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CALIFORNIA



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Public Comment
Recycled Water Policy
Deadline: 7/3/12 by 12 noon

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July 3, 2012



State Water Resources Control Board
1001 I Street, 24th Floor
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Via Email: commentletters@waterboards.ca.gov

Attention: Jeanine Townsend, Clerk to the Board

COMMENTS LETTER – AMENDMENT TO THE RECYCLED WATER POLICY

On May 8, 2012, the State Water Resources Control Board (Board) issued a Notice of Opportunity to Comment on the proposed Amendment to the Recycled Water Policy (Policy) to incorporate monitoring requirements for constituents of emerging concern (CECs). The City of Los Angeles, Bureau of Sanitation (Bureau) appreciates the opportunity to provide the following comments and recommendations to the Board regarding the Amendment, which the Bureau hopes will result in constructive changes to the Amendment.

This letter incorporates by reference the comments submitted by WateReuse California, the California Association of Sanitation Agencies, and the Association of California Water Agencies (Associations).

The Bureau appreciates a number of changes that have been included in the Amendment, specifically that (1) it affirms that CEC monitoring is not required for landscape irrigation projects nor are landscape irrigation projects required to determine removal differentials for surrogate compounds; (2) CEC monitoring for groundwater recharge projects is limited to the chemicals recommended by the expert panel; (3) for projects that use tertiary recycled water/soil aquifer treatment or reverse osmosis/advanced oxidation (RO/AOP), the Amendment does not provide authority for a Regional Water Quality Control Board (Regional Board) to add CECs for monitoring; (4) the Amendment creates a phased approach for CEC monitoring with refinements allowed based on the results of the previous phase; and (5) for existing groundwater recharge projects, historic monitoring data may be used to assess occurrence and removal.



There are, however, aspects of the Amendment where we have some concerns and believe that further clarification or modification are warranted.

Selection of CEC Monitoring for Groundwater Recharge Treatment Processes Not Addressed in the Policy

The Bureau is concerned with how the issue of CEC monitoring was addressed in Attachment A of the Amendment for treatment processes other than tertiary recycled water and soil aquifer treatment (SAT) for surface application projects and reverse osmosis/advanced oxidation (RO/AOP) for subsurface application projects. It should be noted that the expert panel only addressed CEC monitoring for these specific treatment processes. However, in Attachment A, the Board allows for Regional Boards to establish CEC monitoring requirements “in consultation with CDPH” for treatment processes other than tertiary/SAT and RO/AOP. See Attachment A, Section 1, ¶ 4, pg. 2.

This issue is of particular concern to the Bureau because the City of Los Angeles’ existing and planned groundwater recharge projects do not match the technologies addressed by the panel, and we believe that CDPH should be the lead agency in establishing monitoring programs in such cases. The existing Dominguez Gap Barrier Project utilizes RO and chlorination and the planned San Fernando Valley Groundwater Recharge Project may utilize other technologies besides RO/AOP. For technologies not addressed by the expert panel, we believe that CDPH has the most knowledge and expertise in comparison to the Regional Boards, both in terms of health relevance and alternative technology performance. In addition, the CDPH groundwater recharge regulations include a specific process for assessing alternatives to any provision in the regulations, including alternative technologies. Recommended language is presented below, which is still consistent with the existing permitting process for groundwater recharge projects whereby CDPH provides recommendations to a Regional Board for purposes of permitting.

“This Policy provides CEC monitoring requirements for recycled water which undergoes additional treatment by soil aquifer treatment or RO/AOPs. CEC monitoring requirements for groundwater recharge reuse projects implementing treatment processes that provide control of CECs by processes other than soil aquifer treatment or RO/AOPs shall be established on a case-by-case basis by the Regional Water Boards per CDPH’s written recommendations ~~in consultation with CDPH.~~”

Priority Pollutant Monitoring for Landscape Irrigation Projects

The existing Policy language specifies that priority pollutant monitoring be conducted twice per year for landscape irrigation projects except for small disadvantaged communities. See Policy, Section 7.b.(3) at pg. 9.

