CITY OF SAN BERNARDINO
MUNICIPAL WATER DEPARTMENT

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January 20, 2011

Via Electronic Mail: commentletters@waterboards.ca.gov

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

Subject: Comment Letter – Policy for Toxicity Assessment and Control

Dear State Water Resources Control Board Members:

The San Bernardino Municipal Water Department (SBMWD) appreciates the opportunity to comment on the SWRCB's proposed Policy for Toxicity Assessment and Control. SBMWD owns and/or operates two wastewater reclamation facilities that would be regulated under this policy. We recognize the efforts of State Board Staff in developing the draft policy; however, we have serious concerns with this proposed policy as currently drafted.

SBMWD is located in the Santa Ana Region, RWQCB #8 (SARWQCB). All NPDES permits issued by SARWQCB have included toxicity monitoring provisions for many years. The latest Surface Water Ambient Monitoring Program (SWAMP) report showed no toxicity was found in the Santa Ana Region. Considering that the Santa Ana River is predominantly reclaimed wastewater, having SWAMP monitoring demonstrate that there is no toxicity is further proof that the current toxicity program is successfully addressing toxicity issues. We believe that the program in place in the Santa Ana Region is appropriate and should not be superseded by the proposed policy.

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The current SARWQCB program includes a narrative standard of "no toxics in toxic amounts." When results greater than 1 TUc are validated, monitoring requirements require accelerated testing and other measures to determine if the result really reflects toxicity in the sample. The proposed policy would establish a numeric standard and any result other than 1 TUc would automatically result in a violation. Accelerated monitoring is required for a longer period with any additional values greater than 1 TUc, also resulting in violations. The problem with these changes is that the Whole Effluent Toxicity (WET) test is a biological examination using living test species that can be highly variable. The variability of the test itself can produce "toxic" results which will be linked to effluent samples.

The tertiary facility operated by SBMWD was used in the economic evaluation for the proposed policy. In the period of 2006 through 2008, there were 47 toxicity tests completed, of which 5 had initial results greater than 1 TUc. In using the proposed TST statistical method, 3 additional analyses would result in greater than 1 TUc. In all cases, the next analysis returned to 1 TUc. Although no monthly median was greater than 1 TUc using the current toxicity program, applying the proposed policy would require 3 TIE/TREs. Completing a successful TIE/TRE is impossible when the chronic toxicity is low level and intermittent. These levels are within the variability of the test itself. The proposed policy would only serve to financially penalize the permittee through additional onerous toxicity monitoring. A single TIE/TRE can cost hundreds of thousands of dollars with no benefit to the environment because of inconclusive results.

The proposed policy indicates that money could be saved by reducing the number of dilutions. At the State's workshop held November 16, 2010, the statistician indicated that the difference in the proposed TST statistical analysis from the method-promulgated NOEC statistical analysis could be overcome by completing more replicates. The increased number of replicates would eliminate savings from fewer dilutions. Also, by only testing a control and the instream concentration, any data on dose response is lost. *As you may recall, dose response is critical to toxicity determinations (dose makes the* poison).

In Section IV of the proposed policy, there are analyses of issues and alternatives. Issue 1A includes the statement that the omission of toxicity monitoring requirements in permits prevents the Regional Water board staff from assessing the aggregate effects of multiple pollutants. In the recommended alternative, chronic toxicity monitoring would be required of intermittent discharges greater than 1 MGD. First, the selection of volume is arbitrary and capricious. We oppose this change in that chronic testing is required over a week period, and other proposed requirements would then require accelerated monitoring if deviant results are found. Intermittent discharges may not last that long. In our case, we have a permit for an intermittent discharge based on river flow. We are required to chlorinate the discharge and have completed chlorine demand studies that alleviate the need to de-chlorinate before discharge. End of pipe sampling would suggest sample toxicity but there is no instream effect because the chlorine is instantaneously

dissipated. The discharges are minimal. It would not be reasonable and would be a waste of public resources to require chronic toxicity monitoring in this case.

