

Regulatory Path Forward for Direct and Indirect Potable Reuse
ODEQ Water Quality Standards and Technical Subcommittees

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**Regulatory Path Forward for Indirect and Direct Potable Reuse of
Reclaimed Water**

Prepared for

State of Oklahoma

REGULATORY PATH FORWARD FOR INDIRECT POTABLE REUSE AND DIRECT POTABLE REUSE

Introduction

The Oklahoma Department of Environmental Quality (ODEQ) commissioned the water quality standards and technology subcommittees of the water reuse work group to develop a white paper summarizing the “state of the industry” for indirect and direct potable water reuse. These committees are comprised of a cross-section of industry stakeholders, including members with experience in developing reuse regulations for other states. The intent of this white paper is to:

- Provide information regarding historical and ongoing research related to potable reuse;
- Provide information on current state and national efforts to develop regulations and guidelines for Indirect Potable Reuse (IPR) and Direct Potable Reuse (DPR);
- Identify challenges and questions that need to be addressed related to implementation of potable reuse in Oklahoma; and
- Develop recommendations for a process and revised timeline for establishing indirect and direct potable reuse regulations in Oklahoma.

Categories of Potable Reuse

During previous development of the water reuse regulatory framework, ODEQ had reserved “Category 1” to address reuse involving potable applications. Three distinct sub-categories of potable reuse have been identified and are defined below. It is anticipated that different guidelines may be needed for each of these sub-categories.

Category 1a-: Indirect Potable Reuse (surface water): The use of reclaimed water for potable purposes by intentionally discharging to a surface water supply source such as a lake or river. The water supply source may provide additional treatment of reclaimed water through natural processes. The mixed reclaimed and natural surface water then receives additional treatment before entering the drinking water distribution system.

Category 1b-Indirect Potable Reuse (groundwater) The use of reclaimed water for potable purposes by intentionally infiltrating or injecting into a groundwater supply source. The groundwater supply source may provide additional treatment through natural processes. The mixed reclaimed and natural groundwater may require additional treatment before entering the drinking water distribution system.

Category 1c-Direct Potable Reuse: The use of reclaimed water for potable purposes by intentionally introducing the water directly into the raw water supply immediately upstream of a water treatment plant or into the potable water system downstream of a water treatment plant.

State of the Industry: IPR and DPR Projects:

Planned IPR has been examined and implemented for over four decades in various regions of the U.S. In addition to planned IPR projects, many communities throughout the U.S. and internationally have been using water supplies that are supplemented by upstream wastewater discharges. Examples include Houston, TX, Cincinnati, OH, Las Vegas, NV, and New Orleans, LA.

There are currently two operational DPR projects in the United States, both of them in Texas. The Colorado River Municipal Water District (CRMWD) at Big Spring project began delivering water to customers in April 2013. The City of Wichita Falls began operation of an emergency DPR project in July 2014. Several other utilities are considering implementation of DPR in both Texas and California.

Regulatory Path Forward

A recommended implementation timetable for Category 1a (Surface Water IPR), Category 1b (Groundwater IPR), and the Category 1c (DPR) reuse categories is provided in Attachment 1. It is recommended that the efforts of the agencies and its subcommittees focus initially on the development of the Category 1a (Surface Water IPR) guidelines due to the demand for these types of projects in the state and the longer history of full-scale IPR projects both nationally and internationally. Specific recommendations for each reuse category are as follows:

Category 1a – IPR (Surface Water)

- 1) Prior to development of guidance, a clear definition of what is meant by IPR should be developed and recommended to ODEQ and OWRB for consideration.
- 2) Determine what, if any, additional water quality or treatment requirements are needed.
- 3) Determine amendments necessary (if any) to current OWRB water quality standards and OWRB and ODEQ implementation rules for IPR projects, including but not limited to the Sensitive Water Supply (SWS) limitation and SB 1187.
- 4) Develop guidelines for applicants to demonstrate compliance for IPR discharges.

Category 1b – IPR (Groundwater)

- 1) Prior to development of guidance, a clear definition of what is meant by IPR should be developed and recommended to ODEQ and OWRB for consideration.
- 2) Develop guidance documents following the development of guidance for the Category 1a and Category 1c reuse categories.

Category 1c -Direct Potable Reuse

- 1) If necessary, until specific DPR guidance is developed, DPR projects should be considered on a case-by-case basis under the variance process, similar to what has been done in other states.
- 2) Category 1c guideline development should leverage the ongoing guideline development efforts in other states and nationally. Deferring initiation of Category 1c guidelines until late in 2015 will allow the work group to take advantage of resources being developed under these other initiatives.

END OF EXECUTIVE SUMMARY

Recommended Timetable for Implementation of Category 1A: Indirect Potable Reuse Regulations

