



# Filter Backwash Recycling Rule: A Quick Reference Guide



Overview of the Rule	
Title	Filter Backwash Recycling Rule (FBRR) 66 FR 31086, June 8, 2001, Vol. 66, No. 111
Purpose	Improve public health protection by assessing and changing, where needed, recycle practices for improved contaminant control, particularly microbial contaminants.
General Description	The FBRR requires systems that recycle to return specific recycle flows through all processes of the system's existing conventional or direct filtration system or at an alternate location approved by the state.
Utilities Covered	Applies to public water systems that use surface water or ground water under the direct influence of surface water, practice conventional or direct filtration, and recycle spent filter backwash, thickener supernatant, or liquids from dewatering processes.

Public Health Benefits	
Implementation of FBRR will result in . . .	<ul style="list-style-type: none"> <li>▶ Reduction in risk of illness from microbial pathogens in drinking water, particularly <i>Cryptosporidium</i>.</li> </ul>
Estimated impacts of the FBRR include . . .	<ul style="list-style-type: none"> <li>▶ FBRR will apply to an estimated 4,650 systems serving 35 million Americans.</li> <li>▶ Fewer than 400 systems are expected to require capital improvements.</li> <li>▶ Annualized capital costs incurred by public water systems associated with recycle modifications are estimated to be \$5.8 million.</li> <li>▶ Mean annual cost per household is estimated to be less than \$1.70 for 99 percent of the affected households and between \$1.70 and \$100 for the remaining one percent of affected households.</li> </ul>

Conventional and Direct Filtration	
<ul style="list-style-type: none"> <li>▶ Conventional filtration, as defined in 40 CFR 141.2, is a series of processes including coagulation, flocculation, sedimentation, and filtration resulting in substantial particulate removal. Conventional filtration is the most common type of filtration.</li> <li>▶ Direct filtration, as defined in 40 CFR 141.2, is a series of processes including coagulation and filtration, but excluding sedimentation, and resulting in substantial particulate removal. Typically, direct filtration can be used only with high-quality raw water that has low levels of turbidity and suspended solids.</li> </ul>	

## Recycle Flows

- ▶ **Spent Filter Backwash Water** - A stream containing particles that are dislodged from filter media when water is forced back through a filter (backwashed) to clean the filter.
- ▶ **Thickener Supernatant** - A stream containing the decant from a sedimentation basin, clarifier or other unit that is used to treat water, solids, or semi-solids from the primary treatment processes.
- ▶ **Liquids From Dewatering Processes** - A stream containing liquids generated from a unit used to concentrate solids for disposal.

## Critical Deadlines and Requirements

### For Drinking Water Systems

December 8, 2003	Submit recycle notification to the state.
June 8, 2004	Return recycle flows through the processes of a system's existing conventional or direct filtration system or an alternate recycle location approved by the state (a 2-year extension is available for systems making capital improvements to modify recycle location).  Collect recycle flow information and retain on file.
June 8, 2006	Complete all capital improvements associated with relocating recycle return location (if necessary).

### For States

June 8, 2003	States submit FBRR primacy revision application to EPA (triggers interim primacy).
June 8, 2005	Primacy extension deadline - all states with an extension must submit primacy revision applications to EPA.

## What does a recycle notification include?

- ▶ Plant schematic showing origin of recycle flows, how recycle flows are conveyed, and return location of recycle flows.
- ▶ Typical recycle flows (gpm), highest observed plant flow experienced in the previous year (gpm), and design flow for the treatment plant (gpm).
- ▶ State-approved plant operating capacity (if applicable).

## What recycle flow information does a system need to collect and retain on file?

- ▶ Copy of recycle notification and information submitted to the state.
- ▶ List of all recycle flows and frequency with which they are returned.
- ▶ Average and maximum backwash flow rates through filters, and average and maximum duration of filter backwash process (in minutes).
- ▶ Typical filter run length and written summary of how filter run length is determined.
- ▶ Type of treatment provided for recycle flows.
- ▶ Data on the physical dimension of the equalization and/or treatment units, typical and maximum hydraulic loading rates, types of treatment chemicals used, average dose, frequency of use, and frequency at which solids are removed, if applicable.

For additional information on the FBRR

Call the Safe Drinking Water Hotline at 1-800-426-4791; visit the EPA web site at [www.epa.gov/safewater](http://www.epa.gov/safewater); or contact your state drinking water representative.

Additional material is available at [www.epa.gov/safewater/filterbackwash.html](http://www.epa.gov/safewater/filterbackwash.html).