In the case of stormwater, rainfall patterns will vary and each discharge could be from different drainage areas depending on where the rain falls. Chronic toxicity monitoring may be difficult to complete, and accelerated monitoring as described in the proposed policy with rainfall patterns in southern California would be impossible to complete. For these reasons toxicity monitoring for most intermittent discharges is nonsensical regardless of the volume. Actual observations looking for potential instream impacts would be more beneficial.

The statistical method is discussed in Issue 1B. The current statistical methods that were included in the promulgated toxicity testing method with advantages and disadvantages are discussed along with a new statistical method called the Test of Significant Toxicity (TST) which was not included in the promulgated method. The staff recommendation for this issue is the TST statistical method, yet in the discussion, it is stated that the differences from the NOEC statistical method that make it less preferable can be overcome by setting acceptable lower and upper bounds of Percent Minimum Significant Difference (PMSDs), (US EPA 2000). We object to the requirement of the TST statistical method exclusively and believe the promulgated NOEC statistical method should still be allowed. If additional changes are necessary, the change should be the determination of acceptable PMSDs.

Issue 1C relates to numeric objectives and single sample violations. We disagree for the reasons stated previously. We believe that the narrative objective with triggers has been effective in our region and believe that no change is warranted.

In Issues 1D and E, stormwater and channelized discharges are discussed. Stormwater was discussed above with intermittent discharges. Due to the cost of toxicity monitoring and the difficulty in completing chronic toxicity monitoring in intermittent discharges and identifying causes of low level toxicity, we believe it is a waste of public resources to require blanket toxicity monitoring on all such discharges. The RWQCBs should retain discretion on when and where toxicity monitoring should be required and it should be based on where indications of actual instream impairment have been found.

In Issue 2, compliance determinations are discussed. Issue 2A would establish reasonable potential (using the TST statistical method) for all POTWs regardless of whether toxicity is determined. The SBMWD tertiary facility uses in situ soils for filtration, the treated water is extracted and disinfected prior to discharge. This reclaimed water is basically well water. There is an average hold time of about 30 days through the facility. No toxicity was validated in the extracted water. Toxicity testing has been completed monthly since April of 1996 and included about 3 years of 3 species testing to determine the most sensitive species. This facility is considered a major facility and under the proposed policy, toxicity testing could not be reduced. Again, this seems to be another

waste of public monies. RWQCB discretion should be allowed such that toxicity monitoring at this facility should be reduced to annually consistent with priority pollutant monitoring, if not once during the term of the permit. TST statistical method was addressed earlier in this letter.

Currently in Region 8, there is a narrative objective with triggers for additional action should the narrative objective be exceeded. In Issue 2B, numeric instantaneous *maximums would be established based on the instream waste concentration.* The current strategy in this region is effective. We believe that setting an instantaneous maximum at the instream waste concentration where each excursion is a violation is absurd given the inherent variability of this biological test.

Issue 2C, monitoring frequencies, has been discussed above.

Issue 2D addresses compliance schedules where up to 2 years could be allowed for dischargers that have not been required to complete toxicity testing, and no compliance schedule for dischargers currently completing toxicity monitoring. A comment is included that the proposed provisions do not include substantive changes to infrastructure or test procedures. We beg to differ in that the TST reverses the null hypothesis and assumes all discharges are toxic unless proven otherwise, and the TST statistical method is promoted as more sensitive and more protective of the aquatic biota. In other presentations it has been demonstrated using the EPA's blank data set that the TST will result in more false determinations of toxicity. If this proposed policy is adopted, more facilities will be deemed to have toxic effluent and compliance will be required. It may be speculative as to what infrastructure will be required for the discharge to be compliant but given the discharge is presumed toxic during the TST, it is unlikely that discharges will be able to achieve continued compliance.