The language in the Policy is vague and does not specify what has to be monitored (recycled

water only, groundwater, etc.). Based on the June 8, 2012 meeting with WateReuse California and Board staff, it is the Bureau's understanding that the intent of the Policy is that priority pollutant monitoring is only intended for recycled water. Groundwater monitoring would only be required on a case-by-case basis if recycled water data indicated that there would be a threat to groundwater. The Bureau believes that any future decision regarding a threat to groundwater should take into consideration attenuation and dilution in harmony with Water Quality Order 2003-0009 in which the Board found that for surface water discharges to a Groundwater Recharge Beneficial Use, that dilution and attenuation may properly be considered in calculating effluent limits to protect groundwater.

We recommend that the Policy be revised to clarify that priority pollutant monitoring should only occur in recycled water as follows:

“For landscape irrigation projects, priority pollutants shall be monitored twice **per year** at the recycling plant, except for landscape irrigation projects owned by small disadvantaged communities¹ which shall be monitored for priority pollutants once every two years.”
[Note: the text in **red** denotes proposed edits by the Board to the Policy; underlined text denotes edits proposed by the Bureau.]

Monitoring Locations for Surface and Subsurface Groundwater Recharge Projects

The monitoring locations specified throughout Attachment A of the Amendment for CEC health-based indicators, CEC performance indicators, and surrogates for surface and subsurface application projects are not in conformance with the expert panel recommendations. While the panel provided examples in the June 2010 report, the panel specifically recommended that the exact monitoring locations be selected on a case-by-case basis in consultation with CDPH. It would be of great benefit to groundwater recharge project sponsors in achieving the Board's recycled water goals if the Board monitoring efforts were harmonized with the CDPH groundwater recharge regulations, rather than having this Policy Amendment establish conflicting requirements. This can be accomplished using the comments and suggested language changes presented in the Associations' comment letter for the Amendment.

CEC Analytical Methods

In Attachment A of the Amendment, the Board specifies that if the U.S. Environmental Protection Agency (EPA) has “approved” an analytical method for a CEC or surrogate, that method must be used. See Attachment A, Section 1.1, ¶ 2, pg. 4. The Bureau is concerned that any published EPA method could be improperly interpreted to mean that it is an approved method. It is our understanding, in accordance with the Board's standard provisions, that only methods that have been promulgated in 40 Code of Federal Regulations (CFR) Part 136 or Part 141 are considered to be approved methods. This issue is of particular concern for two EPA methods: Method 1694 for the analysis of pharmaceuticals and personal care products, and Method 1698 for the analysis of steroids and hormones. They have been released, but not

promulgated in 40 CFR Part 136. The primary concern with the two methods is their poor performance in a single-lab validation study, particularly Method 1698. We would object if either of these methods were to be considered “approved.”

The Bureau recognizes that there is a lack of approved methods for CEC analyses. This issue and QA/QC monitoring was addressed by the expert panel. The lack of reliable methods to provide reproducible CEC data is a concern, particularly as it relates to how data will be interpreted for response actions pursuant to the Policy Amendment. This issue has been corroborated by the results of Water Research Foundation Project #4167 *Evaluation of Analytical Methods for EDCs and PPCPs Via Interlaboratory Comparison*, which found that variability is both laboratory and compound specific, and that the rate of false positives (blank contamination) and false negatives (spiked but not detected) was related to both laboratory performance and method detection limits, as well as being compound dependent, including some of the compounds on the CEC monitoring list (Caffeine and Triclosan).¹ Thus, responses to CEC data should carefully consider data reliability.

We believe that the approach in the CDPH November 2011 draft groundwater recharge regulations for CEC analytical methods should be utilized in the Policy Amendment because it recognizes the status of CEC methods and would allow for consistency in monitoring; namely, that unless a promulgated method is available for use, other methods for CECs should be proposed by the project sponsor in the project’s CDPH-approved Operations Plan. With regard to this specific provision, we recommend the following revision:

“If the United States Environmental Protection Agency (U.S. EPA) has approved promulgated an analytical method or methods for analysis of a CEC or a surrogate in 40 CFR Part 136 or 141, then the CEC or surrogate shall be analyzed in conformance with such the analytical method unless the project sponsor and Regional Water Board agree that an alternative test method can be used. The CDPH shall be consulted for the use of analytical methods for CECs or surrogates that do not have analytical methods approved by U.S. EPA. If an EPA-promulgated method is not available, a project sponsor will propose a method for use in a project’s CDPH approved Operations Plan.”

