Chlorine Policy
Deadline: 7/14/06 5pm

SRCSD

Wastewater Treatment

10545 Armstrong Avenue
Mather, CA 95655
Tele: [916] 876-6000
Fax: [916] 876-6160
Website: www.srcsd.com

July 14, 2006

Song Her, Clerk of the Board
State Water Resources Control Board
1001 I Street
Sacramento, CA 95814

Subject: Additional Comments on the Revised Proposed Total Residual Chlorine and Chlorine-Produced Oxidants Policy of California

Dear Song Her:

The Sacramento Regional County Sanitation District (SRCSD) is pleased to provide comments on the State Water Resources Control Board's (SWRCB) Proposed Draft Total Residual Chlorine (TRC) and Chlorine-Produced Oxidants Policy of California (TRC Policy) including the Substitute Environmental Document (SED) all dated June 2006 (released by the SWRCB on June 30, 2006). SRCSD has provided comments and public testimony on multiple occasions over the past year.

We appreciate your willingness to work with us and are encouraged that the SWRCB incorporated some of our comments submitted previously, including the addition of a provision to allow the use of mixing zones if authorized by the applicable Basin Plan and the changes reflected in the Quantification Reporting Requirements and Compliance Determination sections of the policy.

While SRCSD thinks the flexibility the SWRCB has built into certain sections of this policy will now allow dischargers to comply with implementation of the policy, we still have serious concerns about our ability to comply with the proposed effluent limits. As a result, we are providing the following comments which are focused on the freshwater aspects of TRC.

Mixing Zones

We appreciate the SWRCB including a provision that allows the individual Regional Boards to use their own discretion in granting a discharger a mixing zone in the TRC Policy; however SRCSD still has concerns about language included in the SED.

The SED states that the EPA 1991 Technical Support Document for Water Quality-Based Toxics Control "*(TSD) stipulates that acutely toxic conditions must not be present in any mixing zone.*" SRCSD acknowledges that this is contained in the TSD; however, the TSD specifically stipulates that acute mixing zones should result in no lethality to *passing* organisms. SRCSD thinks

Technology in balance with nature

it would help to also include the more encompassing definition of "acutely toxic conditions" contained in the TSD. The TSD states:

> *Acutely toxic conditions are defined as those lethal to aquatic organisms that may pass through the mixing zone. As discussed in Chapter 2, the underlying assumption for allowing a mixing zone is that a small area of concentrations in excess of acute and chronic criteria, but below acutely toxic releases, can exist without causing adverse effects to the overall water body.*
> (Section 4.3, page 70)

The SED also states that, "*Continuous discharges continually can introduce toxic pollutants into receiving water. Although these pollutants can decay over time, this decay will occur downstream or away from the discharge. The receiving water concentrations at the point of discharge continually are being refreshed. In these instances, toxicity can be considered conservative and persistent (nondecaying) in the near field.*" This excerpt is taken from the section of the TSD titled *Other Factors Influencing Water Quality-Based Toxics Control – Persistence* and does not apply to discharges of chlorine. The Sacramento Regional Wastewater Treatment Plant (SRWTP) discharges effluent continuously; however, unlike other constituents, chlorine is not discharged in a steady-state manner. In fact, a steady-state discharge better describes the residual dechlorination agent that is discharged in the effluent for over 99.97 percent of the time (based on evaluation of eight years of operating data at the SRWTP); meaning chlorine residual was only present less than 0.03 percent of the time during the eight year evaluation. Effluent is discharged with a residual dechlorination agent, unless there is some process upset caused by mechanical malfunction, power outage, or human error. As shown by the above evaluation at SRWTP, the upsets are typically very short in nature and do not appear to fit the definition of continuous discharges that are being refreshed and ultimately non-decaying in the near field, as cited in the TSD.

United States Environmental Protection Agency 304(a) criteria for chlorine

The TRC Policy and SED are using United States Environmental Protection Agency's Ambient Water Quality Criteria for Chlorine – 1984 (US EPA 1984 Criteria) (EPA Report 440/5-84-030) as a basis for the proposed effluent limits. As stated in SRCSD's previous comments, the US EPA 1984 criteria are "*intended to apply to situations of continuous exposure, whether the concentrations are fluctuating or constant, but not to situations of specially controlled intermittent exposures.*" However, as stated above, SRWTP discharges effluent continuously; however, unlike other constituents, chlorine is not discharged in a steady-state manner. Chlorine residual is only discharged for very short intermittent periods of time usually associated with some type of system failure (mechanical malfunction, power outage, human error, etc.). Again, we believe that applying criteria developed specifically to identify aquatic toxicity in situations of

continuous exposure to intermittent exposures from wastewater treatment facilities seems inappropriate.

