Test of Significant Toxicity (TST)* (“State Board Test Drive”) (Dec., 2011)(see e.g., Chronic Freshwater results in Table E-1). However, one should not assume that greater statistical *sensitivity* equates with improved *accuracy* in WET testing.

Reanalysis of data from USEPA’s inter-laboratory WET variability study indicates that the TST statistical hypothesis test also “detects” toxicity in clean blank samples at a rate up to three times higher than the NOEC statistical test. USEPA. *Final Report: Interlaboratory Variability Study of EPA Short-term Chronic and Acute Whole Effluent Toxicity Test Methods*, Vol. 1; EPA-821-B-01-004 (Sept., 2001). Blank samples are those comprised solely of laboratory dilution water that is known to be non-toxic before the test begins. Such inaccuracies demonstrate that the TST does not provide performance “acceptably equivalent” to that of the standard methods that were promulgated in 40 C.F.R. Part 136 in the 2002 Methods.

It has been suggested by USEPA and Tetra Tech that a more thorough review of USEPA’s blank study data revealed several previously undetected quality assurance and quality control issues that at least partially explains the presumed high false failure error rate associated with the TST. See Tetra Tech presentation at the August 22, 2011 State Board TST Workshop, slides 22 through 28, which can be found on the following website: [http://www.swrcb.ca.gov/water\\_issues/programs/state\\_implementation\\_policy/docs/testdrive\\_presentation.pdf](http://www.swrcb.ca.gov/water_issues/programs/state_implementation_policy/docs/testdrive_presentation.pdf). However, the restrictions being imposed by requiring use of the two-concentration TST method will also restrict the ability of toxicologists to identify and address similar issues when interpreting compliance test results.

Neither the USEPA’s inter-laboratory WET variability study nor the State Board Test Drive evaluated the impact associated with incorporation of the two-concentration design, with no concentration-response evaluation, on the false failure error rate. The State Board Test Drive simply compared the results of NOEC and TST analyses on a large number of multiple concentration effluent tests incorporating a concentration-response evaluation and two-concentration receiving water tests. However, no evaluations comparing the multiple concentration TST method (with the concentration-response evaluation) to the two-concentration TST method have been conducted. In contrast, the USEPA did conduct an evaluation of the multiple concentration NOEC method with and without incorporation of a concentration-response evaluation and determined that incorporation of the concentration-response evaluation was responsible for reducing the false positive error rate from 14% to less than 5%. (67 Federal Register 69,964 (November 19, 2002).) Therefore, a similar improvement in the error rate in the TST statistical test would be expected with incorporation of a multiple concentration test design that included a similar concentration-response evaluation.

While some contend that the State Board Test Drive adequately demonstrated that the false failure error rate for the TST statistical test is comparable to the NOEC statistical test, such a conclusion is unfounded. The State Board Test Drive was not able to estimate the false positive error rate of the NOEC or false failure rate of the TST because the analysis was not conducted on known non-toxic blank samples. Tests used in the State Board Test Drive evaluation were performed on effluents and ambient waters whose actual or true “toxicity” was not known. Some of the tests that exhibited relatively high effects may have actually been “non-toxic,” while others that exhibited relatively small effects may have been truly “toxic.” Additionally, as discussed above, this analysis failed to examine the impact of eliminating the concentration-response evaluation on false positive error rates.

In the absence of any actual studies on the error rate of the two-concentration TST method, based on inference from the study referenced above, the single test false failure error rate for the two-concentration TST method is estimated to be 14-20% as was seen with the NOEC. Because of the general unreliability and inaccuracy of these biological test methods, and the amplifying effects on the false failure error rate imposed by the two-concentration TST method, strictly construed numeric (“Pass/Fail” or “% Effect”) effluent limits for toxicity are inappropriate, infeasible to comply with, and should not be imposed.

4) The Toxicity Provisions Fail to Include Authorized Regulatory Flexibility.

