State Water Resources Control Board

TO: Gerald W. Bowes, Ph.D
Manager, Cal/EPA Scientific Peer Review
OFFICE OF RESEARCH, PLANNING AND PERFORMANCE

FROM: Gordon Innes, Waste Discharge Requirement Unit II Chief
Groundwater Quality Branch
DIVISION OF WATER QUALITY

DATE: April 22, 2012

SUBJECT: REQUEST FOR EXTERNAL PEER REVIEW OF A DRAFT AMENDMENT TO THE RECYCLED WATER POLICY REGARDING MONITORING REQUIREMENTS FOR CONSTITUENTS OF EMERGING CONCERN (CECs) IN RECYCLED WATER AND THE REPORT "MONITORING STRATEGIES FOR CECs IN RECYCED WATER – RECOMMENDATIONS OF A SCIENTIFIC ADVISORY PANEL", WHICH IS THE SCIENTIFIC BASIS OF THE RECYLCED WATER POLICY AMENDMENT

The Division of Water Quality requests, by transmittal of this memorandum, that an external peer review be conducted on a draft amendment to the State Water Resources Control Board's (State Water Board) Recycled Water Policy and on the report titled "Monitoring Strategies for Chemicals of Emerging Concern (CECs) in Recycled Water – Recommendations of a Scientific Advisory Panel" per the requirements of Health and Safety Code Section 57004. The report was the scientific basis for the amendment and was produced by a "blue ribbon" Scientific Advisory Panel under contract to the State Water Resources Control Board.

In February 2009, the State Water Board adopted the Recycled Water Policy for the purpose of increasing the use of recycled water in California. The Recycled Water Policy has several provisions that mandate the monitoring of CECs in municipal recycled water. CECs are compounds that are unregulated in drinking water. They include naturally and synthetically occurring hormones, pharmaceuticals, personal care products, disinfection by-products, industrial and household chemicals, pesticides and metals. The Recycled Water Policy, however, recognized that the knowledge regarding CECs is incomplete and guidance would be needed to establish requirements for monitoring CECs in recycled water.

In accordance with the Recycled Water Policy, a Scientific Advisory Panel was established with the goal of guiding the State Water Board on future actions relating to monitoring CECs in recycled water. The panel was charged with reviewing the scientific literature regarding CECs in recycled water; describing the current state of scientific knowledge regarding the risks of

CECs to public health and the environment; and providing recommendations on monitoring CECs for specific water recycling uses, including landscape irrigation and groundwater recharge reuse by direction injection or surface spreading. The panel was convened and managed by the Southern California Coastal Water Research Project, and consisted of experts in the fields of human health toxicology, biochemistry, civil engineering, epidemiology/risk assessment, environmental toxicology, and analytical chemistry.

CECs in municipal recycled water have the potential to affect human health and beneficial uses of surface water and groundwater and therefore are a concern of the State Water Board, the Regional Water Quality Control Boards, and the California Department of Public Health. To address this concern, the State Water Board established the panel to provide guidance on monitoring CECs in recycled water. The findings and recommendations presented in the panel's report serve as the technical basis for monitoring requirements in the draft amendment to the Recycled Water Policy.

We believe that the desired areas of expertise for peer reviewers of the report should be the following:

- Human Health Toxicology – effects associated with CECs in drinking water and recycled water on human health.
- Environmental Toxicology – mechanisms of action and effects of CECs in recycled water on organisms.
- Biochemistry – effects of CECs on cell mechanisms.
- Epidemiology/Risk Assessment – human health risk assessment associated with CECs in recycled water.
- Civil Engineer – design and construction of municipal wastewater treatment and recycled water production facilities including advanced treatment processes for removing CECs; and fate and transport of CECs in soil and groundwater.
- Chemist – analytical methods for the detection of CECs.

We request that the reviewers provide comments within 30 days of receipt of the report and supporting documentation.

This request contains the following attachments. Attachment 5 and Attachment 6 will be provided to Peer Reviewers when the review is initiated.

Attachment 1: Summary of Monitoring Requirements for Constituents of Emerging Concern for Recycled Water.
Attachment 2: Scientific Issues to be addressed by Peer Reviewers.
Attachment 3: List of Participants.
Attachment 4: List of References (provided on CD).
Attachment 5: The proposed policy amendment for monitoring requirements.
Attachment 6: Revised Recycled Water Policy.

If you have any questions, please contact me at (916) 341-5517 or ginnes@waterboards.ca.gov. The manager of the project is Melenee Emanuel who can be reached at (916) 341-5271 or memanuel.waterboards.ca.gov.

Attachments (6)