



Frequently Asked Questions

Direct Potable Reuse Regulations

What is recycled water?

Recycled water is primarily domestic wastewater (sewage that enters a wastewater treatment plant) that has been treated to comply with the recycled water regulations. There are different levels of treatment for recycled water, depending on how the recycled water will be reused, in order to protect public health.

Where is recycled water used?

Recycled water is currently widely used for non-drinking (non-potable) uses, such as agricultural and landscape irrigation in California, as well as other approved non-potable uses listed in the [recycled water regulations](#). Recycled water has also been used since the 1970's in California to replenish groundwater aquifers and will be used to augment surface water reservoirs in a few years by the first surface water augmentation projects following the promulgation of the surface water augmentation regulations in 2018. These types of recycled water uses is called "indirect potable reuse."

What is indirect potable reuse?

Indirect potable reuse (IPR) is when recycled water – after treatment and passing through an environmental buffer, such as a groundwater aquifer or surface water reservoir – is used to supplement raw sources of water used by a public water system to ultimately supply its customers with drinking water. One form of IPR is groundwater replenishment, also known as groundwater recharge, which has been regulated and successfully implemented since the 1970's in California. With groundwater replenishment, the soil and the groundwater aquifer serve as the environmental buffer. Another form of IPR is surface water augmentation, which is when advanced-treated recycled water is placed into a surface water reservoir that is a public water system's raw source of drinking water, which is then further treated by the public water system's surface water treatment plant before being distributed as drinking water. With surface water augmentation, the reservoir works as an environmental buffer to provide additional reliability to protect public health.

What is direct potable reuse?

Direct potable reuse (DPR) is when highly treated recycled water is placed directly into a public water system or into a "raw" (untreated) water supply immediately upstream of a drinking water treatment plant. One difference between DPR and IPR is that DPR does not include a meaningful environmental buffer as part of the project.



Why Is the State Water Board considering direct potable reuse?

In 2010, the California Department of Public Health was mandated ([Water Code section 13563](#)) to investigate and report to the Legislature on the feasibility of developing water recycling regulations for direct potable reuse. A panel of technical experts ([Expert Panel](#)) and a group of stakeholders ([Advisory Group](#)) were created to advise the State Water Board on public health issues and scientific and technical matters relating to the feasibility of developing DPR regulations. Following an extensive public engagement and public comment process, the [report to Legislature](#) published in 2016 found that it is feasible to develop water recycling criteria for Direct Potable Reuse. In 2017, the State Water Board was mandated ([Water Code section 13561.2](#)) to adopt uniform water recycling criteria for Direct Potable Reuse.

Has the State Water Board adopted regulations for direct potable reuse?

Yes, following an extensive [regulation development process](#) with input from the public, stakeholders, and review by an Expert Panel, the State Water Board adopted regulations in December 2023.

When is the effective date of the direct potable reuse regulations?

The DPR regulations completed the [regular rulemaking process](#) with the Office of Administrative Law, which approved the regulations for filing with the Secretary of State on August 6, 2024. The effective date of the DPR regulations is October 1, 2024.

What public water systems are subject to the direct potable reuse regulations?

The direct potable reuse (DPR) regulations only apply to public water systems that choose to engage in a direct potable reuse project. These regulations do not compel or require any entity to develop a direct potable reuse project.

Is water produced by a direct potable reuse project safe for consumption?

Public water systems and other agencies that choose to develop a DPR project must comply with the DPR regulations. Water produced by a DPR project is safe for consumption if it meets all criteria in the DPR regulations. In developing regulations for DPR, the main focus was to make sure that the regulations, when followed, will result in water that is safe to drink at all times.

Has there been an independent review of the direct potable reuse regulations to ensure they will protect public health?

Yes. In 2016, the State Water Board completed a report to the state legislature investigating whether it would be feasible to develop regulations for DPR that would be protective of public health, following a public process that included recommendations by an advisory group of stakeholders and recommendations and findings from an expert panel that it is feasible to develop regulations for DPR that is protective of public health. The expert panel provided the State Water Board a report regarding the feasibility of developing uniform water recycling criteria for the direct potable reuse (DPR) of recycled water. The recommendations from the expert panel and advisory group formed the basis for some of the DPR criteria.

The DPR regulations have undergone the following reviews by independent panels:

- Section 13561.2 of the Water Code mandates that the State Water Board shall not adopt DPR regulations until an expert panel has made a finding that the regulations adequately protect public health. On October 12, 2023, the expert panel made a finding that the proposed DPR regulations would adequately protect public health.
- Section 57004 of the Health and Safety Code mandates that an independent external panel of peers review the scientific basis and scientific portions of the regulations. The external peer review was completed on June 21, 2021.

Are any public water systems currently engaging in DPR?

There are currently no public water systems in California permitted to operate a DPR project. There are two communities in the world that have their water supply partially provided by a DPR project: The city of Windhoek's New Goreangab Wastewater Reclamation Plant supplying Windhoek, Namibia, and the Colorado River Municipal Water District's Big Spring Raw Water Production Facility supplying the surface water treatment plants in the cities of Big Spring, Odessa, and Snyder in west Texas. Additionally, several states have adopted or are adopting regulations for DPR, including Texas, Colorado, and Arizona.

Is my public water system required to engage in DPR?

No. Public water systems and water recycling agencies are not required to engage in DPR. Prior to being allowed to engage in DPR, the public water system must first obtain a permit by the State Water Board's Division of Drinking Water. The water recycling agency that plans to provide wastewater to a DPR project must also obtain a permit from the local Regional Water Quality Control Board for the discharge of the wastewater. The State Water Board and Regional Water Quality Control Boards plan to coordinate permitting processes so that they move in parallel tracks.

How will I know if my public water system decides to engage in DPR? Are they required to let customers know?

Before moving forward with DPR, a public water system is required to participate in at least one public meeting, provide notice to customers of the public meeting, and make information available to customers regarding how the public water system plans to engage in DPR. In addition to the required public meeting, public water systems will typically provide information to customers about planned activities and large projects such as capital improvement projects, in bill inserts or other public information campaigns. A public water system engaging in DPR must also provide information in the annual consumer confidence report about the DPR project.

How much will it cost to construct a treatment facility that can produce DPR water?

Construction costs for any treatment facility vary widely depending on considerations such as what kinds of treatment processes are needed, how reliable the treatment needs to be, the size and location of the facility, the source water to be treated, and how waste from the treatment is discharged. Along with the construction costs, there are also ongoing costs to run the facility, costs for monitoring, and costs for maintenance, repair and replacement. Because the DPR regulations were recently adopted, cost estimates are still being developed. The industry has done some rough calculations based on assumptions and what they know from the indirect potable reuse projects:

- ["Framework for Direct Potable Reuse" \(2015\)](#)

Additional Resources

More information on direct potable reuse can be found on the State Water Board webpages below.

For more information about the development of the DPR regulations, please visit: [Regulating Direct Potable Reuse in California | California State Water Resources Control Board](#)

(https://www.waterboards.ca.gov/drinking_water/certlic/drinkingwater/direct_potable_reuse.html)

For more information on the adoption and promulgation of DPR regulations, please visit: [Direct Potable Reuse | California State Water Resources Control Board](#)

(https://www.waterboards.ca.gov/drinking_water/certlic/drinkingwater/dpr-regs.html)

To submit questions about the DPR regulations, please email ddwrecycledwater@waterboards.ca.gov.

(This FAQ was last updated on August 7, 2024)