

Implementation Guidance for the Filter Backwash Recycling Rule

**Idaho Department of Environmental Quality
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Preface

This brief guidance is designed to give DEQ staff and regulated public water systems an overview of the Filter Backwash Recycling Rule, which was promulgated by EPA on June 8, 2001. Idaho's adoption of this national drinking water regulation will become final at the close of the 2003 legislative session.

Section 1 provides an outline of the rule requirements and a timetable of implementation activities and compliance deadlines.

Section 2 discusses the rule requirements in more detail.

Section 3 outlines the special primacy requirements that the rule places on DEQ.

This rule is not expected to affect a significant number of Idaho water systems. Backwash water and other waste liquids from treatment processes are not often recycled by systems in our state.

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Section 1—Rule Overview and Implementation Timetable

1.A. Systems affected by this rule

This rule applies to all public water systems that use surface water or ground water under the direct influence of surface water as a source. Additionally, it applies only to systems that employ conventional or direct filtration and recycle spent filter backwash water, thickener supernatant, or liquids from dewatering processes. Systems that do not recycle these streams, or do not use conventional or direct filtration have no requirements under the Filter Backwash Recycling Rule (FBRR).

1.B. General Requirements

1. Systems that recycle any of the streams mentioned above must report to DEQ by November 8, 2003. This report must describe the recycled streams and indicate the point at which these streams enter the treatment process.
2. The rule imposes a treatment technique requirement that must be met by June 8, 2004—systems that recycle waste streams must introduce these streams at the head of their treatment process or at another point approved by DEQ. An extension of this date is possible if the system must undertake capital improvements in order to comply with the treatment technique.
3. Systems must keep a record of recycle flow information and make this available for review and evaluation by DEQ.

1.C. Implementation timetable

The table on the following page describes key implementation activities and compliance dates.

Date	Action Required	References
December 8, 2003	Systems must notify DEQ if they recycle spent filter backwash, thickener supernatant, or liquids from dewatering processes, and submit a plant schematic and other required flow data.	40 CFR 141.76(b) IDAPA 58.01.08.300.07 Section 2 of this Guidance
June 8, 2004	Systems must recycle spent filter backwash water, thickener supernatant, or liquids from dewatering processes through the processes of a system's existing convention or direct filtration system or at an alternate location approved by DEQ, unless capital improvements are required to modify the recycling location to meet this requirement.	40 CFR 141.76(c) IDAPA 58.01.08.300.07 Section 2 of this Guidance
June 8, 2004	Systems must collect and retain recycle flow information on file for review and evaluation by DEQ.	40 CFR 141.76(d) IDAPA 58.01.08.300.07 Section 2 of this Guidance
June 8, 2006	Systems that need capital improvements to comply with the recycle return requirements must have capital improvements completed.	40 CFR 141.76(c) IDAPA 58.01.08.300.07 Section 2 of this Guidance

Section 2—Details of Rule Requirements

2.A. Introduction

Recycling of spent filter backwash water, thickener supernatant, or liquids from dewatering processes in a conventional or direct filtration treatment plant can impact the ability of the treatment process to achieve the required removal and inactivation of pathogens. These recycled streams may contain large concentrations of pathogens and other contaminants that were originally captured by the filters. The chemistry of these streams has previously been altered by passage through the treatment train and this can affect the performance of coagulation and sedimentation steps if the rate of recycling is not carefully controlled. The FBRR is designed to ensure that systems choosing to recycle these flows do so in a manner that prevents treatment failure. In general, this means that recycled flows must enter the treatment train at the head of the plant, so that the recycled water passes through the entire treatment process. The volume of recycled flow must be carefully controlled to prevent process upsets.

2.B. Reporting of recycling practices

All systems affected by this rule must report to DEQ by December 8, 2003 if they recycle spent filter backwash, thickener supernatant, or liquids from dewatering processes. The system must provide DEQ with a plant schematic showing the origin of all flows that are recycled, the hydraulic conveyance used to transport them, and the location where they are introduced back into the treatment plant. This report must also include data on the typical recycle flows, the highest observed plant flow experienced in the previous year, and design flow for the treatment plant, all in gallons per minute. If DEQ has previously approved an operating capacity for the treatment facility, this must also be reported.