CWA Section 1312(b)(2) allows the Administrator (here, the State Water Board) to issue a permit that modifies the effluent limitations that otherwise would be required under the Act “if the applicant demonstrates at [a] hearing that there is no reasonable relationship between the economic and social costs [of the effluent limitations] and the benefits to be obtained (including attainment of the objective of [the Act]) from achieving such limitation.” (33 U S C §1312(b)(2).) By its terms, section 1312(b)(2) of the Clean Water Act does not apply to “toxic pollutants,” but to pollutants other than “toxic pollutants” and logically to toxicity which is not a pollutant at all, this section expressly allows consideration of economic costs to relax or modify water quality-based effluent limitations in a wastewater discharge permit. (*See accord City of Tracy v. SWRCB, supra.*) Here, because even if all available technology was installed at any cost,<sup>28</sup> the toxicity limits could still not be consistently attained, due to the sheer statistical likelihood that a violation will occur, the proposed limits (as well as the underlying objectives) must be modified to be attainable as well as reasonable. (Water Code §13300; §13241.)

**2. Automatic Finding of Reasonable Potential Violates Federal Rules**

For POTWs larger than 5 million gallons per day (mgd), the Toxicity Provisions propose to skip the important and federally required step of determining whether an effluent limitation is necessary, and automatically prescribes effluent limitations without this important information.

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<sup>28</sup> In fact, reverse osmosis-treated water is likely to fail a toxicity test as the water is too clean to support aquatic life. Minerals and other constituents must be added back into that water to make it non-toxic.

This proposal is inconsistent with the CWA regulations' requirement to include effluent limitations only "where necessary to achieve water quality standards established under section 303 of the CWA, including State narrative criteria for water quality" (40 C.F.R. §122.44(d)(1)) and APA requirements of Necessity. Since the Santa Ana Region shows no toxicity in receiving waters, effluent limitations are wholly unnecessary despite the size of the POTW.

In addition to being contrary to law, the failure to conduct a reasonable potential analysis punishes good performers that would not otherwise receive an effluent limit where they have high quality effluent. POTWs over 5 mgd that have industrial dischargers to the sewer system all have pretreatment programs. Instead of making these systems more likely to have toxicity, they should be *less* likely to have toxicity since the industrial sources are well-regulated. (See USEPA, *Determining WET Reasonable Potential for NPDES Permitting*, at Module 5 ("if the facility has an advanced pretreatment and wastewater treatment system in place, the effluent may have less likelihood of being determined to have RP.")) All dischargers should be held to the same standard and all should be demonstrated to exhibit reasonable potential before an effluent limitation is prescribed for its discharge.

### **3. The Toxicity Provisions Violate State Law.**

#### **a. Failure to Include a Valid Program of Implementation.**

In addition to be contrary to federal law, the proposed policy also violates state law by not setting forth a description of the nature of the actions necessary to meet the new toxicity objectives, or a plan for bringing the state's waterways that have exhibited some toxicity into compliance. The stated plan for compliance is to increase monitoring, which is not normally an action that would improve water quality or achieve compliance. However, under the TST approach, the outcome or toxic presumption can change merely by doing additional tests (replicates). How this additional testing can modify effluent or instream water quality defies logic.

An appropriate toxicity policy should be similar to the process for developing Total Maximum Daily Loads (TMDLs) for toxicity. Once confirmed and listed as impaired, the cause of toxicity is determined (where possible) and remedied. The proposed policy seems to focus more on placing dischargers in violation than seeking to remedy any actual water quality problem.<sup>29</sup> The current system of triggers for accelerated monitoring to confirm the existence of persistent toxicity, and then to determine the cause of toxicity represents a more reasonable approach, in accordance with Water Code section 13000, than to just have dischargers racking up violations

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<sup>29</sup> The proposed policy also seems to be a solution without a huge statewide problem. The policy documents demonstrate that many regions of the state have very little toxicity and some seem to have none at all (Draft Staff Report at pages 35-39), yet the policy proposes a one-size fits all approach. That being said, the policy then proposes to exempt out several different categories of dischargers, which fails to achieve its statewide consistency goal, and will fail to solve any real toxicity problems. In addition, the policy goals appear to be set to only fit the TST approach, and this approach seems to be proposed to void any legal challenges to permits that were early adopters of this approach before it was blessed in this new policy.

and subjecting them to fines, penalties, and citizen suits over something that may not be chronic or toxic at all.

