EPA
United States
Environmental Protection
Agency

Implementation Guidance for the Filter Backwash Recycling Rule

Office of Water
EPA 816-R-04-006
www.epa.gov/safewater
June 2004

Printed on Recycled Paper

Disclaimer

This document provides guidance to states, tribes, and U.S. Environmental Protection Agency (EPA) Regions exercising primary enforcement responsibility under the Safe Drinking Water Act (SDWA) and contains EPA's current policy recommendations for complying with the Filter Backwash Recycling Rule (FBRR). Throughout this document, the terms "state" or "states" are used to refer to all types of primacy agencies including U.S. territories, Indian tribes, and EPA Regions. The statutory provisions and EPA regulations described in this document contain legally binding requirements. This document is not a regulation itself, nor does not it change or substitute for those provisions and regulations. Thus, it does not impose legally binding requirements on EPA, States, or public water systems. This guidance does not confer legal rights or impose legal obligations upon any member of the public.

While EPA has made every effort to ensure the accuracy of the discussion in this guidance, the obligations of the regulated community are determined by statutes, regulations, or other legally binding requirements. In the event of a conflict between the discussion in this document and any statute or regulation, this document would not be controlling.

The general description provided here may not apply to a particular situation based upon the circumstances. Interested parties are free to raise questions and objections about the substance of this guidance and the appropriateness of the application of this guidance to a particular situation. EPA and other decisionmakers retain the discretion to adopt approaches on a case-by-case basis that differ from those described in this guidance where appropriate.

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This is a living document and may be revised periodically without public notice. EPA welcomes public input on this document at any time.

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List of Abbreviations/Acronyms

Additional acronyms may be found on EPA's website at www.epa.gov/ocepaterms/aaad.html.

AOC	Assimilable Organic Carbon
AWWA	American Water Works Association
AWWARF	American Water Works Association Research Foundation
CCR	Consumer Confidence Report
CDC	Centers for Disease Control
CFR	Code of Federal Regulations
CPE	Comprehensive Performance Evaluation
DBPP	Disinfection Byproduct Precursors
DBPR	Disinfection Byproduct Rule
EPA	Environmental Protection Agency
FACA	Federal Advisory Committees Act
FAQ	Frequently Asked Questions
FBRR	Filter Backwash Recycling Rule
FR	Federal Register
FRDS	Federal Reporting Data System
ft	Feet
gal	Gallon
gpm	Gallons per Minute
GWUDI	Ground Water Under the Direct Influence of Surface Water
HAA5	Haloacetic Acids (five)
hrs	Hours
ICR	Information Collection Rule
ID	Identification
IESWTR	Interim Enhanced Surface Water Treatment Rule
LT1ESWTR	Long Term 1 Enhanced Surface Water Treatment Rule
MCL	Maximum Contaminant Level
MCLG	Maximum Contaminant Level Goal
M-DBP Cluster	Microbial-Disinfectants/Disinfection Byproducts Cluster
MG	Million Gallons
MGD	Million Gallons per Day
MRDL	Maximum Residual Disinfectant Level
NIPDWR	National Interim Primary Drinking Water Regulations
NPDWR	National Primary Drinking Water Regulation
NSCEP	National Service Center for Environmental Publications
NTIS	National Technical Information Service
NTU	Nephelometric Turbidity Unit
NOV	Notices of Violation
OECA	Office of Enforcement and Compliance Assurance
OGC	Office of General Counsel
OGWDW	Office of Ground Water and Drinking Water
ORC	Office of Regional Counsel
POTW	Publicly Owned Treatment Works
PN	Public Notification
PWS	Public Water System
PWSS	Public Water System Supervision Program
SBREFA	Small Business Regulatory Enforcement Fairness Act of 1996
SDWA	Safe Drinking Water Act
SDWIS	Safe Drinking Water Information System

SDWIS/FED	Safe Drinking Water Information System - Federal Version
SNC	Significant Noncomplier
SWTR	Surface Water Treatment Rule
TCR	Total Coliform Rule
TOC	Total Organic Carbon
THM	Trihalomethanes
TTHM	Total Trihalomethanes

Purpose

This document provides guidance to EPA Regions and states exercising primary enforcement responsibility under the Safe Drinking Water Act (SDWA) concerning how EPA interprets the Filter Backwash Recycling Rule (FBRR). It also provides guidance on how EPA intends to exercise its discretion in implementing the statute and regulations. This guidance articulates national policy on these issues.

The SDWA provisions and EPA regulations described in this document contain legally binding requirements. This document does not substitute for those provisions or regulations, nor is it a regulation itself. It does not impose legally-binding requirements on EPA, states, or the regulated community, and may not apply to a particular situation based upon the circumstances. EPA and state decision-makers retain the discretion to adopt approaches on a case-by-case basis that differ from this guidance where appropriate. Any decisions regarding a particular facility will be made based on the applicable statutes and regulations. Therefore, interested parties are free to raise questions and objections about the appropriateness of the application of this guidance to a particular situation, and EPA will consider whether the recommendations or interpretations in the guidance are appropriate in that situation based on the law and regulations. EPA may change this guidance in the future.

Please note that, in several sections, the guidance makes suggestions and offers alternatives that go beyond the minimum requirements indicated. EPA does this to provide information and/or suggestions that may be helpful to implementation efforts. Such suggestions are prefaced by "may" or "should" are to be considered advisory. They are not required elements of the FBRR.

Section I discusses the FBRR and presents timetables and timelines of important dates of this rule. Section II contains references for further information and guidance. Section III provides information for states to communicate the requirements of this rule to systems. Section IV covers state Primacy Revision Requirements, including a detailed time frame for application review and approval. This section also contains guidance and references to help states adopt the new special primacy requirement included in this rule. Section V addresses violation determination and associated reporting requirements, including a violation table to assist states in their compliance activities. Section 6 provides examples of language that can be used to comply with the requirements of the Public Notification Rule (PN Rule) and Consumer Confidence Reporting Rule (CCR).

The Appendices of this document also provide information that will be useful to states and EPA Regions throughout the primacy revision application process. Appendix A contains the primacy revision crosswalk for the rule. Appendix B contains the FBRR regulatory language. Appendix C contains a fact sheet, a quick reference guide, and a rule summary for systems. Appendix D contains the *Data Entry Instructions with examples for the Filter Backwash Recycling Rule*.

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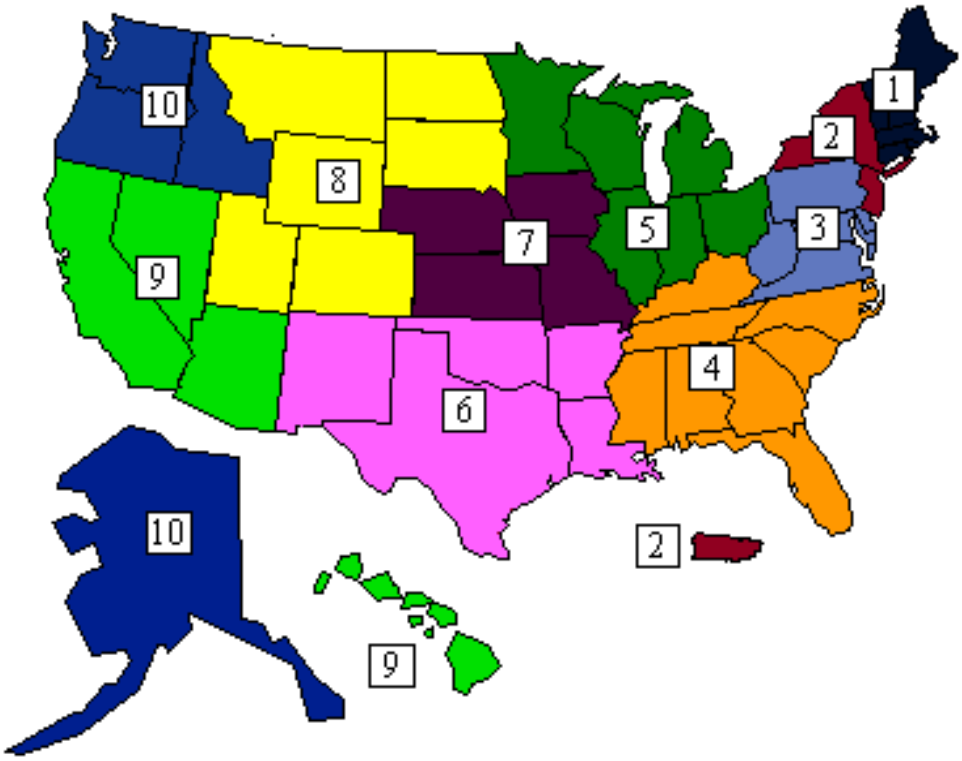

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Section I

Rule Requirements

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1.1 Introduction

The Filter Backwash Recycling Rule (FBRR) was published in the Federal Register on June 8, 2001 [66 FR 31086; *see* www.epa.gov/safewater/filterbackwash.html]. This rule is part of a series of rules, the "Microbial-Disinfectants/Disinfection Byproducts Cluster" (M-DBP Cluster), to be published over several years. The rule cluster is intended to improve control of microbial pathogens while minimizing the public health risks of disinfectants and disinfection byproducts (DBPs).

The FBRR focuses on reducing the risk associated with disinfection resistant pathogens, such as *Cryptosporidium*, by addressing the impact of returning certain waste flows to a conventional or direct filtration facility's treatment process. These return flows may adversely affect plant performance and, subsequently, pathogen removal. Waste flows to which the FBRR applies include recycle of spent filter backwash water, thickener supernatant or liquids from dewatering processes.

1.1.1 History

The 1974 SDWA called for EPA to regulate drinking water by creating the national interim primary drinking water regulations (NIPDWR). In 1979, the first interim standard addressing DBPs was set for total trihalomethanes (TTHM), a group of four volatile organic chemicals that form when disinfectants react with natural organic matter in the water.

Although the SDWA was amended slightly in 1977, 1979, and 1980, the most significant changes to the 1974 law occurred when the SDWA was reauthorized in 1986. To safeguard public health, the 1986 Amendments required EPA to set health goals, or maximum contaminant level goals (MCLGs), and maximum contaminant levels (MCLs) for 83 named contaminants. Waterborne disease outbreaks of giardiasis demonstrated that disease-causing microbial contamination had not been sufficiently controlled under the original Act. In addition, several hundred chemical contaminants were known to occur in the environment but few were regulated in Public Water Systems (PWSs). EPA was also required to establish additional regulations within certain timeframes, require disinfection of source water supplies, specify filtration requirements for nearly all water systems that draw their water from surface sources, and develop additional programs to protect ground water supplies.

In 1989, EPA issued two important National Primary Drinking Water Regulations (NPDWRs): the Total Coliform Rule (TCR) and the Surface Water Treatment Rule (SWTR). The TCR and SWTR provide the foundation for the M-DBP Cluster and are summarized below.

Total Coliform Rule

The TCR applies to all PWSs. Coliforms are easily detected in water and are used to assess a water system's vulnerability to pathogens. In the TCR, EPA set an MCLG of zero for total coliforms. EPA also set an MCL for total coliforms and required testing of total coliform positive cultures for the presence of *E. coli* or fecal coliforms, which indicate more immediate health risks from sewage or fecal contamination. Finally, the TCR required sanitary surveys every 5 years (or 10 years for noncommunity water systems (NCWSs) using disinfected and protected ground water) for every system that collects fewer than five routine total coliform samples per month. These are typically systems that serve less than 4,100 people.

Surface Water Treatment Rule

PWSs using surface water or ground water under the direct influence of surface water (GWUDI) as a supply are prone to microbial contamination of their source water. Pathogenic microorganisms that can contaminate source water can be removed or inactivated during the water treatment sedimentation,

filtration, and disinfection processes. EPA issued the SWTR in response to a Congressional mandate requiring disinfection, and filtration where necessary, of systems that use surface water or GWUDI sources. The rule sets MCLGs for *Legionella, Giardia lamblia*, and viruses at zero because any exposure to these contaminants presents some level of health risk. The SWTR includes a treatment technique requirement for inactivation (or removal and inactivation) of these organisms.

Specifically, the SWTR requires that a surface water system have sufficient treatment to reduce source water concentrations of *Giardia lamblia* by at least 99.9 percent (3 log) and viruses by at least 99.99 percent (4 log). In addition, disinfection residuals must be maintained throughout the distribution system. For systems that filter, the adequacy of the filtration process is determined by measuring the turbidity of the treated water since high levels of turbidity often indicate that the filtration process is not working properly. The goal of the SWTR is to reduce the public health risk for infection by *Giardia lamblia*, *Legionella*, or viruses to less than one infection per year per 10,000 people.

1996 SDWA Amendments

In 1990, EPA's Science Advisory Board, an independent panel of experts established by Congress, cited drinking water contamination as one of the most important environmental risks and indicated that disease-causing microbial contaminants (e.g., bacteria, protozoa, and viruses) are probably the greatest remaining health-risk management challenge for drinking water suppliers. Data from the Centers for Disease Control (CDC) confirm this concern and indicate that between 1980 and 1998, 419 waterborne disease outbreaks were reported, with over 511,000 estimated cases of disease. During this period, a number of agents were implicated as causes of the outbreaks, including various protozoa, viruses, and bacteria, as well as several chemicals (Craun and Calderon 1996, Levy et al. 1998, Barwick et al. 2000). Most of the cases (but not the outbreaks) of illnesses were associated with surface water, including a single outbreak of approximately 403,000 cases of cryptosporidiosis in Milwaukee, WI (Mac Kenzie et al. 1994).

