



VIA EMAIL: DDWrecycledwater@waterboards.ca.gov

May 17, 2018

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

Re: Comment Letter – Proposed Framework for Regulating Direct Potable Reuse in California

Dear Ms. Rosilela:

Irvine Ranch Water District (IRWD) appreciates the opportunity to comment on “A Proposed Framework for Regulating Direct Potable Reuse in California” (Proposed Framework). Direct potable reuse affords California opportunities to sustain its drinking water supplies for many years to come, and will play an important role in moving the state toward greater sustainability in the management of its water infrastructure and supplies.

As has been important for indirect potable reuse (IPR), IRWD sees the importance of developing direct potable reuse (DPR) regulations, based on sound scientific research, that protect both water consumers and the environment. The District has independently reviewed the Proposed Framework with our unique experiences, as a large recycled water producer and distributor of potable reuse water, in mind.

IRWD supports the comments submitted by WateReuse California, the California Association of Sanitation Agencies, and Coastkeeper. It is our hope that the Division of Drinking Water (DDW) will acknowledge the concerns voiced by these groups, which represent the majority of California’s active recycled water producers. In an effort to avoid duplication, IRWD has not resubmitted those comments, although we agree with them. Instead IRWD offers the following additional comments for your consideration.

IRWD’s comments are aimed at ensuring that the Proposed Framework takes a science-based approach to the regulation of direct potable reuse, and establishes a framework for DPR regulation that is protective of public health, provides consistent pathogen and chemical removal

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requirements across the potable reuse spectrum, and makes appropriate adjustments to the regulation of DPR to account for the loss of an environmental buffer.

Recommended Approach to a Framework for the Regulation of DPR:

The current approach that DDW has taken to the regulation of potable reuse projects is a risk management approach that establishes log removal values necessary to meet health objectives for referenced pathogens. This risk management approach has proven effective in protecting public health and is rightly included in the Proposed Framework as the recommended approach to be taken with the regulation of DPR projects.

With the risk management approach in mind, it is important to remember that the significant difference between DPR and IPR is the time afforded by an environmental barrier to respond to water quality problems, and that it is this risk that must be managed more actively for DPR projects. Thus, from IRWD's perspective, the main difference in the regulation of DPR and IPR projects should be regulations that ensure there is sufficient monitoring and ability to respond to a water quality problem due to the elimination of the IPR environmental buffer, or that mitigate for the loss of the quantified treatment benefits of the buffer. The standards for total pathogen removal and chemical control should remain consistent among all potable reuse forms although different types of treatment and control may be more acceptable for certain types of potable reuse and unacceptable for others.

Toward that end, IRWD recommends that the Proposed Framework establish that all potable reuse projects should be held to meeting the same water quality standards, at the end of their treatment or time within the environmental buffer, if applicable, and requirements for additional treatments or mechanics should only be required when science necessitates it due to the loss of the environmental buffer. More restrictive requirements should not be placed on more direct forms of potable reuse simply because they are more direct; however, the removal of the environmental buffer in DPR projects should be replaced with the equivalent level of pathogen and chemical removal treatment scientifically proven to be provided by such buffers for IPR.

Feasibility of Developing Uniform Water Recycling Criteria for DPR and Purpose of the Proposed Framework:

The Proposed Framework recognizes that "research will be conducted concurrently with the development of uniform water recycling criteria for direct potable reuse, such that the findings from research can inform the development of those [uniform water recycling] criteria." (Page 3) It also states that the Proposed Framework is to provide a common "framework across the various types of DPR to help avoid discontinuities in the risk assessment/risk management approach." (Page 5). IRWD supports the development of a cohesive framework to avoid discontinuities in the risk assessment/risk management approach across the potable reuse

spectrum, and the concurrent development of the uniform water recycling criteria and research that will inform those criteria.

While the Proposed Framework evaluates how each factor—natural sources of supply, treatment through natural attenuation, environmental buffers, reliability of engineered treatment, and monitoring and control systems— are expected to change over the range of potable reuse types and how public health will be protected as the form of potable reuse changes, the framework should clearly recognize that these decisions will be informed greatly by the result of the research conducted. The District recommends that the Proposed Framework be amended to recognize and provide a framework that will still be relevant as new knowledge is gained through research and as technology changes to allow for real-time monitoring of DPR treatment processes instead of making treatment determinations now or within the Proposed Framework.

Loss of the Environmental Buffer:

As outlined in Chapter 6 of the Proposed Framework, the primary benefits of an environmental buffer in IPR projects are not necessarily additional log removal of pathogens or treatment of chemicals, but are increased time to recognize and respond to a water quality problem. The solution suggested by the SB 918 expert panel was to replace the environmental buffer with additional treatment processes and mechanical systems, which may lessen the probability of a treatment failure. In IRWD's opinion, however, this approach does not directly address the issue of having less time to respond to a potential water quality issue.

While one approach to mitigating the loss of the environmental buffer is to require additional treatment, removal of the environmental buffer reduces the time available to respond to contaminants. The lack of an environmental buffer should be replaced with a new form of monitoring to ensure a water purveyor's ability to respond to a problem is maintained. This should be in lieu of the suggested additional treatment train steps currently recommended if technology has advanced to allow for sufficient monitoring and response. The Proposed Framework should make it clear that once technology has advanced to this point that additional treatment will no longer be required of DPR projects. Prior to that point, the Proposed Framework should expand on what other actions would sufficiently replace the response time lost by lack of an environmental buffer. Possible solutions may include requiring holding tanks, strategic placements of valves to allow for immediate discharge of off-spec water, or additional monitoring technology throughout the various stages of treatment to ensure there is sufficient identification and time to respond to a water quality concern.

As stated above, the primary focus of the Proposed Framework should be on the actions needed to mitigate for the loss of the environmental buffer in DPR projects. Needed mitigation measures should be the focus of further research and should concentrate on monitoring, testing, and actions needed to mitigate the loss of response time. IRWD agrees that by removing the environmental buffer in DPR, the time buffer must be replaced with real time monitoring and

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other checks on the water treatment process, but the Proposed Framework must be flexible enough to account for advances in technology that will occur over time.

Operator Certification:

IRWD agrees with the Proposed Framework's statement on page 26 that "Experienced and highly capable operators are needed for DPR." The Proposed Framework recognizes the ongoing efforts of the California Water Environment Association and the California-Nevada American Water Works Association to develop a certification program for operators specializing in potable reuse. The District is engaged in that efforts and believe that it will result in a program that will meet the training and certification needs for California DPR projects.

Conclusion:

Many California agencies are eagerly awaiting the finalization of the Proposed Framework as they look to develop direct potable reuse projects. We encourage DDW to reflect in the Proposed Framework the goal of providing DPR regulations that are protective of public health, but do not result in either under or over treatment to meet public health goals simply because a project is proposing a more direct form of potable reuse. Such an approach will most greatly encourage higher levels of reuse in the state and enhancement of California's water supplies.

Thank you again for considering IRWD's comments on the Proposed Report. Please do not hesitate to contact me at (949) 453-5590 if we can be of assistance to you or your staff.

Sincerely,



Paul A. Cook, P.E.
General Manager