**b. Unlawful Modification of Waste Discharge Requirements via Order.**

The Proposed Toxicity Provisions state that certain permits' monitoring and reporting requirements may be modified to include requirements to use the TST. (See Draft Staff Report at page 21 ("For storm water and nonpoint source dischargers that are required to conduct toxicity testing with test methods described in Section IV.B.1.b of the Provisions, the Water Boards would issue Water Code section 13383 orders or 13267 orders within one year of the effective date of the Provisions. The orders would require toxicity testing, analysis, and reporting to be conducted in accordance with the Provisions commencing within one year from the date of the order.") Such a proposal violates state law.

Federal and state law prohibit modifying the terms of permits without public notice and comment and state law prohibits the delegating of authority to issue or modify waste discharge requirements (WDRs). (See *accord* 40 C.F.R. §124.5; Water Code §13167.5(a)(1); §13223(a)(2); §§13380-13381.) The Monitoring and Reporting Program (MRP) is an integral part of a WDR or NPDES permit in order to determine compliance with that permit. As such, modifications cannot be delegated to staff or made by an order separate from the permit itself. See *San Francisco Baykeeper v. SFRWQCB*, Order Granting Petition for Writ of Mandate and Statement of Decision, Consolidated Case No. 500527, Eighth Cause of Action (2003) (activities, such as approval of a monitoring plan containing monitoring requirements for a permit, cannot be delegated and would constitute "impermissible delegations of authority" under Water Code section 13223).

**C. The Toxicity Provisions Fail to Meet the APA Requirements for Clarity.**<sup>30</sup>

The proposed water quality objectives for chronic and acute toxicity are unintelligible to the normal person. Although people can understand an objective of "10 milligrams per liter of copper," or "no toxics in toxic amounts," no one can easily understand the following proposed objectives:

**2. Aquatic Toxicity Water Quality Objectives**

**a. Numeric Chronic Aquatic Toxicity Objective**

The chronic aquatic toxicity water quality objective is expressed as a NULL HYPOTHESIS and an ALTERNATIVE HYPOTHESIS with a REGULATORY MANAGEMENT DECISION (RMD) of 0.75, where the following NULL HYPOTHESIS shall be used:

Ho: Mean RESPONSE (ambient receiving water)  $\leq$  0.75 • mean RESPONSE (control)

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<sup>30</sup> Clarity means "written or displayed so that the meaning of regulations will be easily understood by those persons directly affected by them." (Gov't Code §11349(c).)

In general terms, the NULL HYPOTHESIS is the following statement: the ambient receiving water is toxic because the test organism RESPONSE (e.g., survival, reproduction, growth) in the ambient receiving water sample is less than or equal to 75 percent of the test organism RESPONSE in the control water sample.

And where the following ALTERNATIVE HYPOTHESIS shall be used:

Ha: Mean RESPONSE (ambient receiving water)  $> 0.75 \cdot$  mean RESPONSE (control)

In general terms, the ALTERNATIVE HYPOTHESIS is the following statement: the ambient receiving water is not toxic because the test organism RESPONSE (e.g., survival, reproduction, growth) in the ambient receiving water sample is greater than 75 percent of the test organism RESPONSE in the control water sample.

Attainment of the water quality objective is demonstrated by conducting CHRONIC TOXICITY TESTING as described in Section IV.B.1.b and rejecting this NULL HYPOTHESIS in accordance with the TEST OF SIGNIFICANT TOXICITY (TST) statistical approach described in Section IV.B.1.c. When the NULL HYPOTHESIS is rejected, the ALTERNATIVE HYPOTHESIS is accepted in its place, and there is no exceedance of the chronic toxicity water quality objective. Failing to reject the NULL HYPOTHESIS (referred to as a “fail”) is equivalent to an exceedance of the chronic toxicity water quality objective.

#### **b. Numeric Acute Aquatic Toxicity Objective**

The acute aquatic toxicity water quality objective is expressed as a NULL HYPOTHESIS and ALTERNATIVE HYPOTHESIS with an RMD of 0.80, where the following NULL HYPOTHESIS shall be used:

Ho: Mean RESPONSE (ambient receiving water)  $\leq 0.80 \cdot$  mean RESPONSE (control)

In general terms, the NULL HYPOTHESIS is the following statement: the ambient receiving water is toxic because the test organism RESPONSE (e.g., survival) in the ambient receiving water sample is less than or equal to 80 percent of the test organism RESPONSE in the control water sample.