The SDWA was further amended in 1996 to improve public health protection by incorporating new data on the adverse health effects of contaminants, the occurrence of contaminants in PWSs, and the estimated reduction in health risks that would result from further regulation. The Amendments provided for use of best-available, peer-reviewed science in decision-making and for risk reduction and cost analyses in the regulatory decision process.

TTHMs/Stage 1 DBPR

Many water systems treat their water with a chemical disinfectant in order to inactivate pathogens that cause disease. The public health benefits of common disinfection practices are significant and well-recognized; however, disinfection poses risks of its own. While disinfectants are effective at controlling many harmful microorganisms, they react with organic and inorganic matter (DBP precursors) in the water and form DBPs, some of which pose health risks when present above certain levels. Since the discovery of chlorination byproducts in drinking water in 1974, numerous toxicological studies have been conducted that show some DBPs to be carcinogenic and/or cause reproductive or developmental effects in laboratory animals. Additionally, exposure to high levels of disinfectants over long periods of time may cause health problems, including damage to blood and kidneys. While many of these studies have been conducted with disinfectants at high doses, the weight of evidence indicates that DBPs present a potential public health problem that must be addressed even at low levels. One of the most complex questions facing water supply professionals is how to reduce risks from disinfectants and DBPs while providing adequate protection against microbial contaminants. Much of the population is exposed to these risks; therefore, a substantial concern exists.

The TTHM Rule of 1979 set a TTHM standard for CWSs serving 10,000 or more people. The Stage 1 Disinfectants and Disinfection Byproducts Rule (Stage 1 DBPR) built on the TTHM Rule by lowering

existing MCLs and widening the range of affected systems to include all PWSs (except most transient systems) that add a disinfectant. The Stage 1 DBPR established new MCLs for chlorite, bromate, and haloacetic acids (HAA5) as well as established maximum residual disinfection levels (MRDLs) for the disinfectants chlorine, chloramine, and chlorine dioxide. In addition, the Stage 1 DBPR requires conventional filtration systems to remove specified percentages of organic materials, measured as total organic carbon (TOC), that may react with disinfectants to form DBPs.

IESWTR/LT1ESWTR

The IESWTR builds on the SWTR by adding protection from *Cryptosporidium* through strengthened combined filter effluent (CFE) turbidity performance standards and individual filter effluent (IFE) turbidity provisions. The IESWTR applies to systems that serve more than 10,000 people. For unfiltered systems, *Cryptosporidium* must be included in watershed control requirements. In addition, the IESWTR builds on the TCR by requiring sanitary surveys for all PWSs using surface water or GWUDI. The IESWTR also requires covers for all new finished water storage facilities and includes disinfection profiling and benchmarking provisions to ensure systems provide continued levels of microbial protection while taking the necessary steps to comply with the DBP standards.

The provisions in the Long Term 1 Enhanced Surface Water Treatment Rule (LT1ESWTR) address the concerns covered by the IESWTR as they apply to small systems (i.e., systems serving fewer than 10,000 people) using surface water or GWUDI.

Collectively, the SWTR, IESWTR, and LT1ESWTR place stringent treatment requirements on systems using surface water or GWUDI as a source.

Filter Backwash Recycling Rule

The Filter Backwash Recycling Rule (FBRR) complements the surface water treatment rules by reducing the potential for microbial pathogens, particularly *Cryptosporidium* oocysts, to pass through the filters into the finished water of systems that use conventional and direct filtration. The FBRR requires affected systems to notify the state in writing about its recycle practices, maintain specific records, and return regulated recycle streams (i.e., spent filter backwash, thickener supernatant, or liquids from dewatering processes) through all processes of a system's existing conventional or direct filtration system (unless the state approves an alternate location).

The Multiple Barrier Approach

By building on the foundation of the original SDWA, subsequent amendments to the Act have improved the quality of drinking water and increased public health protection. The 1996 SDWA Amendments, for example, require EPA to develop rules to balance the risks presented by microbial pathogens and DBPs. The FBRR is one of the most recent rules in the M-DBP Cluster that expands on the foundation of prior rulemaking efforts.

Since multiple threats require multiple barriers, the FBRR expands on the foundation of the TCR, SWTR, TTHM Rule, Stage 1 DBPR, IESWTR, and LT1ESWTR standards to target health risks not addressed by prior regulations. By encompassing these previously unaddressed health risks from microbials and DBPs, the M-DBP Cluster continues to maximize drinking water quality and public health protection.

1.1.2 Development of the FBRR

The 1996 SDWA Amendments required EPA to develop rules to balance the risks between microbial pathogens and disinfection byproducts, and to "govern" the recycle of filter backwash within the treatment process of public water systems. In 1997, a Federal Advisory Committees Act (FACA) process

was implemented with the Microbial-Disinfectants/Disinfection Byproducts (M-DBP) Advisory Committee. The M-DBP Committee negotiations resulted in the following three proposals:

- An Information Collection Rule (ICR) to collect information necessary to reduce many key uncertainties prior to subsequent negotiations for the Stage 2 Disinfection Byproducts Rule (Stage 2 DBPR). Systems affected by the ICR were also required to report whether recycling is practiced and to sample spent filter backwash water (i.e., recycle flow) between the backwash water treatment plant (if one existed) and the point at which recycle flow is added to the treatment process. Sampling of plant recycle flow was required prior to blending with the plant influent flow.

- A companion Enhanced Surface Water Treatment Rule and the FBRR designed to improve control of microbial pathogens and prevent inadvertent reductions in microbial safety as a result of DBP control efforts; and,

- A staged approach to regulation of DBPs (referred to as the Stage 1 and Stage 2 DBPRs) incorporating MCLs, MRDLs, and treatment technique (TT) requirements.

Several formal and informal meetings on the FBRR were held with stakeholders, trade associations, and environmental groups in 1998 and 1999. Small entity representatives also contributed valuable input as part of the Small Business Regulatory Enforcement Fairness Act (SBREFA) panel process. The proposed FBRR was published in the Federal Register on April 10, 2000 (65 FR 19046). EPA held a public meeting in Washington, DC on April 14, 2000 to discuss the proposed rule. Additionally, the proposed rule was either presented or discussed in nearly 50 meetings across the U.S. Finally, EPA requested comments by mailing approximately 200 copies of the proposed rule to stakeholders. EPA received 67 comments from a variety of stakeholders including states, municipalities, tribes, elected officials, consultants, trade groups, and private industry. These comments were reviewed and evaluated while developing the final rule. Responses to all of the comments are found in EPA's *Public Comment and Response Summary for the FBRR* (USEPA, 2001).

1.1.3 Benefits of the FBRR

The benefits associated with the FBRR cannot be quantified due to the limitations of available data. Specifically, there is a lack of performance data needed to accurately model *Cryptosporidium* oocyst removal achieved by each of the unit processes of a treatment plant and the impact specific recycling practices may have on unit-process performance and finished water quality. However, available data demonstrate that oocysts occur in recycle streams, often at higher concentrations than found in source water. Data also indicate returning recycle streams to the plant may increase oocyst concentrations entering the plant. Some recycle practices can upset unit process performance and the proper hydraulic operation of flocculation, sedimentation/clarification, and/or filtration processes. The benefits of the FBRR are derived from protecting the facility's ability to provide 2-log removal of *Cryptosporidium* oocysts. The FBRR reduces the risk posed by certain recycling practices of passing microbial pathogens to the finished water, thereby providing additional protection to consumers.

1.2 Requirements of the Rule: Public Water Systems

The following rule requirements are from the FBRR published in the Federal Register on June 8, 2001 [66 FR 31086]. For a copy of the actual rule language, see Appendix B, or visit EPA's Web site at www.epa.gov/safewater/filterbackwash.html for a copy of the Federal Register notice.

1.2.1 Applicability

1.2.1.1 Who does this rule apply to?

The FBRR applies to any public water system that:

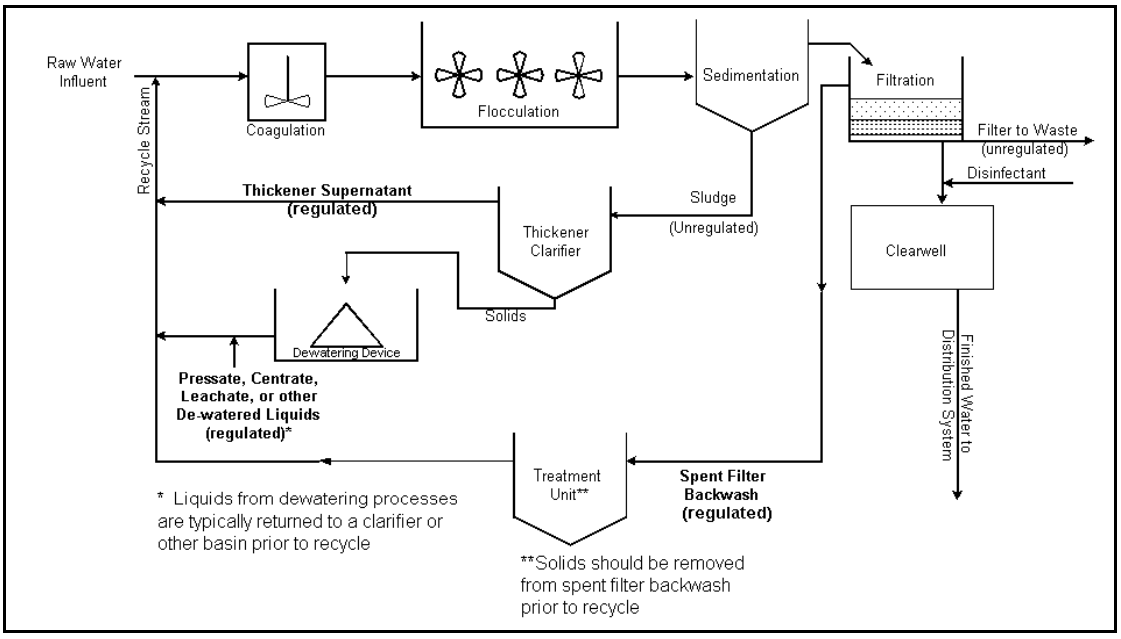
- Uses surface water or ground water under the direct influence of surface water (GWUDI) —also known as a Subpart H system; and
- Utilizes conventional or direct filtration treatment; and
- Recycles spent filter backwash water, thickener supernatant, or liquids from dewatering processes.

(40 CFR 141.76(a))

1.2.1.2 What are conventional and direct filtration treatment?

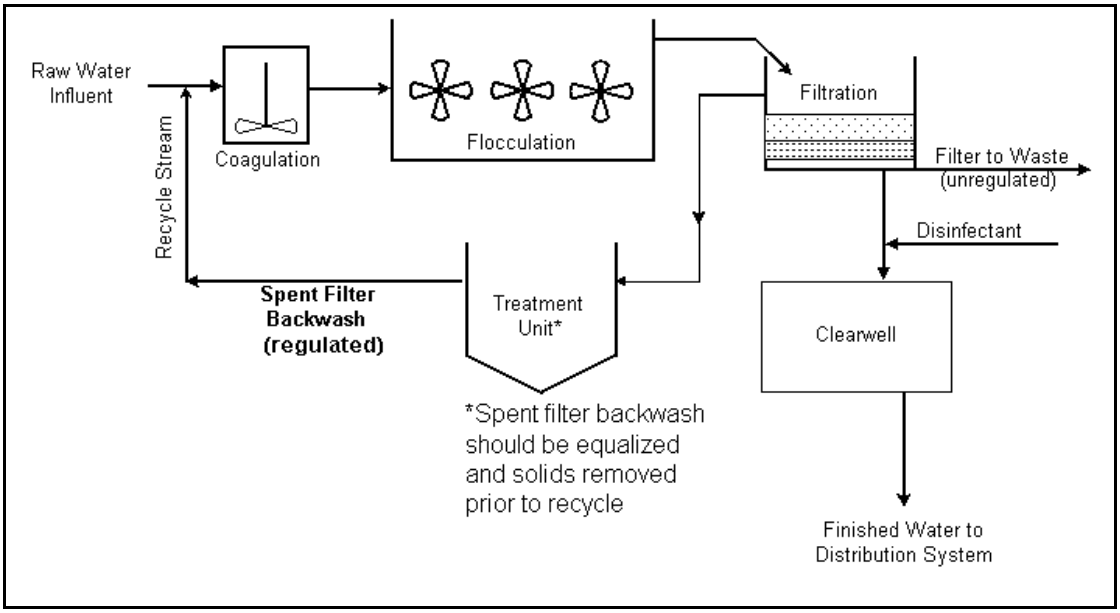
- Conventional filtration treatment, as defined in 40 CFR 141.2, is a series of processes including coagulation, flocculation, sedimentation and filtration resulting in substantial particulate removal. Figure 1.3 depicts the regulated recycle streams in a conventional filtration treatment plant.

Figure 1.1: Regulated Recycle Streams for Conventional Filtration Treatment



- Direct filtration, as defined in 40 CFR 141.2, is a series of processes including coagulation and filtration but excluding sedimentation resulting in substantial particulate removal. Solids are typically removed from recycle streams prior to being returned to the primary treatment train/plant headworks. Figure 1.4 depicts the most commonly encountered regulated recycle stream in a direct filtration treatment plant. Although sludge thickener supernatant and liquids from dewatering processes are also regulated, they may not be as commonly used in direct filtration facilities.