One Hour and Four Day Averaging Periods

While this argument was presented in a prior comment letter, we do not agree with the SWRCB response. Both the TRC Policy and SED acknowledge the fact that NPDES permit regulations require permit limits for POTWs be expressed, unless impractical, as average weekly and average monthly limits. The SWRCB contends that because chlorine residual can be acutely toxic within minutes of exposure to fish and other aquatic life, weekly and monthly limits are not protective and therefore, impractical. SRCSD agrees that weekly and monthly limits may not be protective, but strongly believe that the one-hour limit currently proposed is overly protective. The overprotection is a result of applying criteria intended for continuous exposure to chlorine at a relatively constant concentration, to a wastewater discharge that is non-steady-state and short in nature, as described above.

Increased Violations Versus Achieving the Proposed Criteria

It should be noted that we believe the TRC Policy will result in increased violations for all dischargers, without a substantial increase in benefit in water quality. In developing the TRC Policy, the SWRCB has used a 1984 EPA criteria document intended to apply to continuous chlorine exposures (e.g. elevated chlorine residuals over long periods of time) and instead applied them to short, discreet and intermittent discharges of chlorine from industrial and wastewater discharges. The result is a policy that is overly protective, without a measurable benefit to the receiving water.

Table 1 outlines the amount of time a discharger can have a chlorine release at various chlorine residuals before violating the proposed effluent limitation. For example, a discharger can only release chlorine with a residual of 4 mg/L for 17.1 seconds before violating the effluent limit of 0.019 mg/L one-hour average. Due to the response time of online monitoring systems (30 seconds to 2 minutes) these occurrences will result in a violation before the discharger is aware there is a problem and even has the chance to rectify the situation. Therefore, assuming the proposed limits can be met with process optimization, as stated in the ECD, is not accurate and should be changed. If operating under this policy, SRCSD would have experienced 7 violations in one year (2003), versus zero violations based on the current daily and monthly average effluent limits for the SRWTP. SRCSD would have experienced 23 violations of the 0.019 hourly average limit over the past four years if operating under this policy. It is SRCSD's understanding based on the SRWCB response to comments that the ECD has been changed to reflect these facts. Regardless, *SRCSD feels very strongly that we will incur significant costs without a measurable benefit to water quality, if the proposed policy is implemented.*

Table 1

Residual Concentration mg/L	Discharge Concentration mg/L	Time to Exceed Permit Limits - Minutes	Time to Exceed Permit Limit - Seconds
10	0.167	0.114	6.84
8	0.133	0.1425	8.55
6	0.100	0.19	11.4
4	0.067	0.285	17.1
2	0.033	0.57	34.2
1	0.017	1.14	68.4
0.5	0.008	2.28	136.8
0.25	0.004	4.56	273.6

Documents Pending Review

It should be noted that SRCSD submitted substantial comments on the ECD dated April 2006 in our June 5, 2006 comment letter submitted to the SRWCB. While the SWRCB response to comments released on June 30, 2006 indicates that SRCSD comments were considered and the ECD was revised, an updated version of the ECD was not initially released for public review. Although we received an electronic copy of the ECD on the afternoon of July 12, 2006, we need an appropriate amount of time to review this document and will submit comments at a later date. SRCSD requests the SWRCB formally release the updated ECD and inform all stakeholders when the comments on the document need to be submitted, recognizing that the ECD has still not been officially released for review. It is instrumental that all stakeholders are given an appropriate amount of time to review and comment on this component of the TRC Policy prior to its adoption by the SWRCB.

After only a very cursory review of the ECD, we found that significant errors still exist. It will take more time to do a thorough review of the document.

Also, at the June 19, 2006 public hearing, staff of the Central Valley Regional Water Quality Control Board provided information to the SWRCB specifically regarding the SRWTP. At the time it was submitted, the SWRCB indicated that it would be available for review; however this information was never posted. SRCSD would welcome the opportunity to review this material as well.

Conclusion

In closing, SRCSD appreciates the opportunity to review and comment on the Proposed TRC Policy and supporting documents. Additionally, SRCSD has worked closely with Tri-TAC regarding the TRC Policy and is in full support of all comments submitted by their organization. Please contact Terrie Mitchell (916-876-6092) if you have any questions regarding these comments.

Sincerely,

Wendell Kido
District Manager

WK/SN:jc

cc: M. Snyder
S. Dean
T. Mitchell
P. Somavarapu
M. Mulkerin
H. Stevens
M. Maidrand
R. Seyfried
S. Nebozuk