And where the following ALTERNATIVE HYPOTHESIS shall be used:

Ha: Mean RESPONSE (ambient receiving water)  $> 0.80 \cdot$  mean RESPONSE (control)

In general terms, the ALTERNATIVE HYPOTHESIS is the following statement: the ambient receiving water is not toxic because the test organism RESPONSE (e.g., survival) in the ambient receiving water sample is greater than 80 percent of the test organism RESPONSE in the control water sample.

Attainment of the water quality objective is demonstrated by conducting ACUTE TOXICITY TESTING as described in Section IV.B.1.b and rejecting this NULL HYPOTHESIS in accordance with the TST statistical approach described in Section IV.B.1.c. When the NULL HYPOTHESIS is rejected, the ALTERNATIVE HYPOTHESIS is accepted in its place, and there is no exceedance of the acute toxicity water quality objective. Failing to reject the NULL HYPOTHESIS (referred to as a “fail”) is equivalent to an exceedance of the acute toxicity water quality objective.

The proposed null hypothesis’ presumption of toxicity lacks clarity since this is not a valid presumption. Further, mischaracterization of recycled water (or even drinking water since this policy applies to potable water discharges to surface waters) as “toxic” also harms the public by decreasing the acceptance and use of recycled water in times of drought.

## II. The Proposed Toxicity Provisions Fail to Adequately Consider Alternatives.

Alternatives not considered in the proposed policy should be considered,<sup>31</sup> such as enforcing the precedential orders, adopting a consistent statewide narrative objective (as was done in the Trash and Sediment Toxicity policies<sup>32</sup>), and requiring a numeric trigger for confirmatory monitoring and toxicity identification/reduction. Once a toxicant is determined, then that constituent needs a numeric effluent limit - not chronic toxicity, which is not even a pollutant itself.<sup>33</sup>

If the State Board is so enamored with the use of the TST, this approach could be used as the prescribed trigger, which would generate ample data so that the USEPA could promulgate the TST as an approved method for use in toxicity permitting and compliance in the future. Until that time, the State Water Board must utilize the mandated Part 136 methods and stop rewarding regional boards for adopting illegal permits (many of which have been appealed and have not been taken up by the State Water Board on its own motion to enforce its four valid precedential orders on chronic toxicity).

## III. The Proposed Toxicity Provisions Violate CEQA.

In the case of *City of Sacramento v. SWRCB*, 2 Cal. App. 4<sup>th</sup> 960, 969 (3d Dt. 1992), the Court held that the purpose of CEQA is to “compel government at all levels to make decisions with environmental consequences in mind.” The proposed Toxicity Provisions fail to consider all potential environmental consequences.

The State Water Board’s conclusory statements on pages 182, 185, 191, 194-195, 198, 208-212, and 217 of the Draft Staff Report that the proposed requirements will have absolutely “no impact” is not supported by any substantial evidence, or any evidence at all, and is in direct contrast to California Environmental Quality Act (CEQA) requirements. (*Mountain Lion Coal. v. Fish & Game Comm’n* (1989) 214 Cal.App.3d 1043, 1047; *Laurel Heights Improvement Ass’n v. Regents of the University of California* (1988) 47 Cal.3d 376, 404, (Conclusory comments in

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<sup>31</sup> Downey Brand also submitted a proposal in January of 2011 and the State Water Board failed to respond to these comments that proposed an alternative policy. See **Attachment 4**.

<sup>32</sup> The Trash Policy set standardized narrative water quality objectives for both the Ocean Plan and the ISWEBE Plan, which basically state that trash shall not be present in waters, along shorelines or adjacent areas in amounts that adversely affect beneficial uses or cause nuisance. As stated in the Final Staff Report for the Trash Amendments at page 71, “A narrative objective is as enforceable as a numeric objective.” Similarly, the Sediment Quality Provisions adopted a narrative sediment quality objective stating that “Pollutants in sediments shall not be present in quantities that, alone or in combination, are toxic to benthic communities in bays and estuaries of California. This narrative objective shall be implemented using the integration of multiple lines of evidence (MLOE)...” Implementation of this narrative objective includes requirements for monitoring and an iterative process to determine the cause of the biological effects and the responsible sources so that management actions are effective. No reason exists why surface water toxicity could not be regulated in a similar manner.

