



THE METROPOLITAN WATER DISTRICT  
OF SOUTHERN CALIFORNIA

Office of the General Manager

May 17, 2018

Ms. Sheryl Rosilela, P.E.  
Division of Drinking Water, Recycled Water Unit  
State Water Resources Control Board  
P.O. Box 100  
Sacramento, CA 95812-100

Dear Ms. Rosilela:

**Subject: Comments – Proposed Framework for Regulating Direct Potable Reuse in California**

The Metropolitan Water District of Southern California (Metropolitan) appreciates the opportunity to comment on the State Water Resources Control Board's (State Water Board's) proposed Framework for Regulating Direct Potable Reuse in California (DPR Framework). Metropolitan supports water recycling as a way to improve regional self-sufficiency and to meet future needs. Metropolitan commends the State Water Board for developing the proposed framework in satisfaction of Assembly Bill (AB) 574.

Metropolitan, in collaboration with 26 member agencies, supplies safe and reliable water to nearly 19 million residents in more than 300 cities and incorporated areas throughout southern California. Metropolitan owns and operates an extensive water system including the Colorado River Aqueduct, 16 hydroelectric facilities, nine reservoirs, 830 miles of large-diameter pipes and five water treatment plants. Since 1990, Metropolitan has provided over \$448 million to produce 2.6 million acre-feet of recycled water for non-potable uses and indirect potable reuse (IPR). Currently, Metropolitan in partnership with the Sanitation Districts of Los Angeles County is embarking on a Regional Recycled Water Program. If implemented, the Regional Recycled Water Program would provide a new, in-basin, regional water supply for southern California.

Metropolitan supports a step-wise or phased approach towards developing direct potable reuse (DPR) regulations that are protective of public health. Establishing a regulatory pathway for raw water augmentation is the next step in the potable reuse continuum. Metropolitan appreciates the State Water Board's efforts to solicit comments and hold public workshops for stakeholder engagement. Metropolitan encourages the State Water Board to review and incorporate comments received through this process to further strengthen the proposed DPR Framework. Towards this end, Metropolitan offers the following comments.

Ms. Sheryl Rosilela, P.E.

Page 2

May 17, 2018

## **General comments**

### **1. Regulatory development of treated water augmentation should be clearly decoupled from raw water augmentation**

Section 3 of the proposed DPR Framework indicates that the State Water Board will develop future regulations for treated water augmentation or “flange-to-flange DPR”. Metropolitan believes that California should gain experience in surface water augmentation and “lower risk” forms of DPR (i.e., raw water augmentation) prior to adopting water recycling criteria for flange-to-flange DPR. Direct delivery of advanced treated recycled water to a public water system’s treated distribution system creates more complexities and challenges than the raw water augmentation form of DPR. A DPR project delivering recycled water to a small surface water reservoir or a raw water conveyance pipeline, followed by a surface water treatment plant, includes additional barriers for public health protection. A treated water augmentation project lacks such barriers. In addition, as noted in Section 7.3 of the proposed DPR Framework, the public health risk due to human errors increases from IPR to DPR. This risk is heightened for treated water augmentation projects which can be highly susceptible to human factors, such as operational errors or negligence. In absence of an intervening drinking water treatment plant with all of its associated process control, monitoring, storage and oversight, human factors that adversely affect treatment operations must be fully understood with robust mitigation and response measures put in place. Metropolitan recommends that the State Water Board decouple treated water augmentation regulatory development from raw water augmentation, as the public health-related issues to be addressed between these two forms of DPR can significantly differ from one another. To that end, the “Recycled Water Treatment Processes and Uses” graphic provided in the proposed DPR Framework should also emphasize a distinct separation between raw water augmentation and treated water augmentation.

### **2. Clarify that the proposed DPR Framework is intended to support raw water augmentation regulatory development**

The proposed DPR Framework describes several key elements that must be considered as the State Water Board develops regulatory criteria for DPR. Although the State Water Board notes in Section 6 of the proposed DPR Framework that the criteria elements described in the report are intended to focus on raw water augmentation, this distinction is not fully clear as much of the language pertains to DPR in general. As noted in Comment No. 1, treated water augmentation has many additional unique challenges that require more research and scrutiny, and should not be comingled with raw water augmentation criteria. As such, Metropolitan believes that raw water augmentation is more viable at this time, based on the state of the industry and current and near-term research, and could be accomplished in a manner that is protective of public health. Metropolitan recommends that the State Water Board clearly state that the criteria elements and considerations laid out in the report are focused solely on raw

Ms. Sheryl Rosilela, P.E.

Page 3

May 17, 2018

water augmentation and intended to support the development of raw water augmentation regulatory criteria.

### **3. Provide a clear regulatory framework for raw water augmentation**

The narrative discussion in Sections 6 and 7 of the proposed DPR Framework informs the reader on some of the key criteria elements being considered for raw water augmentation. As currently written, the proposed DPR Framework describes the differences between IPR regulations and associated requirements, versus potential DPR regulatory considerations. However, a clear roadmap towards developing raw water augmentation criteria is lacking. Metropolitan recommends that the State Water Board add a new section to the proposed DPR Framework that lays out a well-defined framework or structure for regulating raw water augmentation. Also, a clear graphic or matrix that summarizes the framework would help the reader, both technical and non-technical, to comprehend the regulatory pathway ahead for this form of DPR. As stated in the public workshop, a primary objective of this proposed DPR Framework is to gain stakeholder input to assist the State Water Board in developing raw water augmentation regulations by 2023. To that end, this report should focus on specific criteria elements anticipated to be required for raw water augmentation projects to help project proponents in their planning efforts.

