CITY OF REDDING

PUBLIC WORKS DEPARTMENT

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January 20, 2011
W-010 & S-060

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

Dear Mrs. Townsend:

Subject: Comment Letter - Policy for Toxicity Assessment and Control

The City of Redding Wastewater Utility (Utility) greatly appreciates the opportunity to provide these written comments on the State Water Resources Control Board's (Board's) Draft Policy for Toxicity Assessment and Control. The City of Redding provides wastewater and water services to ratepayers and maintains a network of storm drain channels carrying storm water into the Sacramento River in Northern California. The Utility is submitting comments regarding wastewater issues surrounding the draft policy, as well as comments regarding the City of Redding's storm drain system. As with the City of Redding in general, this Utility understands the importance of whole effluent toxicity monitoring and is wholly committed to the protection of surface water resources within the context of its fiduciary obligations to ratepayers. The following comments are respectfully submitted with these goals in mind, in an effort to assure the continuation and betterment of California's environment while ensuring legitimate and efficient use of public funds.

The Utility has a range of concerns regarding the potential impact of the proposed policy. The primary concern is the potential for a high occurrence of false positives that has been reported by scientific organizations and industry groups reviewing the proposed statistical method contained in the policy[1]. This would lead to the incorrect identification of wastewater treatment plant effluent, storm water runoff and receiving waters as toxic, and could lead to unnecessary treatment plant upgrades and the expenditure of public funds in response to these inaccurate toxic identifications. As a public agency, the City of Redding cannot lightly allocate public funds in response to findings arising from a method that has been called into question by the scientific community. In addition to this overarching issue, the Utility would like to submit the following concerns as well.

Undue Impairment Listings

In addition to the concern that a high rate of false positives will result in regulatory penalties and unfounded exposure to lawsuits, the Utility is also concerned that the potential for excessive

[1]For example, see Comments on the Preliminary Draft Policy For Whole Effluent Toxicity Assessment and Control that was submitted by CASA and Tri-Tac to the State Water Resources Control Board on August 6, 2010.

false positives will lead to the unwarranted classification of receiving waters throughout the state as impaired for toxicity. These inaccurate impairment listings would have a compounding effect on numeric toxicity and other effluent limits, and could result in the need for capital improvements and related rate increases based on a flawed statistical method.

Assumption of Reasonable Potential for Toxicity

In the proposed policy, publicly owned treatment works are classified as having a reasonable potential for toxicity without regard to actual data. The Utility finds this assumption overly cautious considering the two wastewater treatment plants that the City of Redding operates have been required to regularly collect and test undiluted effluent samples for both acute and chronic toxicity for some time now. This data confirms that undiluted effluent regularly exhibits a complete lack of toxic effects on aquatic organisms. Moreover, even these toxicity studies are overly conservative, as both treatment plants discharge effluent through diffusers that spread the effluent across a wide swath of the Sacramento River and adequately mix this effluent with extremely high flows that exist in the river. It is unscientific and overly punitive to disregard this substantial body of data and impose an assumption of toxicity outright.

Numeric Versus Narrative Limits

The establishment of numeric limits required by the draft policy is unnecessary and would impose unwarranted liability on dischargers. The City of Redding's current National Pollutant Discharge Elimination System (NPDES) permits contain narrative limits that adequately protect receiving waters, whereas numeric limits would shift the focus from finding the sources of toxicity to a focus on regulatory penalties. Under the existing narrative limits the Utility has been able to demonstrate that its effluent does not present toxic effects, and has been able to cost-effectively demonstrate a lack of receiving water impacts. The imposition of numeric limits, the exceedance of which would constitute a violation, would expose dischargers to additional liability from lawsuits and penalties, and would divert resources away from the central goal of identifying and eliminating toxicity.

Inherent Complexity of Biological Systems

Biological systems are inherently complex and dynamic, and testing of treatment plant effluent or storm water for toxicity does not conclusively indicate what the causes of toxicity may be. Slight variations in water chemistry or other factors can affect measurements but be unrelated to the toxicity these tests are intended to investigate. Numerous scientific guidance documents discuss the problematic nature of the interpretation of data resulting from toxicity studies on biological organisms. One study reviewed by the Utility in particular supports this contention, and states that "the interpretation of the results of the analysis of the data...can become problematic because of the inherent variability and sometimes unavoidable anomalies in biological data"[2]. As important, if results indicate toxicity it can be very difficult to determine the cause or causes of this toxicity, and when dealing with effluent or storm water the source of toxicity could be trace elements that the Utility may not be required to monitor or which may be beyond the ability of the Utility to control. The existing process imposed by the NPDES permits under which the City of Redding's treatment plants operate specifies that if a chronic toxicity test indicates toxicity, a process of accelerated monitoring would be initiated in order to determine

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[2]U.S. EPA. Short-Term Methods for Estimating the Chronic Toxicity of Effluent and Receiving Water to Freshwater Organisms, Fourth Ed., EPA-821-R-02-013. October 2002. Section 9.4.1.1, p. 39.

and control the source of the toxicity. The proposed policy would impose accelerated monitoring as well, but the focus of this accelerated monitoring would be on regulatory penalties as opposed to toxicity determination. This means that test results indicating toxicity may be due to variables outside of the Utility's ability or requirement to control, and that violations and monetary penalties could be imposed based on the inherently erratic results of biological testing.

