

Potable Reuse Frequently Asked Questions

What is potable reuse?

Potable reuse is defined as the augmentation of a drinking water supply with advanced treated water from a municipal wastewater source.

The Department's proposed regulatory framework ensures that potable reuse systems include multiple layers of protection composed of source control, appropriate treatment technology that incorporates resiliency (i.e., ability to adjust to upsets), redundancy (i.e., backup systems), and robustness (i.e., features that simultaneously address multiple waterborne constituents) and expanded monitoring and reporting requirements for the control of emerging constituents and pathogens.

Why are we making potable reuse a source water in Florida?

There is a growing demand for water supply in Florida. As our population continues to increase, so will the demand for clean, potable water, and to meet those demands, we will need find and develop additional sources of water.

Currently, the estimated population of Florida is more than 21.4 million people, that number is expected to rise to 24 million by 2030. Floridians use nearly 6.5 billion gallons of potable water per day and by 2035, Florida will need another 1.1 billion gallons per day, a 17% increase. Water need and demands are outstripping resources and we need alternative solutions. One of those solutions is potable reuse. The Florida Clean Waterways Act, which was signed into effect by Governor Ron DeSantis in 2020 deemed reclaimed (reuse) water as a source water for potable use in Florida.

The 2020 Florida Clean Waterways Act states: "By December 31, 2020, the department shall initiate rule revisions based on the recommendations of the Potable Reuse Commission's 2020 report "Advancing Potable Reuse in Florida: Framework for the Implementation of Potable Reuse in Florida." Rules for potable reuse projects must address contaminants of emerging concern and meet or exceed federal and state drinking water quality standards and other applicable water quality standards. Reclaimed water is deemed a water source for public water supply systems."

What safety measures are being put into place to protect the environment and public health?

The Department's proposed regulatory framework ensures that potable reuse systems include multiple layers or barriers of protection composed of source control, appropriate treatment technology that incorporates resiliency (i.e., ability to adjust to upsets), redundancy (i.e., backup systems), and robustness (i.e., features that simultaneously address multiple waterborne constituents) and expanded monitoring and reporting requirements for the control of emerging constituents and pathogens.

What are the different kinds of potable reuse?

There are two different types of potable reuse that The Department will be regulating in Florida- Indirect Potable Reuse (IPR) and Direct Potable Reuse (DPR).

IPR is the planned delivery or discharge of reclaimed water to ground or surface waters for the development of, or to supplement, potable water supply.

DPR is the introduction of advanced treated water into a raw water supply immediately upstream of a drinking water treatment facility or directly into a potable water supply distribution system.

Is potable reuse safe?

Yes, potable reuse water is put through a rigorous multi-level treatment process including disinfection. Once treatment is complete the water is required to meet all drinking water standards put forth by the state and EPA, as well as treated for emerging constituents and pathogens.

What is advanced treated water?

Advanced treated water is water produced from an advanced water treatment process for potable reuse applications. A specific combination of treatment technologies employed depending on the quality of the source water, the type of potable reuse (i.e., indirect or direct potable reuse), and the existing treatment in place.

What are emerging constituents (ECs)?

ECs are pharmaceuticals, personal care products, and other unregulated chemicals.

What are pathogens?

Pathogens are microorganisms, capable of causing illness in humans. The Department requires monitoring and treatment for pathogens such as enteroviruses, giardia, and cryptosporidium in potable reuse water.

What is source control?

Source control is the elimination or control of the discharge of constituents into a wastewater collection system that at certain quantities can impact a wastewater facility or an advanced water treatment facility, are difficult to treat, or can impair the final quality of the finished water.

Will all utilities be allowed to employ potable reuse?

No, only treatment facilities with a design average daily flow of 0.1mgd (million gallons per day) or greater, who have conducted a pilot testing program in compliance with Chapter 62-610, Florida Administrative Code (F.A.C.), and who can prove they possess technical, managerial and financial capability for long-term compliance with the regulations set forth by the Department rules and regulations will be allowed to be permitted operate a potable reuse system.

Will Potable Reuse be mandatory?

No, the current rulemaking process does not make potable reuse mandatory for utilities.

What is the treatment process for Potable Reuse?

The treatment process for IPR and DPR differ slightly. Water for an IPR project would receive high-level disinfection at the advanced waste treatment facility to meet drinking water standards, be injected to the aquifer or discharged to a surface water source. The water would then be retrieved to be treated through the advanced treatment process, for multi-level treatment before mixing with other potable source water and receiving one final round of treatment at the drinking water facility before entering the distribution system.

For DPR the water will receive full high-level disinfection and advanced waste treatment at the wastewater treatment plant, the water is then piped directly to the advanced treatment facility, for

multi-level treatment before mixing with other potable source water and receiving additional treatment at the drinking water facility before entering the distribution system.