<sup>33</sup> See Draft Staff Report at p. 55 (“Toxicity is not an absolute quantity, but rather an effect that is determined relative to a control, when using a toxicity test.”)

support of environmental conclusions are generally inappropriate); *San Joaquin Raptor/Wildlife Rescue Center v. County of Stanislaus* (1994) 27 Cal.App.4th 713, 721.) A review of the Environmental Checklist provides no evidence to support the State Water Board's conclusion that the proposed Toxicity Provisions will not result in reasonably foreseeable physical changes to the environment through the need for different or additional treatment technologies. Such lack of information and resulting analysis does not comply with an agency's required good-faith effort to disclose the environmental impacts of a project to decision makers and the public. (CEQA Guidelines, Section 15151.) Accordingly, the CEQA Checklist fails to disclose the data or evidence upon which the conclusions of "no impact" rely. (*Citizens Association for Sensible Development of Bishop Area v. County of Inyo* (4<sup>th</sup> Dist. 1985) 172 Cal. App. 3d 151 (holding that an initial study must disclose the data or evidence relied upon)).

The conclusions of "no impact" are not only unsupported, they are also inaccurate. For example, on page 198, the Draft Staff Report states that the proposed project would have no impact related to "Conflict with any applicable habitat conservation plan or natural community conservation plan." However, the newly proposed Toxicity Objectives may actually adversely affect the ability to use recycled water in the San Bernardino Valley. Currently, public agencies are making significant investments aimed at developing more than 15 MGD of recycled water for our region. Much of that water can be used to provide instream flows for habitat conservation purposes. Given the potential for "false failure" test results for toxicity under the new policy, the result is likely to be an inability to proceed with these projects or an inability to use the recycled water as planned (and in some cases permitted) for habitat projects. These adverse impacts on the environment – either through the need to import additional water from other portions of California or the inability to fully use recycled water, which then creates further needs for additional imported water – were completely ignored.

Similarly, it is unclear how the State Water Board can conclude on page 194 that the Toxicity Provisions have no impact related to "Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level...." If potential sources of reusable wastewater or storm water are not proposed for recharge due to now intermittently demonstrating toxicity, this could adversely impact groundwater recharge projects and lower groundwater levels. Because the CEQA analysis focused primarily on differences in MONITORING, and not differences in how water is characterized and addressed through regulatory programs and treatment, the analysis misses many potential environmental impacts.

In addition, because in some cases an assumption has been made that no impacts will exist, there has also been no attempt to estimate the aggregate number of projects that would be undertaken as a result of the proposed Statewide Plan amendments. (See CEQA Guidelines, Section 15151 (requiring good-faith effort to disclose environmental impacts); CEQA Guidelines, Section 15063; and *Citizens Association for Sensible Development of Bishop Area v. County of Inyo* (4<sup>th</sup> Dist. 1985) 172 Cal. App. 3d 151 (holding that an initial study must disclose the data or evidence relied upon).) The Water Board must examine the impacts of the proposed amendments under

review against the backdrop of cumulative conditions. (*Communities for a Better Environment v. California Resources Agency* (3<sup>rd</sup> Dist. 2002) 103 Cal. App. 4<sup>th</sup> 98 (holding that an agency may not employ a *de minimis* rationale when evaluating cumulative impacts).)

The Water Board also improperly uses what is currently occurring under the Regional Water Board's regulatory programs and permits using TST as the baseline since those regulatory programs are not based upon any adopted regulation and never underwent CEQA review. The fact that the new objectives allow for the use of objectives different than the current narrative water quality objectives contained in the Basin Plans and the requirements of precedential orders must be considered, not only under the Water Code's mandatory factors set forth in section 13241, but also under CEQA. The current narrative water quality objectives in the Basin Plans and the requirements of precedential orders are the baseline, not the unauthorized procedures that the Water Board now characterizes as standard practice.

In addition, the Toxicity Provisions inadequately address the findings significant impact and do too little to mitigate. Modification of the policy to mitigate impacts is not considered and all alternatives are not considered for whether or not those alternatives present fewer impacts.