Figure 1.2: Direct Filtration Treatment with Recycling of Spent Filter Backwash Water



1.2.1.3 What is spent filter backwash water?

Spent filter backwash water is a waste stream containing particles that are dislodged from filter media when water is forced back through a filter (backwashed) to clean the filter. Spent filter backwash water contains particles including coagulants, metals, and microbes such as *Cryptosporidium*. Spent filter backwash water does not include water used in a filter-to-waste process, unless the filter-to-waste water is combined with the spent filter backwash water prior to its return to the plant.

1.2.1.4 What is thickener supernatant?

Thickener supernatant (or sludge thickener supernatant) is a waste stream containing the decanted water from a sedimentation basin, clarifier or other unit used to treat waste streams generated in the water treatment process. Such units may be used to treat spent filter backwash water, or sludge solids or semi-solids from a clarifier or sedimentation basin. The water that exits the units after particles have been allowed to settle out is thickener supernatant.

1.2.1.5 What are liquids from dewatering processes?

Liquids from dewatering processes are defined as a waste stream containing liquids generated from a unit used to concentrate solids for disposal. Such solids concentration units may consist of centrifuges, filter presses, belt presses, vacuum filters, monofills (sludge-only landfill), or other sludge concentrating equipment. Such equipment may be used to dewater sludge from treatment units used in waste stream treatment processes or sludge from units found in the primary processes.

1.2.1.6 Why is the Filter Backwash Recycling Rule Necessary?

When a facility recycles filter backwash water, it reintroduces contaminants back into treatment processes. Poor recycle practices can degrade influent water quality and impair treatment process performance. EPA believes that the FBRR will improve performance at filtration plants and further protect public health by reducing the opportunity for recycle practices to adversely affect plant performance in a way that would allow microbes, such as *Cryptosporidium,* to pass through into finished drinking water. As a result, certain public water systems (PWSs) will be required to institute changes to the return of recycle flows to their plant's treatment process that may otherwise compromise microbial control.

The SWTR and IESWTR set enforceable drinking water treatment technique requirements to reduce the risk of waterborne microbiological disease from surface water. The FBRR provides further necessary protection against *Cryptosporidium* for systems that practice recycle by ensuring that the 2-log *Cryptosporidium* removal requirement established in the IESWTR and in the LT1ESWTR is not jeopardized by recycle practices.

1.2.1.7 What are *Cryptosporidium* and Cryptosporidiosis?

Cryptosporidium is a protozoan parasite found in humans, many other mammals and also in birds, fish and reptiles. It is common in the environment and widely found in surface water supplies. In the infected animal, the parasite multiplies in the gastrointestinal tract. The animal then excretes oocysts of the parasite in its feces. These oocysts are tiny spore-like organisms 4 to 6 microns in diameter (too small to be seen without a microscope) which contain the sporozoites (infective form). The oocysts of *Cryptosporidium* are very resistant to adverse factors in the environment and can survive dormant for months in cool, dark, moist soil or for up to a year in clean water.

When someone is infected with *Cryptosporidium*, symptoms can include watery diarrhea, stomach cramps, nausea, loss of appetite, and mild fever. This disease is called cryptosporidiosis and is a major cause of reported waterborne disease outbreaks from rivers, lakes, waterparks, and swimming pools. The symptoms of cryptosporidiosis begin an average of seven days after infection. Persons with a normal, healthy immune system can expect their illness to last for two weeks or less, with constant or intermittent diarrhea. Even after symptoms cease, an individual can still pass *Cryptosporidium* in the stool for up to two months and may be a source of infection for others. Cryptosporidiosis is not treatable with antibiotics so prevention of infection is critical. People with weakened immune systems (those with HIV/AIDS, undergoing cancer chemotherapy, or those who have received organ transplants) may have cryptosporidiosis for a longer period of time, and it can be life-threatening. Small children, pregnant women, or the elderly infected with cryptosporidiosis can quickly become severely dehydrated.

Cryptosporidiosis is primarily a waterborne disease, but has also been transmitted by consumption of contaminated food, unhygienic diaper changing practices, other person-to-person contact, and contact with young farm animals. *Cryptosporidium* oocysts are relatively resistant at normal temperatures and are not easily killed by commonly used disinfectants.

1.2.2 System Notification to the State (Reporting Requirements)

The FBRR requires that systems notify the state in writing by December 8, 2003 that they practice recycle (40 CFR 141.76(b)).

1.2.2.1 What must be included in the notification to the State?

When notifying the state that they practice recycle, systems must also include at least the following information:

- A plant schematic showing the origin of all flows which are recycled (including, but not limited to, spent filter backwash water, thickener supernatant, and liquids from dewatering processes)
  - The hydraulic conveyance used to transport them, and
  - The location where they are recycled back into the plant;

(40 CFR 141.76(b)(1))

- Typical recycle flow in gallons per minute (gpm);
- Highest observed plant flow experienced in the previous year (gpm);
- Design flow for the treatment plant (gpm); and
- State-approved operating capacity for the plant (where the state has made such determinations).

(40 CFR 141.76(b)(2))

Additional information helpful to the state may include:

- Any treatment or equalization provided to the recycle stream prior to return of the stream to the primary treatment process;
- Operational practices used to determine when recycle occurs (such as a minimum plant flow rate);
- Influent flow changes, coagulant chemical adjustments or other operational practices applied to accommodate recycle flows; or
- Any other information pertinent to understanding recycle practices (such as if the highest observed plant flow experienced during the past year included any recycle flow contributions, and if so, how much).

Systems which intend to use or continue to use an alternate recycle location are encouraged to submit additional data or justification for the preferred location at the same time (*see* ***section 1.3.3.5****, below*)

1.2.2.2 Why does this information need to be submitted?

Information required in the notification to the state must be submitted so states may evaluate whether recycle practices have the potential to cause a hydraulic surge that may adversely affect plant performance or cause a plant to exceed its operating capacity. Because of the high volume of water and short duration of a filter backwash recycle event, a large volume of water may surge through the treatment plant when the water is recycled. This hydraulic surge can potentially overload treatment capability by challenging the effectiveness of each process within a system, including the filters.

The FBRR does not define at what point a hydraulic surge becomes a concern. Because each treatment facility has unique characteristics, states are given discretion to determine if or when a surge should be

mitigated. Some states have developed guidelines or construction standards to address this issue. Systems should provide sufficient information to enable states to make an informed review of current practices.

It is also necessary for systems to submit this basic recycle information to ensure that states can determine compliance with the recycle return location (treatment technique) requirement of the FBRR (40 CFR 141.76(c)) (*see **section 1.2.3**, below)*.

1.2.2.3 What happens if the state does not receive notification of recycle practices?

Failure to comply with the FBRR reporting requirements is a monitoring/reporting violation. Systems with monitoring/reporting violations under the FBRR are required to notify the public (Tier 3 notification) (*see **section 1.2.5**, below)*.

1.2.3 Recycle Return Location (Treatment Technique)

The FBRR requires the return of certain recycle streams to a defined location for conventional and direct filtration drinking water treatment plants by June 8, 2004 (40 CFR 141.76(c)).

1.2.3.1 What are the FBRR recycle return requirements?

The FBRR requires any system that recycles spent filter backwash water, thickener supernatant, or liquids from dewatering processes to return these flows through the processes of a system's conventional or direct filtration system as defined in 40 CFR 141.2 (*see **section 1.2.1.2**, above*) or at an alternate location approved by the state (40 CFR 141.76(c)) (*see **section 1.2.3.5**, below*).

1.2.3.2 Why should recycle be returned through the processes included in a system's conventional or direct filtration system?

There are two primary reasons why the EPA believes recycle should be returned through all processes of existing treatment. First, it is important that recycle practices be conducted in a manner that does not upset the chemical treatment and coagulation process vital to the contaminant removal performance of a filtration plant. Studies from many researchers indicate that proper coagulation is paramount to optimal performance of treatment plants and that recycling after the coagulation step may upset chemical treatment.

The second primary reason for recycling through processes of the existing plant is to ensure that *Cryptosporidium* oocysts in recycled water, as well as source water, receive the full benefit of well-operated treatment processes to achieve at least 2-log *Cryptosporidium* removal. The ability of conventional and direct filtration plants to remove *Cryptosporidium* under appropriate coagulation conditions has been verified in many studies. These studies demonstrated that conventional and direct filtration plants that employed coagulation, flocculation, sedimentation (in conventional treatment only), and filtration steps had the ability to achieve at least 2-log removal of *Cryptosporidium* when meeting specific turbidity limits. These findings formed the basis for EPA's development of turbidity limits (0.3 NTU 95 percent of the time and a 1 NTU maximum) associated with the 2-log treatment technique in the IESWTR and the LT1ESWTR. EPA believes these studies demonstrate a minimum of 2-log *Cryptosporidium* removal only when water passes through all processes of conventional or direct filtration treatment. If water (either source water or recycle streams) does not pass through all of these processes, it is unclear whether 2-log *Cryptosporidium* removal is achieved.

1.2.3.3 What if recycle flows are already returned through all the processes of the filtration plant?

If recycle flow is already being returned to a location such that it flows through all processes of the conventional or direct filtration system (*see **section 1.2.1.2**, above*), then the system is in compliance with the recycle return (treatment technique) requirement for the FBRR. However, the system still must notify the state that it practices recycle by December 8, 2003 (40 CFR 141.76(b)) (*see **section 1.2.2**, above*), and must collect and retain recycle flow information for review and evaluation by the state beginning June 8, 2004 (40 CFR 141.76(d)) (*see **section 1.2.4**, below*). Systems may be required to modify recycling practices if the state determines treatment performance is compromised by current procedures.

1.2.3.4 What if changes are needed to the current recycle location?

The system still must notify the state that it recycles by December 8, 2003 (40 CFR 141.76(b)) (*see **section 1.2.2**, above*), and must collect and retain current recycle flow information for review and evaluation by the state beginning June 8, 2004 (40 CFR 141.76(d)) (*see **section 1.2.4**, below*).

However, the FBRR allows systems an additional 24 months to comply with the treatment technique requirement if capital improvements are required to modify the recycle location. Some activities involved in changing the recycle location may include preliminary planning, evaluation of alternatives, selection of consultants and contractors, submitting project design plans and specifications to the state, obtaining state approval and/or permits, and installation of new piping, pumps, processes, and instrumentation. Capital improvements must be completed by June 8, 2006. Systems may find it necessary to update the recycle flow information they have retained on file after capital improvements are completed.

Systems which need to make changes that do not involve capital improvements can do so, but systems must still comply with the treatment technique by June 8, 2004 (40 CFR 141.76(c)). In addition, their recycle notification and information retained on file should reflect the changes, if applicable.

1.2.3.4.1 What if capital improvements are not completed by the required date?

Failure to complete capital improvements by the required date is a treatment technique violation. Treatment technique violations under the FBRR require Tier 2 public notification (40 CFR 141 Appendix A to Subpart Q (I)(A)(8)) (*see **section 1.2.5**, below)*.

1.2.3.5 What if the current recycle location seems to meet the intent of the recycle provision?

EPA recognizes that some systems may be able to achieve 2-log or higher *Cryptosporidium* removal when recycling to other locations within the treatment plant. Therefore, the FBRR includes a provision that allows states to approve alternate recycling locations (a location other than through the processes of the system's existing conventional or direct filtration plant) for systems on a case-by-case basis.

A system wishing to use an alternate recycle location may submit additional information about its location and justification for its use to the state. The information should be submitted to the state as soon as possible in order to provide the state ample time to review and either approve or deny the request. Since the recycle return location treatment technique requirement is effective on June 8, 2004, systems were encouraged to submit requests prior to December 8, 2003. Information required by the reporting requirements (*see **section 1.2.2**, above*) may be submitted at the same time, but was due by December 8, 2003 (40 CFR 141.76(b)).

In the submission for an alternate location, systems should include information necessary to enable states to determine if an alternative recycle location will not or does not:

- Upset treatment plant performance, or
- Jeopardize 2-log removal of *Cryptosporidium*.

Information may include operating parameters adhered to during recycle, settled water and filter effluent turbidity and particle count profiles at the time the recycle flow would reach these unit processes, pilot test results and other results of site-specific studies of treatment performance with and without recycle return.

Even if the recycle return location may be changed prior to June 8, 2004 the system still must notify the state that it recycles and provide the accompanying information by December 8, 2003 (*see* ***section 1.3.2****, above*). The system also must collect and retain their current recycle flow information for review and evaluation by the state beginning June 8, 2004 (*see* ***section 1.2.4****, below*).

1.2.3.6 What if recycle flows are not returned to an appropriate location by the required date?

Failure to recycle to an appropriate location by the required date is a treatment technique violation. Treatment technique violations under the FBRR require Tier 2 public notification (40 CFR 141 Appendix A to Subpart Q (I)(A)(8)) (*see* ***section 1.2.5****, below)*.

1.2.4 System Recycle Flow Records (Recordkeeping)

Systems must collect and retain on file recycle flow information for review and evaluation by the state beginning June 8, 2004 (40 CFR 141.76(d)(1)-(6)).

1.2.4.1 What information must be collected and retained on file?

- A copy of the recycle notification and information submitted to the state (*see* ***section 1.2.2****, above*).
- A list of all recycle flows and the frequency with which they are returned.
- The average and maximum backwash flow rate through the filters.
- The average and maximum duration of the filter backwash process in minutes.
- A typical filter run length.
- A written summary of how filter run-length is determined.
- The type of treatment provided for the recycle flow.
- If applicable, 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.

Systems may wish to begin assembling this information when they make their notification to the state (December 2003) so that the information is available for review and evaluation by June 8, 2004. It is anticipated that most systems already keep this data as part of their operating procedures. However, where the system does not have the required information, it must be collected.