Both methods would have multiple testing points and compliance points throughout the treatment process.

What are the pilot testing requirements?

All systems wishing to do a pilot test for a potable reuse project will first need to submit a detailed plan of study to the Department and obtain the necessary permit revision. Pilot testing, which includes pilot-scale or full-scale in pilot mode, is required for all potable reuse projects.

The pilot test will be required to demonstrate the ability of the selected advanced treatment technology, to reliably and consistently achieve, at minimum the maximum containment levels, maximum residual disinfection levels, and treatment technique requirements established for potable reuse systems.

The pilot study shall also meet pathogen requirements set forth in Department rules, generate a supply of reclaimed water that can be used to evaluate the suitability of the reclaimed water for ground water recharge or potable reuse, and identify critical control points for improved process control and treatment reliability.

Pilot testing shall be performed using wastewater/reclaimed water and accumulate at a minimum 12 months' worth of data for the final treatment design. It shall also affirm that the treatment and disinfection processes proposed for inclusion in the wastewater treatment facility can meet the full treatment and disinfection requirements specified in Department rules, and that the resultant water will be of sufficient quality to protect public health and environmental quality.

Please see Rule 62-610.564 F.A.C. of the proposed rule for the whole list of requirements for the pilot test as well as the initial detailed plan of study.

What are the requirements to bring the potable reuse system online?

All systems wishing to implement a potable reuse system (IRP or DPR) will be required to:

- be a treatment facility with a design average daily flow of 0.1mgd or greater
- meet all the pilot study requirements, including submitting a detailed plan of study
- complete the pilot test with at least twelve months' worth of data for the final treatment design of both the pilot scale and full-scale tests
- implement enhanced pretreatment and source control protocols
- receive the appropriate permitting
- prove financial, managerial and technical ability to sustain the potable reuse project for the duration of the project with the ability to protect public health and environmental quality
- implement community outreach and education projects on potable reuse.

What are the expanded source control requirements?

The proposed expanded pretreatment and source control requirements are stated in Rule 62-610.330 F.A.C. and include (at minimum) the following:

- All potable reuse systems will be required to, at a minimum, meet the pretreatment and source control requirements stated in 62-610.330(2) and the program standards and requirements in Chapter 62-625;
- an assessment of the fate of Department-specified toxic chemicals and other contaminants of aquatic life and human health significance through the entire potable reuse system;
- source investigations and monitoring that focuses on Department-specified toxic chemicals and other contaminants of aquatic life and human health significance;
- develop local discharge limitations for Department-specified toxic chemicals and other contaminants of aquatic life and human health significance shall be developed using a safety factor on quality, quantity and source of the data.
- monitoring and sampling at influent, intermediate, and compliance (treated effluent & biosolids) shall be paired and monitored at the same frequency as the compliance monitoring;
- outreach program(s) to industrial, commercial, and residential communities within the portions of the wastewater collection system service area that supplies the potable reuse systems for the purpose of managing and minimizing the discharge of toxic chemicals and other contaminants of aquatic life and human health significance at the source; and
- a current inventory of toxic chemicals and other contaminants of aquatic life and human health significance identified pursuant to this section, including new toxic chemicals and other contaminants of aquatic life and human health significance resulting from new sources or changes to existing sources, that may be discharged into the wastewater collection system.
- significant industrial users shall implement a slug control plan that includes, at a minimum, all elements in subparagraphs 62-625.500(2)(b)6.a. through d., F.A.C. The plan shall be re-evaluated annually and updated as necessary.
- power-operated equipment associated with controlling and monitoring discharges to the wastewater collection system from industrial and commercial facilities (e.g., alarms, valve actuators, programmable logic controllers, and monitoring devices) shall have a continuous power source at all times in when a discharge can occur. At any time that the power source is interrupted the facility must inform the control authority, as defined in Rule 62-625.200, F.A.C, immediately. Manual monitoring and sampling shall be required to ensure compliance with control authority-issued permit.
- an early warning system that has elements of real-time monitoring, event detection, and a hierarchical decision tree or set of rules to classify the alert and determine the appropriate response. A risk assessment shall be conducted to identify wastewater constituents and locations where real-time monitoring should be best applied to detect and alert when a potential adverse event is occurring.
- a continuous improvement plan for performance and reliability of the early warning system. The plan shall be re-evaluated at least once every two years and revised accordingly. This

requirement may be deferred by using other mitigation measures, including additional treatment barriers, blending, effluent monitoring, and diversion.

Why are reuse discharges considered SSOs?

We are currently looking into the language and requirements of our rules and working with other programs within the Department on possible clarifications modifications to SSO requirements pertaining to reuse water spills and unauthorized discharges.