Use of Historical Data to Modify Monitoring Programs

The Bureau supports the Board’s decision to allow for the use of historical monitoring data to assess the occurrence and removal of CECs and surrogates for the initial assessment, baseline monitoring, and standard operation phases. See Attachment A, Section 3.1, ¶ 3, pg. 8; Section 3.2, ¶ 1 and ¶ 2, pg. 9. The Bureau believes this allowance should also apply to agencies that have conducted pilot testing and other research for existing or planned projects. However,

¹ Vanderford, B.J., Drewes, J.E., Hoppe-Jones, C., Eaton, A., Haghani, A., Guo, Y., Snyder, S.A., Ternes, T., Schluessener, M., Wood, C.J. (2012) *Evaluation of Analytical Methods for EDCs and PPCPs Via Interlaboratory Comparison*. Water Research Foundation, Project #4167, Denver Colorado.

because it is likely that these data sets may not exactly align with the proposed monitoring approaches in the Policy Amendment, it would be beneficial to allow projects to receive partial or total credit for the data when CEC indicator and surrogate monitoring programs are established in terms of selection of constituents and frequency of sampling. An example of proposed language for these sections of the Amendment is presented below:

“For existing groundwater recharge reuse projects or agencies that have conducted or sponsored pilot testing or other relevant research regarding CEC indicators and surrogate occurrence and/or performance, total or partial credit for historic monitoring, piloting, or research data may should be used to modify assess the occurrence and removal of CECs and surrogates. Existing projects demonstrating prior assessment of CECs and surrogates equivalent to the initial assessment phase requirements of this Policy for health-based and performance CECs and surrogates, including selection of constituents and monitoring frequency. In cases where all of the initial assessments requirements are satisfied using historic, piloting, or research data, projects may not be required to conduct the initial monitoring phase and are eligible for baseline monitoring phase requirements (Section 3.2). In cases where the initial assessment monitoring is satisfied, an agency would be eligible for the baseline monitoring phase; in cases where the initial assessment and baseline monitoring are satisfied, an agency would be eligible for the standard monitoring phase.”

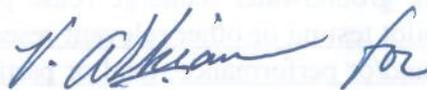
CCL3 Special Monitoring Study

The Amendment did not include the three EPA Candidate Contaminant List 3 (CCL3) CECs presented in Table 8.4 of the expert panel report. The panel noted there was no occurrence data for these CECs, which had the potential to trigger a measured environmental concentration/monitoring trigger level ratio greater than 1. The panel recommended quarterly monitoring for one year in secondary/tertiary-treated effluent representing the feed water quality to either surface spreading or RO/AOP ahead of direct injection.

Since the panel published its report, the pilot testing for the Los Angeles Department of Water and Power groundwater replenishment project has been completed. See *Groundwater Replenishment Treatment Pilot Study Report - Pilot Testing from February 18, 2010 to June 30, 2011*, March 2012. As part of this study, tertiary-recycled water samples were collected from the D.C. Tillman Water Reclamation Plant and evaluated for the 3 CCL3 CECs. Six samples were collected and analyzed for 1,2,3-Trichloropropane; 4 samples were collected and analyzed for Hydrazine; and 2 samples were collected and sampled for Quinoline. All samples were below detection based on the following MRLs and MDLs: (1) for 1,2,3-Trichloropropane, the MRL = 0.5 ug/L and the MDL was 0.15 ug/L; (2) for Hydrazine, the MRL was 1 ug/L and the MDL was 0.77 ug/L; (3) for Quinoline, the MRL and MDL were 10 ng/L. Based on these results and data that will be provided by other agencies, it would appear that the Amendment would not need to be revised to add the special CCL3 monitoring study.

The Bureau appreciates the opportunity to provide these comments. Our requests in this letter are based on good science and are intended to support the increased use of recycled water. If you have any questions regarding the Bureau's comments, please contact Mr. H.R. (Omar) Moghaddam of the Regulatory Affairs Division at (310) 648-5423.

Sincerely,



ENRIQUE C. ZALDIVAR, Director
Bureau of Sanitation

- c: Melenee Emanuel, State Water Resources Control Board
- David Smith, WaterReuse California
- Andrea Alarcón, Board President, Board of Public Works
- Traci Minamide, Bureau of Sanitation/EXEC
- Varouj Abkian, Bureau of Sanitation/EXEC
- Adel Hagekhalil, Bureau of Sanitation/EXEC
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