1.2.4.2 Why is the recycle flow information necessary?

This basic information allows the state to evaluate a system's recycle practices and identify whether they are reducing the plant's performance and contributing to increased risk from microbial pathogens. States may review the information during sanitary surveys, comprehensive performance evaluations (CPEs) or other site visits. States may decide that further evaluation is required or that modifications to a system's recycle practices are necessary.

As noted in section 1.2.2.2, system recycle notification and information enables states to make an assessment of the potential for recycle-induced hydraulic surges. This information may be used by the state for the following:

- The schematic provides a layout of the treatment facility and indicates recycle origins and return locations.
- A list of all recycle flows and the frequency at which they are returned identifies regulated and unregulated waste streams.
- The frequency at which the recycle flows are returned indicates if continuous or periodic recycle is practiced (in either case, what is returned and how it is returned will affect how well the primary treatment process accommodates the recycle flow). This information will indicate if recycle is controlled to minimize impacts on filtered water quality.
- Backwash flow rates and duration can be evaluated to determine if the backwash is adequately treated or equalized, or if it hydraulically challenges a plant's performance.
- How a system determines when it will backwash and how long filters remain in operation prior to backwashing can provide important insight into the contribution of this recycle practice to plant flow rate. Systems may backwash based on length of filter run, headloss, effluent turbidity, or other operational determinant (such as scheduling to accommodate demand). This information also reveals operational options which may be investigated if changes to current recycle practices are needed.
- The type of treatment provided will affect the degree to which treatment of recycle streams serves to lower the particulate matter thereby reducing the number of microbes that will once again enter the treatment plant. Similarly, the hydraulics of equalization basins can indicate if the facility can minimize or eliminate the effects of hydraulic surges.

1.2.4.3 How long should this information be retained on file?

The FBRR does not directly specify how long recycle flow information should be kept on file. However, systems must retain the information long enough so that the information is still available for the state to review during the system's next scheduled sanitary survey (or other inspection/activity) used for evaluating recycle information (40 CFR 141.76(d) and 40 CFR 142.16(i)). EPA recommends that recycle flow information be retained on file for a minimum of 10 years.

1.2.4.4 What if the required recycle flow information is not collected and retained on file?

Failure to comply with this requirement is a recordkeeping violation. Systems with recordkeeping violations under the FBRR are required to notify the public (Tier 3 notification) (40 CFR 141 Appendix A to Subpart Q (I)(A)(8)) (*see **section 1.2.5**, below)*.

1.2.5 Public Notification of Drinking Water Violations

A Tier 2 public notification of a treatment technique violation is required for failure to recycle to an appropriate location or to complete capital improvements by the required schedule (40 CFR 141 Appendix A to Subpart Q (I)(A)(8)).

A Tier 3 public notification of a monitoring and reporting violation is required for failure to notify the state of recycle practices or failure to collect and maintain recycle flow information by the required deadline (40 CFR 141 Appendix A to Subpart Q (I)(A)(8)).

More information on public notification requirements can be found at http://www.epa.gov/safewater/pn.html.

1.2.6 Consumer Confidence Report Requirements

The FBRR does not specifically modify the Consumer Confidence Report (CCR) Rule requirements. However, consumer confidence reports must contain any violations of treatment technique requirements or violations of NPDWR requirements. This includes any such violations of the FBRR.

More information on consumer confidence report requirements can be found at http://www.epa.gov/safewater/ccr1.html.

1.3 Requirements of the Rule: States or Other Primacy Agents

The following rule requirements are from the FBRR published in the Federal Register on June 8, 2001 [66 FR 31086]. For a copy of the actual rule language, see Appendix B, or visit EPA's website at www.epa.gov/safewater/filterbackwash.html for a copy of the Federal Register notice.

1.3.1 Records Kept By States

The FBRR does not include specific state information collection or reporting requirements. However, the rule modifies 40 CFR 142.14 to require primacy states to keep on file any decisions made to approve alternate recycle locations, require modifications to recycle return locations, or require modifications to recycle practices.

1.3.2 Special Primacy Requirement

In order to receive primacy for the FBRR, states must adopt regulations no less stringent than this rule. States must submit revisions to their programs, regulations, or authorities no later than June 8, 2003 (2 years after rule publication), although states can request an extension of up to 2 years (June 8, 2005).

In addition, states are required to show in their primacy application that they have the authority to implement a key provision of the rule. A state's application must contain a description of the proper rules or other authority possessed by the state to use sanitary surveys, comprehensive performance evaluations (CPEs), other inspections or other activities to evaluate recycle data maintained by systems, and require modifications to recycle practices as necessary (40 CFR 142.16(i)).

An example of when a state might require modification is if a system meets the treatment technique requirement of 40 CFR 141.76(c) by returning all recycle flows through the processes of its existing conventional or direct filtration system but the state has determined that current recycle practices adversely affect plant performance and must be changed.

EPA recognizes that there are numerous mechanisms a state could use to evaluate recycle practices. However, a state must also have the authority to require systems to modify recycle practices (40 CFR 142.16(i)(1)(i)).

Details and guidance regarding this special primacy requirement are included in section 4.4 of this manual.

1.4 Summary of Action Dates

1.4.1 Applicability and Compliance Dates

The FBRR applies to public water systems (PWSs) that use surface water or ground water under the direct influence of surface water (GWUDI) as a source (also known as Subpart H systems). 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 are not Subpart H systems, do not recycle these streams, or do not use conventional or direct filtration have no requirements under the FBRR (40 CFR 141.76(a)). Table 1.1 summarizes key compliance dates required by the FBRR (in bold) as well as suggested timeframes for certain implementation activities. (Shaded)

Table 1.1: Summary of Action Dates for Implementing the FBRR

Date	FBRR Action
June 8, 2001	Rule is published in *Federal Register*.
August 7, 2001	60-day legal challenge period ends and rule becomes effective.
January 2002 - January 2003	States are encouraged to communicate FBRR requirements to affected systems.
March 2003	States are encouraged to submit final primacy applications or extension requests to EPA.
June 8, 2003	**Final primacy applications must be submitted to EPA unless granted an extension [40 CFR 142.12(b)(1)].**
June 2003 - December 2003	Systems are encouraged to begin notifying the state in writing if they recycle spent filter backwash, thickener supernatant, or liquids from dewatering processes, and submit a plant schematic and other required flow data to the state Systems which seek approval of an alternate recycle location are encouraged to submit their system information and justification for the alternate location to the state.
June 2003 - May 2004	States are encouraged to review submitted schematic and recycle information to determine whether TT requirements are met or modifications to current recycle practices are needed. States are also encouraged to make determinations on requests to approve alternate recycle locations, or capital improvement plans based on submitted schematic, recycle information, and any other supplemental information.
December 8, 2003	**Systems must notify the state in writing if they recycle spent filter backwash, thickener supernatant, or liquids from dewatering processes, and submit a plant schematic and other required flow data to the state [40 CFR 141.76(b)].**

Date	FBRR Action
December 2003 - May 2004	States should continue to review submitted schematic and recycle information to determine whether TT requirements are met or modifications to current recycle practices are needed. States should also continue to make determinations on requests to approve alternate recycle locations, or capital improvement plans based on submitted schematic, recycle information, and any other supplemental information.
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 conventional or direct filtration system as defined in 40 CFR 141.2 or at an alternate location approved by the state unless capital improvements are required to modify the recycle location to meet this requirement. [40 CFR 141.76(c)].**
June 8, 2004	**Systems must collect and retain recycle flow information on file for review and evaluation by the state [40 CFR 141.76(d)].**
June 2004 - June 2006	Systems needing capital improvements to comply with the FBRR should have such improvements underway.
June 2004 - ongoing	States should review recycle information retained on file to determine whether modifications to current recycle practices are needed during Sanitary Surveys/ inspections/activities.
March 2005	States with approved extension agreements are encouraged to submit final primacy applications to EPA.
June 8, 2005	**Final primacy revisions applications from states with approved two year extension agreements must be submitted to EPA [40 CFR 142.12(b)(2)].**
June 8, 2006	**Systems which need capital improvements to modify the recycle location to comply with recycle return requirements must have capital improvements completed [40 CFR 141.76(c)].**

1.4.2 Timeline and Flowchart for the Filter Backwash Recycling Rule

The timeline on the next page (Figure 1.1) depicts the FBRR requirements and implementation timeline for states and systems. The flowchart on the following page (Figure 1.2) shows the requirements of the FBRR.

Figure 1.3: Filter Backwash Recycling Rule - Rule Requirements and Implementation Timeline

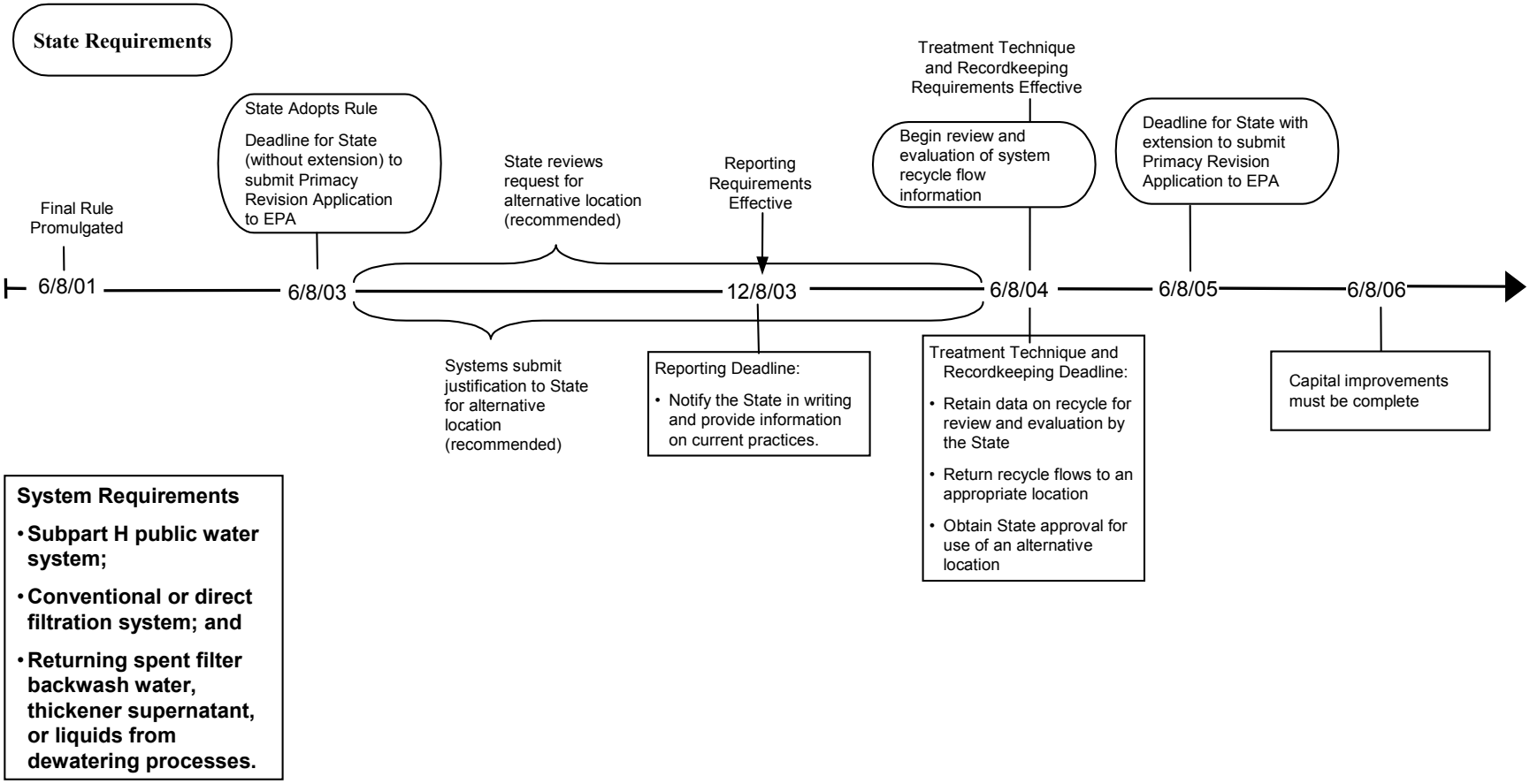
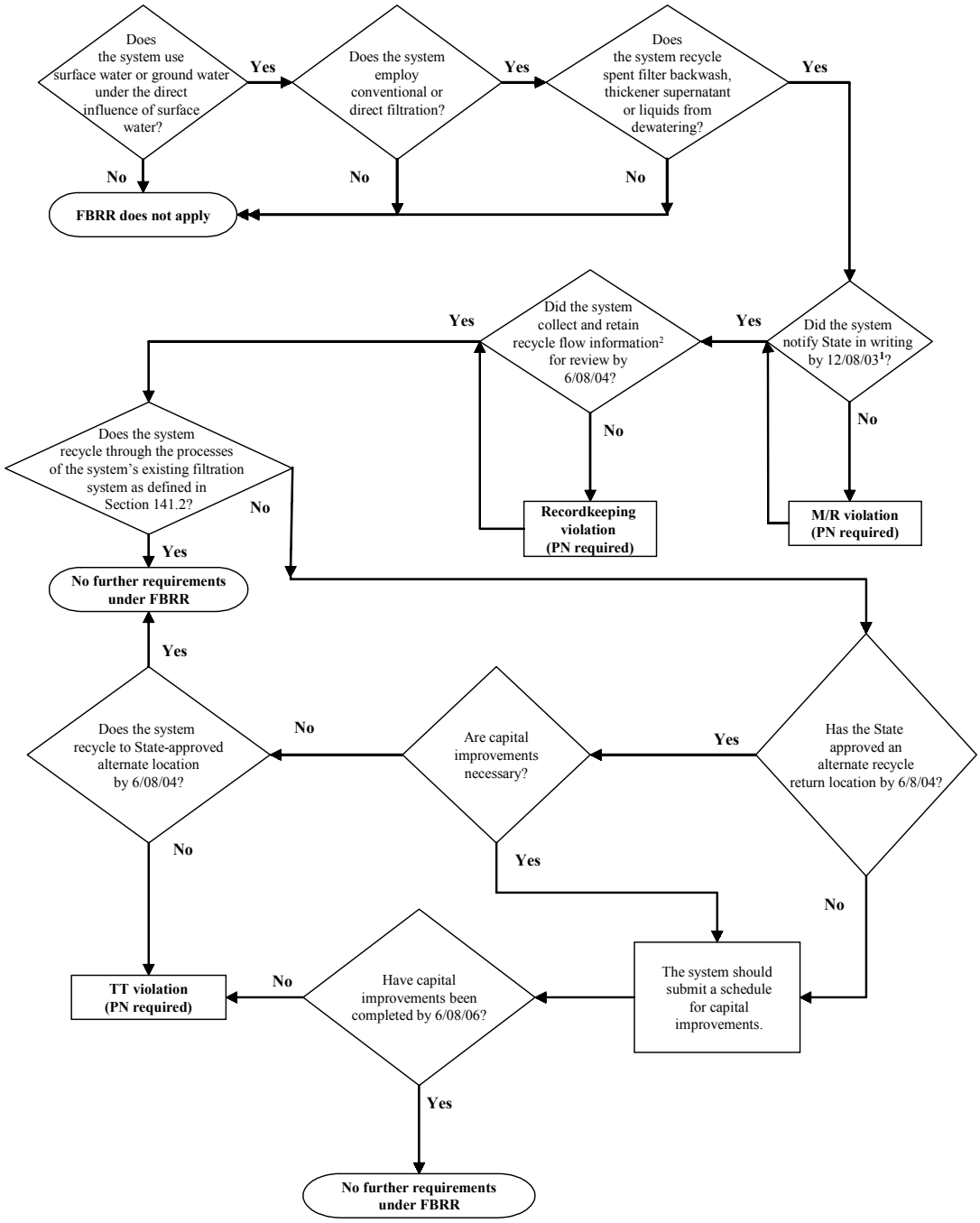