Exceedances are addressed in Issue 2E. Given the higher false toxicity rate using the TST statistical evaluation, additional TREs will be required with no resulting change in instream quality detectable. TREs can be quite expensive and will result in no conclusion if the initial indication of toxicity was at low levels or intermittent. Again, this would result in a waste of precious public resources.

Exceptions discussed in Issue 2F are too narrow. The RWQCBs are in the best position to determine insignificant discharges. These discharges should not be limited to volume or size of municipality. Instead, the threat to the receiving water as determined by the RWQCB should prevail. There can be large discharges during storm events that have no impact to storm flows. RWQCBs should retain their discretion in this matter.

In Section V of the proposed policy, it is stated that "Adverse environmental impacts will not directly result from the provisions established in the Policy. While compliance with the proposed objectives may necessitate facility upgrades that negatively affect the surrounding environment in some manner, such assumptions are purely speculative and

would be addressed during project level CEQA analyses (see Appendix A for more information)." We take umbrage at this statement. It has been shown using the EPA's blank dataset that the TST evaluation is more sensitive to false determinations of toxicity and under such a statistical method, regular compliance cannot be consistently achieved. The POTW industry is faced with many challenges such as the current economy and climate change regulation. Any additional facilities will increase energy needs. Climate change regulation requires that energy needs be rolled back to energy levels set well before adoption of the CTR. We are required to purify the water to higher levels, with less financial means and less energy. We are a medium sized poor community with about 40% on public assistance. This policy adds additional burden to our community with no measurable benefit to the receiving waters. Throughout the policy there is mention that the proposed policy will assure protection of beneficial uses, and provide adequate protection of aquatic life. The policy describes different strategies in the various regions, but there is no mention of areas where dead aquatic life or impaired water problems are demonstrated from discharger toxicity in areas where toxicity monitoring has been implemented in NPDES permits.

Our last comments relate to the economic analyses included in the appendices. We think one of our facilities was used on the analyses however we cannot match the NPDES number flow and existing permit requirements with the given name. If indeed it is the Colton/San Bernardino Regional Tertiary Treatment Facility, the economic review indicated that there were 2 instances where the trigger was exceeded. There were none, however there was an inconclusive test where we voluntarily began accelerated monitoring. It is stated that there were 4 instances where the existing TIE/TRE trigger was exceeded. There were none during that time period. Under the proposed policy, it is stated that there would be 3 exceedences. In our review, there would be 8 instances where the instantaneous maximum would be exceeded based on TST evaluations. Based on the requirement of 6 accelerated tests after any exceedance, 4 TIE/TREs would have been required. Please note, the exceedances were low level and were intermittent. TIE/TREs completed would not resolve this low level issue.

Also under the policy, new 3-species sensitivity would have to be conducted even though 36 months of testing 3 species was conducted when the facility initially came on line. It is assumed that testing would be changed from multiple dilution to control and instream waste concentration for a cost savings. To retain the same statistical power, additional organisms would need to be added which would erase any savings from fewer dilutions. Also, as mentioned prior, dose makes the poison. Valuable data would be lost by switching to single concentration testing.

So, rather than a proposed savings, the proposed policy would significantly increase toxicity monitoring cost to the facility and to our Department given that we have additional permits that will potentially begin to be required to conduct toxicity monitoring. We would like to iterate that there are no instream toxicity determinations of impairment related to our discharges or in receiving waters at our discharge points.

By reference we incorporate comments submitted by WSPA, Downey Brand, CASA and Risk Sciences.

For the reasons above, we believe this policy is fatally flawed and should not go forward as proposed. We respectfully request that the policy not be adopted and look forward to participating in additional efforts by State Board staff in developing a WET policy that meets the needs of stakeholders and regulators in an economically feasible and environmentally sound manner.

Respectfully,

San Bernardino Municipal Water Department

Valerie Housel
Director of Environmental & Regulatory Compliance