### **4. Expand discussion on engineered alternatives to an environmental buffer**

Section 4 of the proposed DPR Framework discusses the water quality risks associated with the lack of an environmental buffer in DPR projects and the importance of mechanical systems. In the absence of natural environmental buffers, engineered storage barriers may be a critical element in raw water augmentation projects. These engineered buffers could provide increased holding times to respond to treatment failures or water quality issues prior to the water entering a raw water conveyance pipeline or drinking water treatment plant. Within the proposed DPR Framework, Metropolitan recommends that the State Water Board include a discussion on engineered buffers, or other alternatives to the environmental buffer used in IPR projects, that would assist the water reuse community in planning for raw water augmentation projects.

### **5. Expand discussion on permitting authority for raw water augmentation projects**

Metropolitan appreciates the State Water Board's current discussion in Section 6.2 regarding permitting authority for DPR projects, including how this authority and oversight may vary from IPR projects. Specifically, the State Water Board indicates that Waste Discharge Requirements (WDRs) may not apply to DPR projects in some cases. It would be beneficial to expand that discussion with some clear examples where WDRs would and would not apply for a raw water augmentation project, including whether a raw water augmentation project could be permitted solely by the Division of Drinking

Ms. Sheryl Rosilela, P.E.

Page 4

May 17, 2018

Water, as opposed to the Regional Water Quality Control Board that is currently the permitting authority for IPR projects. It would also be beneficial to have a more robust discussion on the regulating authority for enhanced source water control for a raw water augmentation project. An expanded discussion that characterizes these key questions and issues would be beneficial for the water reuse community to understand the various regulatory considerations. Metropolitan recommends that the State Water Board expand the discussion of permitting authority, including how Clean Water Act and Safe Drinking Water Act regulatory pathways may be individually or jointly applied for a raw water augmentation project.

**6. Identify status of all the research and knowledge gaps supporting regulatory development for raw water augmentation**

Chapter 8 of the proposed DPR Framework provides a status update on current efforts to fill the research gaps and recommendations identified by the Senate Bill (SB) 918 Expert Panel. Metropolitan appreciates the State Water Board's efforts in keeping the water reuse community apprised of this important ongoing research associated with DPR regulatory development. It should be noted that along with the Expert Panel, an Advisory Group formed through SB 918 also identified several knowledge gaps that were listed in the State Water Board's December 2016 DPR Feasibility Study to the Legislature. Metropolitan encourages the State Water Board to provide a status update on the ongoing efforts to fill the knowledge gaps identified by the Advisory Group.

**Specific comments**

1. In Section 3 of the proposed DPR Framework, the State Water Board considers the mixing of recycled water with raw water as one of the scenarios for raw water augmentation projects. The State Water Board indicates that the blend must "provide a meaningful public health benefit". Metropolitan recommends that the State Water Board expand on this discussion and clarify the basis for blending requirements for raw water augmentation projects.
2. Metropolitan recommends that the State Water Board consider the opportunity for utilities to seek microbial log removal values (LRVs) for the upstream wastewater treatment plant and the downstream drinking water treatment plant, as opposed to solely from the advanced water treatment plant. By providing an opportunity for establishing LRVs at all treatment facilities within a raw water augmentation treatment train, utilities could have the option to potentially improve wastewater or water treatment which overall could more cost-effectively provide additional barriers and increased public health benefit. In addition, the State Water Board should allow for case-by-case approval of alternative treatment trains.
3. As currently written, the proposed DPR Framework does not discuss the fate and formation of disinfection byproducts (DBPs) either upstream or downstream of the

Ms. Sheryl Rosilela, P.E.

Page 5

May 17, 2018

drinking water treatment plant in raw water augmentation projects. DBPs such as bromate and formaldehyde are formed due to chemical oxidation processes prior to reverse osmosis. In addition, the use of chlorine or chloramines could result in the formation of DBPs such as chloroform and haloacetonitriles. The 2016 Expert Panel Report recommends that the State Water Board require monitoring of DBPs for DPR projects that use oxidants prior to treatment with reverse osmosis. Metropolitan agrees with the Expert Panel recommendation and encourages the State Water Board to consider the fate and formation of DBPs while evaluating approaches for chemical control in raw water augmentation projects.

Metropolitan thanks the State Water Board for the opportunity to comment on the proposed DPR Framework. We believe the additions and clarifications noted in this letter will strengthen the framework, aimed to further expand California's potable reuse development.

If you have any questions regarding this comment letter, please feel free to contact me at 213-217-5696 or [mstewart@mwdh2o.com](mailto:mstewart@mwdh2o.com).

Sincerely,

A handwritten signature in black ink, appearing to read "Mic Stewart", with a stylized flourish extending from the end.

Mic Stewart, PhD  
Director of Water Quality

SU:ds

O:\opsexec\OGM.Admin Support Files\Correspondence\MS\_Comment Letter – DPR framework\_v9