Figure 1.4: Filter Backwash Recycling Rule Provisions



1. Notification includes information specified in 40 CFR 141.76 (b) (1) and (2)
2. Recycle flow information is specified in 40 CFR 141.76 (d) (1) through (6)

References

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Levy, D. Bens, M. Craun, G., Calderon, R., and Herwaldt, B. 1998. Surveillance for Waterborne Disease Outbreaks - United States, 1995-1996. MMWR (47:SS-5:1-34).

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Section II

Resources and Guidance

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In addition to this Implementation Guidance, a variety of resource materials and technical guidance documents have been prepared by EPA to facilitate understanding and implementing the FBRR. This section is an overview of each of these resources and includes instructions on how to obtain the documents.

2.1 Technical Guidance Manual

The *Filter Backwash Recycling Rule Technical Guidance Manual* (EPA 816-R-02-014) focuses on the background and regulatory issues addressed by the rule, the effect of recycle practices on treatment plant performance, and useful information on evaluating recycle practices and options for treatment or equalization of recycle streams. This manual will aid EPA, state agencies, and affected PWSs in implementing this rule and will help ensure that implementation among these groups is consistent.

The manual provides detailed information on the following subjects:

- The background for and intent of the rule to ensure water treatment is not jeopardized by recycle practices;
- Reporting, recycle return location and data collection requirements of the rule;
- System reporting and recordkeeping requirements on current recycle practices, such as residuals that are recycled and recycle return location;
- Information on allowed recycle return locations and suggested system information for State review of alternative recycle return locations;
- Assessing hydraulic surge; and,
- Discussion of recycle options (including flow equalization, treatment and discharge to publicly owned treatment works (POTWs)).

The manual also includes suggested worksheets (with completed examples) for use in complying with the recycle notification and information, and ongoing reporting and recordkeeping information requirements. The forms presented in the technical guidance manual have been incorporated into section 3: State Implementation of this document to provide an example of how required information may be collected from systems. Systems are reminded to check with their primacy agency to determine if these or other forms are to be used.

For more information, contact EPA's Safe Drinking Water Hotline, 1 (800) 426-4791, or see the Office of Ground Water and Drinking Water web page. The rule and guidance documents are located at (http://www.epa.gov/safewater/filterbackwash.html) Hard copies may be ordered through NSCEP (800) 490-9198 or NTIS (800) 553-6847.

2.2 Rule Presentation

A presentation that can be used for workshops for the FBRR is available in PowerPoint format on the EPA Web site. (http://www.epa.gov/safewater/filterbackwash.html)

2.3 Fact Sheet/Quick Reference Guide/Rule Summary

A Fact Sheet, Quick Reference Guide and Rule Summary for the FBRR may be useful in conveying basic information to water systems, new personnel, and for educating stakeholders about the rule. These are stand-alone documents and are included in Appendix C of this guidance. They are:

- Fact Sheet: Filter Backwash Recycling Rule
- Filter Backwash Recycling Rule: Quick Reference Guide
- Filter Backwash Recycling Rule: A Rule Summary for Systems

2.4 Questions and Answers

Questions and Answers (Q & As) on the FBRR are provided in this section. These questions have been asked of EPA through the Safe Drinking Water Hotline, implementation training, or other means.

2.4.1 Regulated Systems and Streams

Q: My water system is not surface water or ground water under direct influence (GWUDI) of surface water, but we do use conventional filtration, and we do recycle spent filter backwash water. Do I have to meet all three qualifications, or do I qualify with just two?

A: All three qualifications must be met for the FBRR to apply to a system. Systems that are not Subpart H (surface water or GWUDI systems) are not subject to this regulation. The rule would therefore not apply to this system (40 CFR 141.76(a)).

Q: The FBRR applies to systems that recycle "liquids from dewatering processes." Does this include facilities which use sand drying beds for dewatering residue which can return the subnatant water from the bottom of the beds to the headworks of the plant?

A: The subnatant water would be considered a liquid from a dewatering process and would therefore be a regulated waste stream if recycled. In many systems, the subnatant water is diverted to the backwash recycling lagoon, then is returned to the head of the plant. By default in this scenario, both the subnatant and backwash water would be regulated under the FBRR, and would trigger the requirement that the system comply with the rule (40 CFR 141.76(a)).

Q: Is it acceptable to recycle the filter-to-waste stream to the head of the plant although it is not a regulated stream?

A: The FBRR does not limit the types of streams that can be recycled. In fact, many systems do recycle their filter-to-waste streams, and this does not violate the requirements of the rule. If filter-to-waste is recycled by a system covered by the FBRR, it must be shown on the plant schematic and noted in the recordkeeping information.

Q: If a system pre-oxidizes in a raw water pipeline upstream of the plant would it be required to return the recycle flow to that point rather than the point just before the primacy coagulation?

A: The final rule states that the recycle flow must be returned "through the processes of a system's existing conventional or direct filtration system as defined in 40 CFR 141.2." This does not include pre-treatment, therefore, the recycle flow does not have to be returned to that point, unless requested by the state.

2.4.2 Data Reporting and Recordkeeping

Q: Notification to the state must be done in writing by December 8, 2003 of plants that recycle and meet the source water and treatment technology criteria of the FBRR. One of the data requests is for "highest observed plant flow in the previous year in gpm." Is this only on a daily basis (max day for 24 hours midnight to midnight) or is another time period to be used (i.e., peak hourly flow, as required by the CT calculations for the SWTR)?

A: Information on the highest observed plant flow is used to assess whether at any time the flow rate may exceed the operating capacity of the plant or contribute to a hydraulic surge. This value should therefore represent the highest instantaneous flows encountered during the previous year, as measured by meters or other means, considering both raw water influent flow rate and any recycle returns flows contributing to the plant influent flow. It should *not* be an average of daily values or a maximum day production extrapolated down to gpm.

Q: Our regulatory agency has always stressed the point that recycle water volumes should never exceed 10 percent of the total plant raw water flow on a gpm basis while recycling is occurring. It appears the FBRR does not impose a mandatory maximum recycle rate, but allows states to set that requirement if the data shows that overall water treatment is compromised during the recycle event. Is this correct?

A: Recognizing that the design, operation, and raw water quality of each water treatment facility determines the quality of the effluent produced, a one-size-fits-all requirement was not specified in the final rule. The FBRR therefore does not establish a mandatory maximum recycle rate and relies on the state primacy agency to make any such determination, whether on a state-wide or system-specific basis.

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Section III

State Implementation

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3.1 Overview of Implementation

Target Implementation Timeframe: January 2002 - January 2003.

As a result of the FBRR, several implementation activities and follow-up actions will be necessary. The main actions expected to face all agencies should be:

- Identifying and communicating requirements to affected water systems.
    - Providing written notification to affected systems. Providing other forms of communication.
- Encouraging systems to submit notification and system information to state.
- Evaluating system schematic and recycle flow information for impact on plant performance or potential for a hydraulic surge.
    - Requiring systems to submit alternate location justification, if necessary.
- Evaluating alternate location requests.
- Evaluating system-maintained data during sanitary surveys or other site visit and determine if changes to recycle practices are needed.
- Tracking regulated system compliance progress and implement enforcement action as needed.

The technical guidance manual prepared for the FBRR will be useful to state agencies and water systems and is noted in section 2. This document was written with water system operators and managers as the intended audience, but contains information of use in explaining, interpreting and formulating implementation programs for the FBRR.

While all regulated entities must comply with the Recycle Notification and Reporting and Recordkeeping requirements, subgroups subject to additional provisions include:

- Systems that *do not* return recycle flows through all processes of the conventional or direct filtration treatment facility and are requesting an alternate return location.
- Systems that *do not* return recycle flows through all processes of the conventional or direct filtration treatment facility and are not requesting an alternate return location, but which may need additional time to make capital improvements.

This section of the Implementation Guidance provides information useful to states and other primacy agencies in devising and performing implementation activities.

3.2 Identifying and Communicating Requirements to Affected Water Systems

State primacy agencies are the fundamental vehicle through which regulated systems learn of and understand new public water system requirements. Although information is available to systems from a variety of other professional and technical resources (and states often utilize these sources), state agencies provide bottom-line compliance details of actual monitoring, reporting and recordkeeping requirements. Communicating these requirements in an easily understood form is key to the successful implementation of each regulation.

While some regulations apply to all public water systems, others, like the Filter Backwash Recycling Rule (FBRR), apply to a relatively small portion of systems. Identifying affected systems will be one of the first implementation activities required for the FBRR. Identification of affected systems as soon as practical reduces state agency workload burden for subsequent implementation steps. It is also essential for tracking FBRR compliance and directing technical assistance and other communications to the appropriate systems.

Targeting communications to ensure affected systems are identified and notified of their responsibilities is the subject of this section. Suggested options for accomplishing system identification and notification, and initiating the implementation process are described below.

3.2.1 Written Notification for Affected Systems

3.2.1.1 Benefits of Written Notification

States should provide public water systems written notice of a final rule. It serves two purposes: 1) the receiving system obtains a formal notice of upcoming regulatory requirements and a timeline for compliance (in addition to EPA's publication of the rule in the Federal Register), and 2) if the primacy agency chooses to keep a record of sending this notice, it provides a hard-copy document the primacy agency may file and use in subsequent compliance tracking efforts.

For the FBRR, identifying affected systems may be a difficult first-step because regulated entities are a subgroup not likely identified in current data systems. State databases may adequately identify Subpart H[1] systems due to the regulatory requirements of the SWTR and IESWTR. However, Subpart H systems that use only conventional or direct filtration and that recycle any of the three regulated waste streams are a specific subgroup not typically tracked.

To assist compiling a database of affected systems, written notification of the rule requirements may be designed to serve as a first-step in identifying conventional or direct filtration systems that recycle any of the regulated waste streams. Once identified, systems added to a compliance tracking database could be more easily targeted for compliance with the notification, alternate location requests (if applicable), reporting, and recordkeeping requirements.

3.2.1.2 Identifying the Mailing List

Based on state preferences, written notification of the final FBRR may be provided to all public water systems, to known Subpart H systems, to a subset of Subpart H systems known to filter using

[1]Subpart H systems are systems using surface water or ground water under the direct influence of surface water. The term "Subpart H" is derived from the section of 40 CFR addressing filtration and disinfection of public water systems.

conventional or direct filtration technologies, or to only those systems affected by the rule. The approach adopted could be determined by consideration of several state-specific items, such as:

- The availability of treatment information in the database to identify systems using conventional or direct filtration treatment of either surface water or ground water under the direct influence of surface water;
- The availability of data or other resources (such as field staff with knowledge of each system) to identify systems that recycle in general, or specifically recycle any of the regulated waste streams;
- The state's confidence in the accuracy of the database to ensure no affected systems are overlooked; and
- Resource limitations which may restrict a large broadcast mailing.

For many states, mailing an announcement of the FBRR to all systems which filter surface water or ground water under the direct influence of surface water may be the preferred option. Field personnel familiar with system-specific treatment configurations may be able to pare-down the list by eliminating those using filtration technologies *other than* conventional or direct filtration - to which the FBRR does not apply.