The purpose of this report is to give DEQ an opportunity to evaluate recycling practices and to determine if these practices have the potential to impair the ability of the treatment process to consistently achieve compliance with the treatment technique requirements of surface water treatment rules.

Systems that do not recycle any of these flows are not required to report.

2.C. Treatment technique requirements

The FBRR requires systems to return any of the recycled flows mentioned above to the head of the treatment train, unless DEQ approves an alternative entry point. The process that DEQ will follow in determining whether an alternative entry point will be approved is discussed in Section 3 of this Guidance.

The system is expected to be in compliance with this requirement by June 8, 2004, unless capital improvements are needed to change the point of entry or other aspects of recycling practices. The compliance date for systems that must make capital improvements is June 8, 2006.

2.D. Recordkeeping requirements

Water systems subject to this rule must collect and retain the following records. These records must be made available for review and evaluation by DEQ, beginning June 8, 2004.

1. A copy of the recycle notification information submitted to DEQ (Section 2.B.).
2. A list of all recycle flows and the frequency with which they are returned to the treatment process.
3. Average and maximum backwash flow rate through the filters and the average and maximum duration of the filter backwash process in minutes.
4. Typical filter run length and a written summary of how the filter run length is determined.
5. The type of treatment provided for the recycle flow.
6. Data on the physical dimensions of the equalization and/or treatment units, typical and maximum hydraulic loading rates, type of treatment chemicals used and average dose and frequency of use, and frequency at which solids are removed, if applicable.

2.E. Public Notification

Failure to comply with the treatment technique or reporting requirements of this rule is a violation of national primary drinking water regulations. The content and manner of this notification is specified in Appendices A and B of the Public Notification Rule.

Section 3—Special Primacy Requirements

3.A. Recordkeeping by the state

DEQ must keep records of any decision it makes in the following areas:

1. Any decision to allow reduced reporting by a filtered public water system.
2. Any decision made to approve alternative recycle entry points or to require modifications to recycle entry points or recycle practices.

These records must be kept for forty years, or until one year after the decision is reversed or revised.

3.B. State authorities

DEQ has the authority to use sanitary surveys, comprehensive performance evaluations, or other inspections and activities to evaluate recycle data maintained under the recordkeeping requirements of this rule. DEQ also has the authority to require modifications to recycling practices if it is demonstrated that these practices could impair the system's ability to meet surface water treatment requirements. This authority is formalized in IDAPA 58.01.08.300.7.a. and b.

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Appendix A—Selected excerpts from *Idaho Rules for Public Drinking Water Systems*

03. Definitions

Composite Correction Program (CCP). A systematic approach to identifying opportunities for improving the performance of water treatment and implementing changes that will capitalize on these opportunities. The CCP consists of two (2) elements:

- a. **Comprehensive Performance Evaluation (CPE).** A thorough review and analysis of a treatment plant's performance-based capabilities and associated administrative, operation, and maintenance practices. It is conducted to identify factors that may be adversely impacting a plant's capability to achieve compliance and emphasizes approaches that can be implemented without significant capital improvements. The CPE must consist of at least the following components: assessment of plant performance; evaluation of major unit processes; identification and prioritization of performance limiting factors; assessment of the applicability of comprehensive technical assistance; and preparation of a CPE report.
- b. **Comprehensive Technical Assistance (CTA).** The implementation phase that is carried out if the CPE results indicate improved performance potential. During the CTA phase, the system must identify and systematically address plant-specific factors. The CTA consists of follow-up to the CPE results, implementation of process control priority setting techniques, and maintaining long term involvement to systematically train staff and administrators.

300.07. Recycle provisions. 40 CFR 141.76, revised as of July 1, 2002, is herein incorporated by reference.

- a. The Department shall evaluate recycling records kept by water systems pursuant to 40 CFR 141.76 during sanitary surveys, comprehensive performance evaluations, or other inspections.
- b. The Department may require a system to modify recycling practices if it can be shown that these practices adversely affect the ability of the system to meet surface water treatment requirements.