Specifically, for the reasons described above, the "false failures" rate of between 14% and over 50% indicates that the use of the TST procedure constitutes "speculation" that is forbidden by CEQA. Such a false failures rate makes compliance with the standard little more than a coin toss; such a capricious analysis of impacts is not consistent with CEQA's requirement that the Lead Agency use the best scientific methods available, particularly in light of USEPA's non-promulgation of the TST methodology.

In addition, the foregoing discussion has identified a number of alternatives that could, if implemented by the State Board, simultaneously address the objectives for the proposal (as understood by the State Board) and also reduce the adverse impacts of the proposal on the environment (e.g., reducing the use of recycled water) by ensuring a more reliable testing regime. Under well-established principles of CEQA, where a Lead Agency has before it an alternative that will accomplish its purposes and reduce impacts on the environment, the Lead Agency *must* adopt that alternative. Here, continuing to rely upon the existing testing methods (with appropriate modifications as discussed above) constitutes the environmentally superior project and so must be adopted by the State Board. Any other action would violate CEQA.

For these reasons, the CEQA-related analyses require revision and the proposed amendment must be re-circulated once complete.

#### **IV. The Proposed Amendments are Not Supported by Findings or the Findings Made are Not Based on Evidence in the Record.**

All administrative actions must be supported by findings, and findings must be based on evidence in the record. Orders not supported by findings or findings not supported by evidence constitute an "abuse of discretion" (Cal. Code Civ. Proc., §1094.5(b)). An "agency which

renders a challenged decision must set forth findings to bridge the analytical gap between raw evidence and the ultimate decision or order.” *Topanga Ass’n for Scenic Community v. County of LA*, 11 Cal.3d 506, 515 (1974); 40 C.F.R. §124.8(b)(4); see accord *California Edison v. SWRCB*, 116 Cal. App.3d 751, 761 (4th Dt. 1981); see also *In the Matter of the Petition of City and County of San Francisco, et al.*, State Board Order No. WQ-95-4 at 10 (Sept. 21, 1995).

The State Water Board must make findings based on evidence in the record and may not merely tick off statutory requirements and make claims without supporting evidence. See *City of Carmel-by-the-Sea v. Bd. of Supervisors*, 71 Cal.App.3d 84, 93 (1977) (holding that written findings of fact were insufficient as a matter of law because they were merely a recitation of the statutory language). In addition, the State Water Board may not rely on speculation in reaching a decision. Rather, it must be clear from the record that the State Water Board actually relied upon solid evidence to support its findings, and that this clearly identified and cited evidence supports the agency’s findings and ultimate conclusion.

Further, an agency must ensure that it “has adequately considered all relevant factors [here, CWA requirements along with Water Code sections 13000, 13241, 13242, etc.] and has demonstrated a rational connection between these factors, the choice made, and the purposes of the enabling statute.” *Cal. Hotel and Motel Ass’n v. Industrial Welfare Com.*, 25 Cal. 3d 200, 212 (1979). In this case, as discussed herein, the State Water Board’s action to adopt the proposed Toxicity Provisions is not supported by adequate or accurate findings, and/or the findings made are not based on evidence in the record.

The level of detail that must be included in the Board’s consideration must clearly demonstrate the “analytical route” contemplated under *Topanga*. See *Department of Corrections v. State Personnel Board*, 59 Cal.App.4th 131, 151 (1997). It is insufficient to simply cite to unsubstantiated findings without proof. Thus, the proposed Toxicity Provisions, if adopted, will constitute an abuse of discretion.

## V. SUMMARY<sup>34</sup>

The proposed Toxicity Provisions must be substantially revised to make them compliant with state and federal law. We believe that a compliant policy, acceptable to the stakeholders, is not only possible, but fairly simple if the State Water Board continues its currently binding precedential orders, proposes consistent statewide narrative objectives and effluent limitations for toxicity, and numeric triggers for additional confirmation of toxicity and identification of the source based on either promulgated point estimates or the TST (so long as the TST is not used for compliance determination purposes). We stand ready to assist in modifying the Provisions to meet this goal of consistency without placing dischargers and water/recycled water purveyors in compliance jeopardy.

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<sup>34</sup> The Department and District also incorporate by reference consistent comments made by other dischargers, including but not limited to CASA, BACWA, SCAP, CVCWA, ACWA, and other discharger stakeholders.

Respectfully Submitted,

DOWNEY BRAND LLP



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