3.2.1.3 Mailing Enclosures: FBRR Quick Reference Guide/Fact Sheet/Rule Summary for Systems

Appendix C of this guidance includes a Quick Reference Guide, a Fact Sheet and a multi-page FBRR Rule Summary for Systems. These publications are intended to be distributed to water systems through mailings, training sessions or other educational forums and may be a beneficial enclosure with the initial written notification sent to systems. They provide overviews of the FBRR to enable systems to determine if they are subject to the rule's provisions. One or more of these publications in an initial mailing would save state effort for summarizing key requirements.

In addition to summarizing FBRR requirements, these resources describe benefits and general implications of the rule but are not a substitute for actual regulatory language. Once affected systems are identified, actual rule provisions may be a more appropriate long-term reference. Final rule language is provided in Appendix B. Copies of the Quick Reference Guide, Fact Sheet and Rule Summary for Systems may be copied from Appendix C and are available from the EPA web site at http://www.epa.gov/safewater/filterbackwash.html.

3.2.1.4 Example Notification Letter and Response Form

Reporting forms or other enclosures provided with rule notification may be used to obtain a system response as to whether they recycle spent filter backwash water, thickener supernatant, or liquids from dewatering processes. A sample water system notification letter is provided as Example 3.1. In this scenario, the letter from the state, FBRR Quick Reference Guide and Fact Sheet, and a response form could be sent to each Subpart H system identified as filtering surface water or ground water under the direct influence of surface water. This assumes the state agency's readily available data does not distinguish the type of treatment provided by the system and does not provide information on system recycle practices. In states with better data availability, the letter could be revised to target missing information.

In this suggested approach a response would be requested from the system to identify whether conventional or direct filtration treatment processes are used and what, if any, regulated recycle practices are employed. This information would determine if the FBRR applies to the system. Example 3.2 is a

sample response form which could be enclosed with the written notification. Use of this or a similar response form is only suggested and is not a requirement of the rule.

Completed Applicability Forms could be used to build a list of systems for the FBRR compliance tracking database. State staff or technical assistance providers could be used to obtain completed forms from systems not submitting one on their own. Sanitary surveys or other system-specific information may provide the necessary detail to complete forms without requiring a system to respond.

Example 3.1: Example System Notification Letter

State Letterhead

John Smith, Supt.
Town Water System, PWSID XXXXXXX
Town, ST 12345

RE: Filter Backwash Recycling Rule

Dear Mr. Smith:

On June 8, 2001, the Filter Backwash Recycling Rule was published in the Federal Register. This letter is being provided to notify you that your public water system may be affected by this rule. If your system is subject to these requirements, you will need to take specific action by December 8, 2003.

The Filter Backwash Recycling Rule (abbreviated FBRR) applies to public water systems that meet all of the following criteria:

1. Use surface water or ground water under the direct influence of surface water,
2. Apply conventional or direct filtration treatment, ***and***
3. Recycle spent filter backwash, thickener supernatant, or liquids from dewatering processes.

A Quick Reference Guide and Fact Sheet for the FBRR is enclosed. These resources provide more information on this regulation and explains each of the regulated recycle streams in more detail.

You are receiving this letter as our data shows your system filters surface water or ground water under the direct influence of surface water. We are requesting your assistance in determining if the FBRR requirements apply to your system. To determine if your system is subject to the FBRR, please complete the enclosed response form, sign it, and return it to the office at the address noted on the form by **[insert date]**. By completing and returning the enclosed form, you will provide the information needed to conclude if your system can be eliminated from further activity under the FBRR. If your system is affected by the rule, your response will help us target additional information and assistance to aid your understanding and compliance with these new requirements.

If your system does use conventional or direct filtration and recycle any of the specified waste streams, the rule applies and you must submit a recycle notification on or before December 8, 2003 (see the enclosed Quick Reference Guide or 40 CFR 141.76(b) for more details).

Please contact this office at XXX-XXXX if you have any questions about this letter or the FBRR and its effect on your system. We appreciate your attention to this request.

Sincerely,

Enclosures: FBRR Quick Reference Guide and Fact Sheet
FBRR System Applicability Response Form

Example 3.2: Example System Applicability Response Form

Filter Backwash Recycling Rule Applicability Form*

Please complete this form by [insert date]
and return to: [insert contact person/address]

System Name: _____

System Address: _____ System PWSID Number _____

_____

_____

Source Water Type: _____
Name of Treatment Plant: _____
(If there is more than one treatment plant associated with this PWSID, please complete a form for each plant)

Please Identify Below **All** of the Following That Apply to Your Treatment Plant:

☐ Uses Conventional Filtration Treatment or Direct Filtration Treatment
Conventional filtration - a series of processes including coagulation, flocculation, sedimentation and filtration.
Direct Filtration - a series of processes including coagulation and filtration, but excluding sedimentation.

☐ Recycles 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.

☐ Recycles 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.

☐ Recycles Liquids From Dewatering Processes.
A stream containing liquids generated from a unit used to concentrate solids for disposal.

Please Provide the Name, Title, Signature of Person Completing this Form, and Date:

Name (please print) _____

Title _____

Signature and Date _____

*Completion of this form does **not** substitute for written notification required by 40 CFR 141.76(b).

3.2.2 Providing Other Forms of Communication

3.2.2.1 Slide Presentation

Adult education training emphasizes that people, respond differently to written, verbal and visual educational techniques. For some audiences, written presentation of the rule alone will not result in comprehension of system requirements. Slide presentations of the FBRR may be used by state staff and other technical assistance or training providers to present the background of the rule, rule requirements and its benefits.

The EPA Drinking Water Academy has developed a training session on the FBRR (available in PowerPoint format). Copies of the presentation may be used to train other state personnel and technical assistance resources, water system personnel and the public. EPA's Drinking Water Academy slides are available electronically by accessing the EPA Web site at http:www.epa.gov/safewater/filterbackwash.html.

3.2.2.2 Guidance Documents and Seminars

Materials developed for the *Filter Backwash Recycling Rule Technical Guidance Manual* are useful for conveying rule requirements and to discuss subtle implementation aspects of the regulation. These subtleties may include how to calculate specific plant flows, what a plant schematic may look like, and how to organize data or use suggested forms to ensure all required information is recorded or submitted. The guidance document could be used as participant materials in FBRR-specific training events. See section 2 of this manual for more information on this reference.

3.3 Follow-up Actions

3.3.1 Encouraging Systems to Submit Notification and System Information to State

After the list of regulated entities has been established, all affected systems should be encouraged to submit the required recycle notification and information, and to collect and maintain recycle flow information. Encouragement could be provided through mailings, training seminars or through on-site visits by technical assistance providers or state staff. In each case, it may be helpful to have the recycle notification and flow information provided in a standardized form. A standardized form provides the state with a manageable data submission and can serve as a checklist to ensure all required information is provided.

The Applicability form provided in Example 3.2 is not intended to serve as a notification and information submission form as it does not include the plant schematic or other required notification data. Chapter 4 of the document, *Filter Backwash Recycling Rule Technical Guidance Manual*, (EPA 816-R-02-014) provides a detailed explanation of the required information. Examples 3.3 and 3.4 are worksheets obtained from that guidance and are provided here as a suggested format to use for system reporting and recordkeeping. Use of these or similar forms ensures all required information is addressed in the system's submission or documents. See section 2.1 of this document for additional information on where to obtain the *Filter Backwash Recycling Rule Technical Guidance Manual*. Additional information is also available at http://www.epa.gov/safewater/filterbackwash.html.

Example 3.3 is an example of a state worksheet that might be sent to systems to aid with the recycle notification portion of the FBRR. The information contained in the items numbered one through five in the example is the minimum information required by the rule and must be returned to the state on or before December 8, 2003 (40 CFR 141.76(b)). States may wish to request other information, some of

which is listed on the example form. In addition, states may want to include information for systems that may request approval of an alternate recycle location (*see **section 3.3.3**, below*).

Example 3.3: Example State FBRR Recycle Notification Form

FILTER BACKWASH RECYCLING RULE
RECYCLE NOTIFICATION FORM

SYSTEM NAME _____

PWSID _____ **DATE** _____

Check with your state or primacy agency to make sure this form is acceptable.

Does your system use conventional or direct filtration? _____
Does your system recycle spent filter backwash water, thickener supernatant, or liquids from dewatering processes? _____
If you answered yes to both questions, please report the following:

1. What is the typical recycle flow (in gpm)?_____
2. What was the highest observed plant flow for the system in the previous year (in gpm)?

   _____
3. What is the design flow for the treatment plant (in gpm)? _____
4. Has the state determined a maximum operating capacity for the plant? If so, what is it?

   _____
5. Please include a plant schematic that shows:
   - the origin of **all** recycle flows (spent filter backwash, thickener supernatant, liquids from dewatering processes, and any other);
   - the location where **all** recycle flows re-enter the treatment plant process;
   - and the hydraulic conveyance used to transport **all** recycle flows.

Comments: _____

_____

_____

---

6. Are you requesting an alternate recycle location? _____Yes _____ No
An alternate recycle location is one that does not incorporate all treatment processes of a conventional filtration plant (coagulation, flocculation, sedimentation, and filtration) or direct filtration plant (coagulation, flocculation, and filtration. The state or primacy agency must approve the recycle location by June 8, 2004. Please contact your state or primacy agency on what additional information may be needed.

Comments: _____

_____

The system must retain a copy of all information submitted to the state or primacy agency.

Example 3.4 is an example of a state worksheet that might be sent to systems to aid with the collection of recycle information that must be retained on file under the FBRR (40 CFR 141.76(d)). The information contained in the example is the minimum information required by the rule and must be available for review and evaluation by the state by June 8, 2004 (40 CFR 141.76(d)). Sample instructions for the worksheet are on the following page and could be sent to systems with the form. The footnote demarcations are associated with the instructions. States may wish to request the additional information listed on the example form or other additional information.

Example 3.4: Example State FBRR Recordkeeping Form

FILTER BACKWASH RECYCLING RULE
RECORDKEEPING FORM

SYSTEM NAME _____

PWSID _____ **Operating Period**[1] _____

Check with your state or primacy agency to make sure this form is acceptable.

Type of Recycle Stream	**Frequency at which flow is returned**[2]
Spent Filter Backwash	
Thickener Supernatant	
Liquids from Dewatering Process	
Other	
Other	

Filter Information	**Filter Number**[3]			
	Example Filters 1-6			
Average Duration of Backwash (in minutes)	*20*			
Maximum Duration of Backwash (in minutes)	*22*			
Average Backwash Flow[4] **(in gpm)**	*2,000 gpm*			
Maximum Backwash Flow[4] **(in gpm)**	*2,000 gpm*			
Run Length Time of Filter[5] **(include units)**	*36 hrs*			
Criteria for Terminating Filter Run[6]	*Taken off-line when filter effluent turbidity =0.2 NTU*			

Is treatment or equalization provided for recycle flows? _____Yes _____ No
If yes, complete the following table.

Type of Treatment Provided	*Example Spent filter backwash holding tank*	
Physical Dimensions of Unit	*100' x 100' x 10' deep*	
Typical Hydraulic Loading Rate (gpm/ft^2)	*20 gpm/ft^2*	
Maximum Hydraulic Loading Rate (gpm/ft^2)	*20 gpm/ft^2*	
Type of Chemical Used	*Polymer*	
Average Dose of Chemical (mg/L)	*0.2 mg/L*	
Frequency of Chemical Addition	*During backwash events- 4 times per day*	

Example 3.4: Example State FBRR Recordkeeping Form (Continued)

Instructions

1. Note the operating period for the information provided. Check with your state or primacy agency for required operating period.

2. The frequency at which the recycle stream is returned can be described as continuous, once a day, or as another frequency.

3. Fill out all information for each of your filters. If some or all filters are operated the same, note the appropriate filter numbers.

4. The backwash flow is obtained by multiplying filter surface area (in ft^2) by backwash rate (gpm/ft^2). Use the average backwash rate to get the average flow and the maximum backwash rate to get the maximum flow. If the flow is varied throughout the backwash process, then the average can be computed on a time-weighted basis as follows:

$$\frac{(\text{Backwash Rate 1 X Duration 1}) + (\text{Backwash Rate 2 X Duration 2}) + \ldots}{\text{Duration 1} + \text{Duration 2} + \ldots}$$

5. The filter run length time is the sum of the time that the filter is producing water between backwashes.

6. Describe how run length time is determined. For example, is the run length based on head loss across the filter, turbidity levels of filter effluent, a predetermined amount of time, or another method?

3.3.2 Evaluating System Schematic and Recycle Flow Information for Impact on Plant Performance or Potential for a Hydraulic Surge

Target Implementation Timeframe: June 2003 - May 2004.

The plant schematic and recycle information obtained from the system serves several purposes. The schematic clarifies the recycle return locations, how the recycle streams are transported, if treatment or equalization is provided, and if alternate recycle return locations are used. Flow information informs the state of the typical recycle flow, highest observed plant flow and design flow for the facility. If the state has assigned an operating capacity for the plant, this is also reported.

While the schematic provides a visual layout of the recycle streams of the treatment facility, the flow information is intended to indicate if the flow of the recycle process has the potential to cause the plant to exceed its operating capacity.

Because the initial notification and required information is relatively limited in scope, it provides states with an initial screen of regulated systems. The required information will indicate the following:

- If the facility's recycle return location for any regulated recycle stream incorporates the processes of the facility's existing conventional and direct filtration system. If the material in question does not flow to such a location, states will be able to identify systems that must either change their return location or pursue state approval of an alternate location.

