Useful Terminology

Term	Definition
Advanced water treatment (AWT)	Treatment beyond secondary wastewater to produce purified and/or finished water. The specific combination of treatment technologies employed will depend on quality of the treated wastewater.
Barrier	A measure implemented to reduce the chemical or microbial contamination of purified or finished water. A barrier can be technical, operational, and/or management. Log-reduction credit (see below) is only assigned for technical barriers.
Characteristics, wastewater	General classes of wastewater constituents such as physical, chemical, and biological constituents.
Concentrate	Concentrated liquid waste stream containing elevated concentrations of total dissolved solids and other constituents.
Critical control point (CCP)	A point, step or procedure in advanced water treatment where control can be applied to an individual process to reduce, prevent, or eliminate process failure. Pathogens and specific constituents are the principal concerns in advanced water treatment.
De facto potable reuse	The downstream usage of surface waters as sources of drinking water that are subject to upstream wastewater discharges (e.g., unplanned potable reuse).
Direct potable reuse (DPR)	There are two forms of DPR. In the first form, purified water from an advanced treatment facility is introduced into the raw water supply immediately upstream of a water treatment plant. In the second form, finished water is introduced directly into a potable water supply distribution system, downstream of a water treatment plant.
Disinfection byproducts (DBPs)	Chemicals that are formed with the residual organic and inorganic matter found in treated wastewater as a result of the addition of a strong oxidant (e.g., chlorine or ozone) for the purpose of disinfection.
Drinking water	Water that meets the standards prescribed by the U.S. Environmental Protection Agency's National Primary Water Regulations (40 CFR 141) and any applicable state or local regulations
Engineered storage buffer	A storage facility that is used to ensure adequate protection of human health by providing retention time, before purified or finished water is introduced into the drinking water system, in the event the product water does not meet specifications.
Environmental buffer	A water body, such as a groundwater aquifer or a surface water reservoir, lake, or river, into which purified water is introduced before being withdrawn for potable reuse. Environmental buffers allow for response time in the event the purified water does not meet specifications.

Finished water	Water produced from an advanced water treatment plant that also meets all of the federal, state, and local regulatory requirements for a domestic water treatment plant. The finished water can be introduced directly into the water distribution system, taking blending requirements into consideration.
Inactivation	Killing or rendering microorganisms incapable of reproducing, and thus preventing their ability to cause illness.
Indirect potable reuse (IPR)	In IPR, purified water from an advanced water treatment facility is introduced into an environmental buffer, such as a water body upstream from the intake to the drinking water facility, for a specified period of time before being withdrawn for potable purposes (see also *de facto* potable reuse).
Log-reduction	Log reduction corresponds to a reduction in the concentration of a constituent or a microorganism by a factor of 10. For example, a 1-log removal would correspond to a reduction of 90 percent from the original concentration. Similarly, a 2-log reduction corresponds to a reduction of 99 percent from the original concentration.
Log-reduction credit	The number of credits assigned to a specific treatment process (e.g., chlorine disinfection, UV oxidation, etc.), expressed in log units, for the inactivation of a specific microorganism or a group of microorganisms. A reduction of 90 would correspond to one log of credit reduction.
Membrane	A device, usually made of an organic polymer, that allows the passage of water and certain constituents, but rejects other constituents above a certain physical size, structure or molecular weight.
Non-potable reuse	All water reuse applications, except those related to potable reuse.
Pathogen	A microorganism (e.g. bacteria, viruses, Giardia, and Cryptosporidium, etc.) capable of causing illness in humans.
Potable reuse	The use of treated wastewater as a raw water source for subsequent treatment and potable use.
Public outreach	The process of communicating with and educating/informing the public on options and proposed plans for implementing DPR or IPR, and receiving input from the public including questions and concerns that need to be addressed.
Purified water	Water produced from an advanced water treatment plant that is intended to serve as source of supply for potable water that is to be introduced ahead of a water treatment plant.
Reliable treatment	The reliability of a given treatment process can be assessed in terms of its redundancy, robustness, and resilience.
Residuals	Waste streams and semi-solids produced by wastewater and advanced water treatment processes.
Source control program	Source control involves the elimination or control of the discharge of constituents to wastewater that can be difficult to treat, and may impair the final quality of the treated water intended for DPR.
Treatment train	A grouping of treatment technologies to achieve a specific treatment objective or goal.