Toxicity Results Not Linked to Instream Impacts

Another issue linked to the complexity of biological systems is the difficulty in using toxicity testing to represent or estimate actual instream impacts. The Utility is not aware of any significant body of scientific research indicating a direct connection between the results of toxicity studies and real world impacts on aquatic species. Due to this uncertainty in data interpretation, it is unlikely that the imposition of numeric limits, regulatory penalties, and classifications of toxicity related to the results of toxicity testing will afford greater protection to aquatic communities than the protection provided under the existing method of utilizing test results.

Cost and Efficacy of Storm Water Toxicity Monitoring

The proposed policy would require regular toxicity testing of the City of Redding's storm water drainage system, a network of watercourses that flow through the City and range from small ephemeral drainages to large urban streams. Given the extent and variety that characterize the storm drain system, the feasibility of gathering representative samples and the value of the data that would be obtained is brought into question. To accurately monitor the potential toxicity of the City's storm drain system, a minimum of 14 sample stations, and potentially many more, would need to be established, maintained, and sampled. This would present a significant cost to the Storm Drain Utility, which currently operates with a limited budget due to the complications posed by Proposition 218. More importantly, the data derived from this monitoring would have limited use, as the storm waters represent flow from a diverse array of rural and urban areas, and any toxicity found could have countless potential sources. The City of Redding appreciates the need for existing storm water regulations and expends significant resources meeting these regulations, but it is likely that many potential sources of toxicity arise from the actions of property owners and consumers over which the City of Redding has little authority. While it is understandable to require municipalities to undertake actions to reduce pollutant loads to storm waters, the draft policy's heavy focus on regulatory penalties would result in an even more restricted operating budget without providing any progress toward the goal of improvement of California's water resources. The Utility requests that the proposed storm water toxicity be removed from any policy adopted, and that regulatory efforts to maintain the quality of storm waters remain focused on source reduction efforts such as public outreach and low-impact development measures.

Cost of Monthly Effluent Testing

In addition to the significant cost that would be associated with storm water sampling, the monthly chronic toxicity testing proposed in the draft policy would impose a drastic increase in the cost of effluent monitoring, both from the cost of sampling and laboratory analysis. Moreover, it is not clear why monthly monitoring is necessary to characterize effluent from a process with fairly consistent influent content that is consistently treated to the same level throughout the year. The two treatment plants operated by the Utility are currently required to test for chronic toxicity at a semi-annual and annual rate respectively, and the results of these

tests are consistent with extremely rare variation. The consistency of results from the existing sample regime and the existing requirement to treat all influent in the same manner to meet already stringent effluent limits indicate that more frequent monitoring is unnecessary to characterize effluent toxicity and would impose an unwarranted cost burden on Utility ratepayers. If the draft policy is adopted, the Utility requests that the proposed requirement for monthly toxicity testing be removed from the draft policy and language be inserted to require toxicity testing at a semi-annual rate or the current rate indicated in a facility's NPDES permit, whichever is greater.

Need for Peer Review

The Utility is aware that there is significant concern regarding the proposed statistical method among industry and the scientific community. For this reason, and compounded by the wide-ranging impacts the draft policy would impose on dischargers, the proposed new method should be peer reviewed and promulgated as any other new analytical procedure. Additionally, direction should be given and time provided for Board staff to analyze with the new method a range of existing toxicity data submitted by dischargers throughout the state to determine the exact impact the draft policy would have on toxicity determinations and resultant penalties.

Conclusion

The Utility appreciates the Board's time and consideration on this important issue. The draft policy as currently written would have far reaching and heavily impacting effects on dischargers throughout California, and at the very least the proposed statistical methods contained in the draft policy should be submitted to a rigorous process of outside peer review prior to consideration by the Board. Clear evidence is lacking that any toxicity found in California's waters can be substantially reduced through an expanded regime of toxicity testing, and the heavy costs the draft policy would impose as written will increasingly strain public agency resources without certainty that the cost will further the goal of increasing water quality. The Utility requests that the draft policy be either declined for adoption or postponed to allow for peer review and revision to bring the potential costs and liabilities in line with the policy's intended benefits.

Please call me at 530-224-6063 or email me at dmcbride@ci.redding.ca.us if you have any questions.

Sincerely,

Dennis McBride
Wastewater Utility Manager

dm/ro
attachments
c: Jon McClain, Assistant Public Works Director
John Stacher, Storm Drain Utility Supervisor