- If the facility has operated at or above its design capacity or maximum permitted capacity. If so, states may want to obtain additional information on recycle practices occurring during the period of high plant flow (i.e. for systems at which recycle flow is intermittent or controlled, systems should specify if recycling was occurring at any time when the plant exceeded its design or permitted operating capacity).

- If treatment or equalization is in place. Although recycle treatment details are not required in the notification, the required schematic will likely indicate whether treatment or equalization of the recycle stream is employed. The use of treatment or equalization decreases the potential for recycle to adversely impact coagulant chemistry and plant performance, cause a plant to exceed its operating capacity, or cause hydraulic surges.

In certain instances, recycle practices may compromise plant performance even if recycle is returned to the required location, the plant is operating below design capacity, and treatment in is in place. One example may be a system with recycle treatment that is not maintained to remove accumulated sludge, or that recycles significant volumes during periods of low raw water flow. Recycling to the required location does not guarantee the recycle stream will not adversely affect effluent water quality. Therefore, states should evaluate more specific data collected and maintained by systems.

States may find that the information included in written form is insufficient to comfortably determine if current recycle practices are adequate or if changes are needed. Information obtained from systems through the notification process may be useful for prioritizing site-specific investigations at certain facilities where the information indicates a potential problem.

EPA recommends that the state develop a standard approach for evaluating recycle practices as well as determining whether a system must modify its recycle practices.

3.3.3 Evaluating Alternate Location Requests

Target Implementation Timeframe: June 2003 - May 2004.

Although the FBRR requires all affected systems to return the regulated recycle flows to a location so that the recycle flow is treated by all steps, it recognizes that, in some cases, there may be legitimate reasons to introduce the recycle stream to other locations within the treatment plant. Systems have the opportunity (in 40 CFR 141.76(c)) to use an alternate location if state approval is obtained. A state decision to approve an alternate location should be based on the determination that the recycle stream return location does not disrupt the chemical treatment and coagulation process or otherwise negatively impact plant performance.

It is up to the discretion of the state to either grant or deny the use of an alternate recycle location by a system. To provide for state flexibility, the FBRR did not specify an alternate location request or approval format. EPA recommends states encourage systems to submit sufficient data and/or other justification early enough for states to make an informed decision prior to the June 8, 2004 deadline for approval. States may choose to develop specific requirements for such requests so that a system provides all of the necessary information. If a system is proposing capital improvements to meet the alternate location, the alternate location still must be approved by June 8, 2004. The capital improvements must be complete by the June 8, 2006 deadline regardless of the extent of capital improvements necessary (40 CFR 141.76(c)).

A state may employ any number of methodologies to evaluate an alternate recycle location. States may want to request qualitative and quantitative information from a system. This information can help the state understand the background and basics surrounding a system's request and help the state ensure that granting approval of an alternate recycle location will not negatively impact finished water quality. Information that the state can consider asking systems to provide include the following:

- A written request explaining the reason and/or rationale for using the alternate recycle location (such as if the plant requires recycle to an alternate location to maintain optimal finished water quality or if it is an essential component of treatment - such as for lime softening), including an explanation of why the alternate recycle location would not or does not cause a negative impact upon the finished water quality.

- A plant schematic identifying the alternate recycle location (which may be the schematic required in 40 CFR 141.76(b)(1) if the alternate location is currently used);

- Demonstration of compliance with IESWTR/LT1ESWTR turbidity limits. This may be achieved through submission of combined filter effluent and/or individual filter effluent data;

- A description of the treatment(s) applied to the recycle stream (if any);

- A comparison of plant influent water quality to the recycle stream water quality. Data for comparison may include, but is not limited to:

    - Turbidity;
    - Oocysts;
    - Oocyst-sized particles;
    - Iron and/or manganese;
    - Disinfection Byproduct (DBP) levels; and
    - Total organic carbon (TOC) and assimilable organic carbon (AOC).

- Information on sedimentation performance (as evidenced by settled water turbidity);
- Submission of design and monitoring data for the alternate recycle location;
- Information on the current loading rates of unit processes, and the impact to the loading rates caused by the alternate location;
- Information on flow control during recycle;
- An analysis of other impacts that the alternate location may have on finished water quality.

The state should be provided sufficient information to either grant or deny a system's request. However, if the information does not lead to a clear decision, additional information or follow-up studies may be helpful. EPA recommends that in such instances states should require systems to conduct pilot plant work or conduct studies which specifically characterize the effects of the alternate recycle location on finished water quality. This site-specific data can then be used to evaluate the impact of the alternate location.

Additionally, states may also consider site visits or inspections as an appropriate component of evaluating an alternative recycle location, either as a standard practice or only when follow-up is necessary. While no two systems are the same, EPA recommends that states develop a standard approach and methodology for granting approvals similar to the approach recommended above by EPA.

3.3.4 Evaluating System-maintained Data During Sanitary Surveys or Other Site Visits and Determining If Changes to Recycle Practices Are Needed

Target Implementation Timeframe: June 2004 - ongoing.

EPA believes that evaluating a system's recycle practices is an important step in ensuring that microbial protection and treatment plant performance are not compromised. However, EPA also believes that it is important to provide states with sufficient flexibility to evaluate a system's recycle practices. Accordingly, rather than requiring a specific inspection or evaluation, the FBRR has required that systems collect and retain information on recycle practices for evaluation by the state (40 CFR 141.76(d)).

Systems must collect and retain on file a copy of the recycle notification submitted to the state; a list of *all* recycle flows (regulated and unregulated) and the frequency with which they are returned; average and maximum backwash flow rates and the average and maximum duration of the filter backwash process; typical filter run length and a summary of how run length is determined; type of treatment provided to the recycle flow and data on the treatment or equalization units (40 CFR 141.76(d)(1)-(6)). This information is to be reviewed on site and provides information on the volume and chemical characteristics of the recycle stream, its contribution to total plant flow, the operations of the facility during recycle, and any treatment of the waste stream prior to its recycle that may mitigate adverse effects. Staff most knowledgeable of each of these aspects of a particular facility performance are invaluable in assessing areas of concern for the FBRR. States should use these evaluations to determine if changes to current practices are necessary, even if the recycle return location is not an issue.

EPA encourages states to use Sanitary Surveys, Comprehensive Performance Evaluations, or other periodic inspections to evaluate recycle practices and the recycle information retained by the system. States must also have the authority to require changes to recycle practices if deemed necessary (40 CFR 142.16(i)(1)(i)). Further information about this portion of the rule may be found in section 4.4 of this manual, which provides guidance on the special primacy requirement of the rule.

EPA recommends that the state develop a standard approach for evaluating recycle practices as well as determining whether a system must modify its recycle practices.

3.3.5 References for More Detailed Guidance

As indicated, EPA recommends that states develop a standard approach to evaluating and approving alternate recycle locations submitted by systems and for evaluating recycle practices at systems. In developing these approaches, EPA recommends that states consider the following references:

- Cornwell, D., and Lee, R. 1993. Recycle Stream Effects on Water Treatment. AWWARF. Denver.
- Cornwell, D., and Lee, R. 1994. Waste Stream Recycling: Its Effect on Water Quality. Journal American Water Works Association (86:11:50-63)
- Cornwell, D., 1997. Treatment of Recycle and Backwash Streams. Water Residuals and Biosolids Management: WED/AWWA, 11pp.
- Cornwell, D., MacPhee, M., McTigue, N., Arora, H., DiGiovanni, G., LeChevallier, M., and J. Taylor. 2001. Treatment Options For Giardia, Cryptosporidium, and Other Contaminants in Recycled Backwash Water. AWWARF. Denver.
- Environmental Engineering & Technology, Inc. 1999. Background Papers on Potential Recycle Streams in Drinking Water Treatment Plants. AWWA, 73 pp.
- Great Lakes-Upper Mississippi River Board of State and Provincial Public Health and Environmental Managers. Recommended Standards for Water Works. 1997. Albany: Health Education Services. (This is commonly referred to as “Ten States’ Standards”).
- USEPA. Filter Backwash Recycling Rule Technical Guidance Manual, EPA 816-R-02-014, December 2002

3.4 Tracking Regulated System Compliance Progress and Implementing Enforcement Action as Needed

States may wish to use the federally reportable violations for the FBRR as the basis for development of the key elements of a tracking system. See section 5.1.1 in section 5 for more information on federally reportable violations.

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Section IV

State Primacy Revision Application

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40 CFR 142 sets out requirements for states to obtain and/or retain primary enforcement responsibility (primacy) for the Public Water System Supervision (PWSS) program as authorized by §1413 of the SDWA. The 1996 SDWA Amendments update the process for states to obtain and/or retain primacy. On April 28, 1998, EPA promulgated the Primacy Rule to reflect these statutory changes (63 FR 23361).

4.1 State Primacy Program Revision

Pursuant to 40 CFR 141.12, **Revision of State Programs**, complete and final requests for approval of program revisions to adopt new or revised EPA regulations must be submitted to the Administrator no later than 2 years after promulgation of the new or revised federal regulations (see Table 4.1). Until those applications are approved, EPA Regions have responsibility for directly implementing the FBRR. The state and EPA can agree to implement the rule together during this period. However, if a state is eligible for interim primacy, once it submits a complete and final revision package, it will have full implementation and enforcement authority. A state may be granted an extension of time, up to two years, to submit its application package. During any extension period, an extension agreement outlining the state's and EPA's responsibilities is required.

Table 4.1: State Rule Implementation and Revision Timetable for FBRR

EPA/State Action	Time Frame
Rule published by EPA	June 8, 2001
State and Region establish a process and agree upon a schedule for application review and approval (optional)	January 2002 (suggested)
State, at its option, submits *draft* program revision package including: Preliminary Approval Request Draft State Regulations and/or Statutes Regulation Crosswalk	March 2002 (suggested)
Regional (and Headquarters if necessary) review of draft	Completed within 90 days of state submittal of Draft
State submits final program revision package including: Adopted State Regulations Regulation Crosswalk 40 CFR 142.10 Primacy Update Checklist 40 CFR 142.14 and 142.15 Reporting and Recordkeeping 40 CFR 142.16 Special Primacy Requirements Attorney General's Enforceability Certification	By June 8, 2003*
EPA final review and determination: Regional review (program and ORC) Headquarters concurrence and waivers (OGWDW, OECA) Public Notice Opportunity for hearing EPA's Determination	Completed within 90 days of state submittal of final 45 days Region 45 days Headquarters
Rule Compliance Date	December 8, 2003

* EPA suggests submitting an application by March 2003, to ensure timely approval. EPA regulations allow until June 8, 2003 for this submittal. An extension of up to 2 additional years may be requested by the state.

4.1.1 The Revision Process

The approval of state program revisions is recommended to be a two-step process comprised of submission of a draft request (optional) and then submission of a complete and final request for program approval. Figure 4.1 diagrams these processes and their timing.

Draft Request—At the state's option, it may submit a draft request for EPA review and tentative determination. The request should contain drafts of all required primacy application materials. A draft request should be submitted by 9 months after rule promulgation. EPA will make a tentative determination on whether the state program meets the applicable requirements. The tentative determination should be made within 90 days.

Complete and Final Request—This submission must be in accordance with 40 CFR 142.12(c)(1) and (2) and include the Attorney General's Statement. If the state has submitted a draft request for EPA review, the state should also address any comments and/or program deficiencies identified in the tentative determination in their final submission. Regions should make states aware that submission of only a final request may make it more difficult for the states to address any necessary changes within the allowable time for state rule adoption.

EPA requests that states submit their complete and final revision package within 21 months of rule promulgation. This will ensure that states will have interim primacy as soon as possible and will prevent states from becoming backlogged with revision applications to adopt future federal requirements.

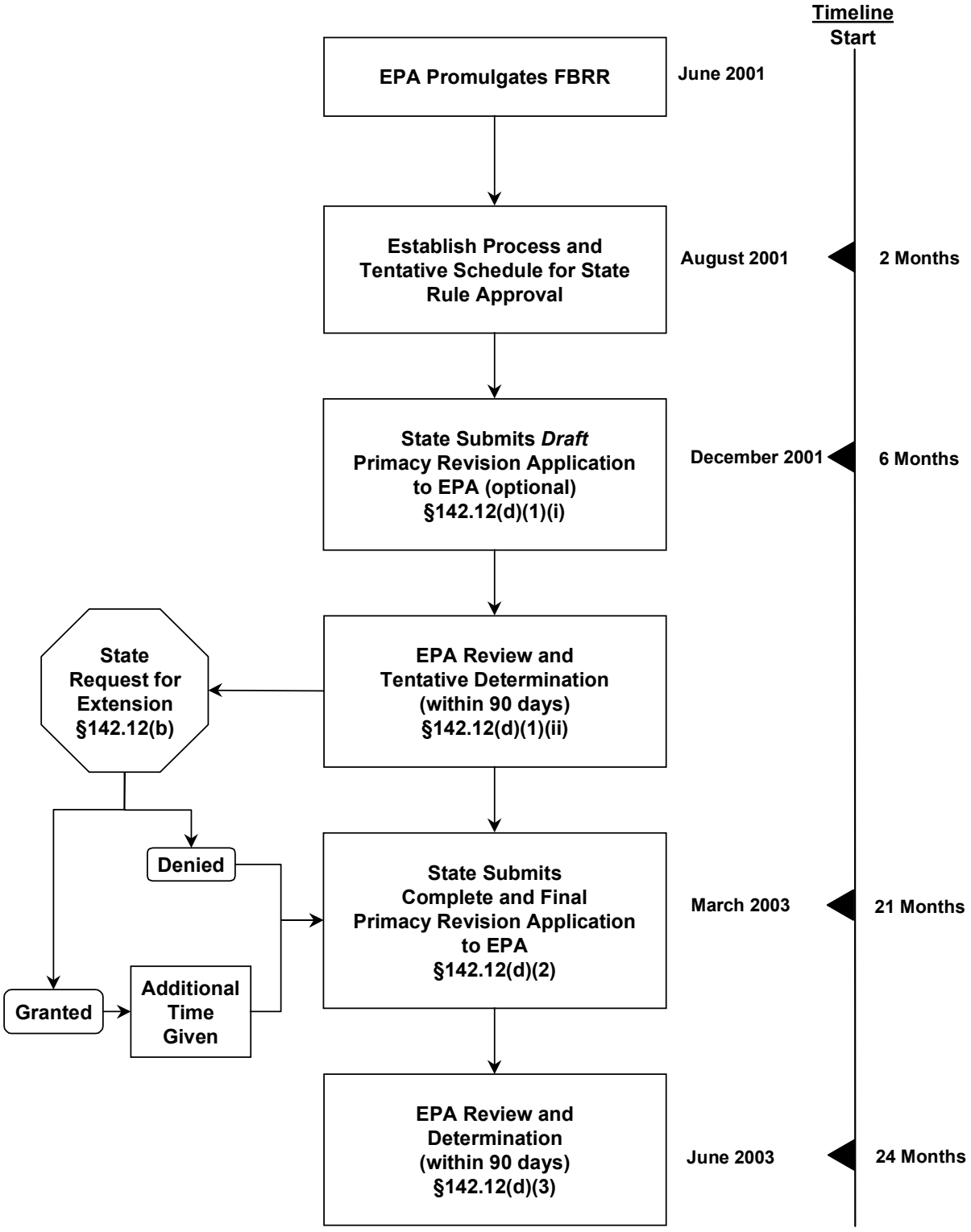
The state and Region should agree to a plan and timetable for submitting the state primacy revision application as soon as possible after rule promulgation—ideally within 5 months of promulgation.

4.1.2 The Final Review Process

Once a state application is complete and final, EPA has a regulatory (and statutory) deadline of 90 days to review and approve or disapprove of the revised program. The Offices of Ground Water and Drinking Water (OGWDW) and Enforcement and Compliance Assurance (OECA) will conduct detailed reviews of the first state package from each Region. The Region should submit their comments with the state's package for Headquarters' (HQ) review. When the Region has identified all significant issues, OGWDW and OECA will waive concurrence on all other state programs in that Region, although HQ will retain the option to review additional state programs as appropriate. The Office of General Counsel (OGC) has delegated its review and approval to the Office of Regional Counsel (ORC).

In order to meet the 90 day deadline for packages undergoing Headquarters' review, the review period will be equally split giving both the Regions and Headquarters 45 days to conduct their respective reviews. For the first package in each Region, Regions should forward copies of the primacy revision applications to the Drinking Water Protection Division Director in OGWDW, who will take the lead on the review process. OGWDW will provide OECA with a copy for their concurrent review. OECA will concur on OGWDW approvals.

Figure 4.1: Recommended Review Process for State Request for Approval of Program Revisions



4.2 State Primacy Program Revision Extensions

4.2.1 The Extension Process

Under 40 CFR 142.12(b), states may request that the 2-year deadline for submitting the complete and final packages for EPA approval of program revisions be extended for up to 2 additional years in certain circumstances. The extension request must be submitted to EPA within 2 years of the date that EPA published the regulation. The Regional Administrator has been delegated authority to approve extension applications. Headquarters concurrence on extensions is not required.

Therefore, the state must either adopt regulations pertaining to the FBRR and submit a complete and final primacy revision application or request an extension of up to 2 years by June 8, 2003.

4.2.2 Criteria that an Extension Request Must Meet

For an extension to be granted under 40 CFR 142.12(b), the state must demonstrate that it is requesting the extension because it cannot meet the original deadline for reasons beyond its control, despite a good faith effort to do so. A critical part of the extension application is the state's proposed schedule for submission of its complete and final request for approval of a revised primacy program. The application must also demonstrate at least one of the following:

(i) That the state currently lacks the legislative or regulatory authority to enforce the new or revised requirements; or,

(ii) That the state currently lacks the program capability adequate to implement the new or revised requirements; or,

(iii) That the state is requesting the extension to group two or more program revisions in a single legislative or regulatory action.

In addition, the state must be implementing the EPA requirements to be adopted in its program revision within the scope of its current authority and capabilities.

4.2.3 Conditions of the Extension

Until the state Primacy Revision Application has been submitted, the state and appropriate EPA Regional office will share responsibility for implementing the primary program elements as indicated in the extension agreement. The state and the EPA Regional office should discuss these elements, and address terms of responsibility in the agreement.

These conditions will be determined during the extension approval process and are decided on a case-by-case basis. The conditions must be included in an extension agreement between the state and the EPA Regional office.

Conditions of an extension agreement may include:

- Informing PWSs of the new EPA (and upcoming state) requirements and that the Region will be overseeing implementation of the requirements until they approve the state program revisions or until the state submits a complete and final revision package if the state qualifies for interim primacy;

- Collecting, storing and managing laboratory results, public notices, and other compliance and operation data required by the EPA regulations;

- Assisting the Region in the development of the technical aspects of enforcement actions and conducting informal follow-up on violations (telephone calls, letters, etc.);

- Providing technical assistance to public water systems;

- For states whose request for an extension is based on a current lack of program capability adequate to implement the new requirements, taking steps agreed to by the Region and the state during the extension period to remedy the deficiency;

- Providing the Region with all the information required under 40 CFR 142.15 on state reporting.

Example 4.1 provides a checklist the Region can use to review state extensions or to create an extension agreement.

The state and EPA should be viewed as partners in this effort, working toward two very specific public health-related goals. The first goal is to achieve a high level of compliance with the regulation. The second goal is to facilitate successful implementation of the regulation during the transition period before the state has primacy, including interim primacy, for the rule. In order to accomplish these goals, education, training, and technical assistance will need to be provided to water suppliers on their responsibilities under the FBRR.

Example 4.1: Example Extension Request Checklist

{Date}

{Regional Administrator}
Regional Administrator
U.S. EPA Region **{Region}**
{Street Address}
{City, State, Zip}

RE: Request/approval for an Extension Agreement

Dear **{Regional Administrator}**:

The State of **{state}** is requesting an extension to the date that final primacy revisions are due to EPA for the Filter Backwash Recycling Rule (FBRR) until **{insert date - no later than June 2005}**, as allowed by 40 CFR 142.12 and would appreciate your approval. Staff of the **{State Department/Agency}** have conferred with your staff and have agreed to the requirements listed below for this extension. This extension is being requested because the State of **{state}**:

❑ Is planning to group two or more program revisions into a single legislative or regulatory action.

❑ Currently lacks the legislative or regulatory authority to enforce the new or revised requirements.
❑ Currently lacks adequate program capability to implement the new or revised requirements.

{State Department/Agency} will be implementing the FBRR within the scope of its current authority and capability as outlined in the six areas identified in 142.12(b)(3)(i-vi):

i) Informing PWSs of the new EPA (and upcoming state) requirements and that EPA will be overseeing implementation of the requirements until EPA approves the state revision.

State	EPA	
____	____	Provide copies of regulation and guidance to other state agencies, PWSs, technical assistance providers, associations, or other interested parties.
____	____	Educate and coordinate with state staff, public water supplies (PWSs), the public, and other water associations about the requirements of this regulation
____	____	Notify affected systems of their requirements under the FBRR.
____	____	Other

ii) Collecting, storing and managing laboratory results, public notices, and other compliance and operation data required by the EPA regulations.

State	EPA	
____	____	Devise a tracking system for PWS reporting pursuant to the FBRR.
____	____	Keep states informed of SDWIS reporting requirements during development and implementation.
____	____	Report FBRR violation and enforcement information to SDWIS as required.
____	____	Other

iii) Assisting EPA in the development of the technical aspects of the enforcement actions and conducting informal follow-up and violations (telephones calls, letters, etc.).

State	EPA	
____	____	Issue notices of violation (NOVs) for treatment technique and monitoring/reporting violations of the FBRR
____	____	Provide immediate technical assistance to PWSs with treatment technique and/or monitoring/reporting violations to try to bring them into compliance.
____	____	Refer all violations to EPA for enforcement if they have not been resolved within 60 days of the period that triggered the violation. Provide information as requested to conduct and complete any enforcement action referred to EPA.
____	____	Other

iv) Providing technical assistance to public water systems.

State	EPA	
____	____	Conduct training within the state for PWSs on FBRR rule requirements.
____	____	Provide technical assistance through written and/or verbal correspondence to PWSs.
		Provide on-site technical assistance to PWSs as requested and needed to ensure compliance with this regulation.
____	____	Evaluate requests for alternate recycle return locations in an expedient manner.
____	____	Coordinate with other technical assistance providers and organization to provide accurate information and aid in a timely manner.
____	____	Other

v) Providing EPA with all information prescribed by the State Reporting Requirements in 142.15.

State	EPA	
____	____	Report any violations incurred by PWSs for these regulations each quarter.
____	____	Report any enforcement actions taken against PWSs for these regulations each quarter.
____	____	Report any variances or exemptions granted for PWSs for these regulations each quarter.
____	____	Other

vi) For states whose request for an extension is based on a current lack of program capability to implement the new or revised requirements agrees to take the following steps to remedy the capability deficiency.

State	EPA	
____	____	Acquire additional resources to implement these regulations (List of specific steps being taken attached as **{List A}**).
____	____	Provide quarterly updates describing the status of acquiring additional resources.
____	____	Other

I affirm that the **{State Department/Agency}** will implement provisions of the Filter Backwash Recycling Rule (FBRR) as outlined above.

_____

{Agency Director or Secretary} Date

_____

{Name of State Agency}

I have consulted with my staff and approve your extension for the aforementioned regulation. I affirm that EPA Region **{Region}** will implement provisions of the Filter Backwash Recycling Rule (FBRR) as outlined above.

_____

Regional Administrator Date
EPA Region **{Region}**

This Extension Agreement will take effect upon the date of the last signature.

4.3 State Primacy Package

The Primacy Revision Application package should consist of the following sections:

- ❑ State Primacy Revision Checklist
- ❑ Text of the State's Regulation
- ❑ Primacy Revision Crosswalk
- ❑ State Reporting and Recordkeeping Checklist
- ❑ Special Primacy Requirement
- ❑ Attorney General's Statement of Enforceability

4.3.1 The State Primacy Revision Checklist (40 CFR 142.12(c)(1))

This section is a checklist of general primacy requirements, taken from 40 CFR 142.10, as shown in Table 4.2. In completing this checklist, the state must identify the program elements that it has revised in response to new federal requirements. If an element has been revised the state should indicate a "Yes" answer in the second column next to the list of program elements and should submit appropriate documentation. For elements that need not be revised, the state need only list the citation and date of adoption in the second column. During the application review process, EPA will insert findings and comments in the third column.

Rule Bundling—States may bundle the primacy revision packages for multiple rules. If states choose to bundle requirements, the Attorney General Statement should reference all of the rules included.

4.3.2 Text of the State's Regulation

Each primacy application package should include the text of the state regulation.

4.3.3 Primacy Revision Crosswalk

The Primacy Revision Crosswalk, found in Appendix A, should be completed by states in order to identify state statutory or regulatory provisions that correspond to each federal requirement. If the state's provisions differ from federal requirements, the state should explain how its requirements are "no less stringent."

Table 4.2: State Primacy Revision Checklist

Required Program Elements		Revision to State Program	EPA Findings/Comments
§142.10	Primary Enforcement ▸ Definition of Public Water System*		
§142.10(a)	Regulations No Less Stringent		
§142.10(b)(1)	Maintain Inventory		
§142.10(b)(2)	Sanitary Survey Program		
§142.10(b)(3)	Laboratory Certification Program		
§142.10(b)(4)	Laboratory Capability		
§142.10(b)(5)	Plan Review Program		
§142.10(b)(6)(i)	Authority to apply regulations		
§142.10(b)(6)(ii)	Authority to sue in courts of competent jurisdiction		
§142.10(b)(6)(iii)	Right of Entry		
§142.10(b)(6)(iv)	Authority to require records		
§142.10(b)(6)(v)	Authority to require public notification		
§142.10(b)(6)(vi)	Authority to assess civil and criminal penalties		
§142.10(b)(6)(vii)	Authority to require Consumer Confidence Reports (CCRs)		
§142.10(c)	Maintenance of Records		
§142.10(d)	Variance/Exemption Conditions (if applicable)**		
§142.10(e)	Emergency Plans		
§142.10(f)	Administrative Penalty Authority*		

* New requirement from the 1996 Amendments. Regulations published in the April 28, 1998 *Federal Register*.
** New regulations published in the August 14, 1998 *Federal Register*.

4.3.4 State Reporting and Recordkeeping Checklist (40 CFR 142.14 and 142.15)

The FBRR does not add any new state reporting requirements (40 CFR 142.15), but does include a state recordkeeping requirement.

The state should use the Primacy Revision Crosswalk, found in Appendix A, to demonstrate that state recordkeeping requirements are consistent with federal requirements. If state requirements are not the same as federal requirements, the state must explain how its requirements are "no less stringent" as per 40 CFR 142.10.

The Primacy Revision Crosswalk includes state recordkeeping requirements indicating that the state must:

- Keep records of decisions made to approve alternate recycle locations, require modifications to recycle return locations, or require modifications to recycle practices (40 CFR 142.14(a)(4)(ii)(A)(9)).

4.3.5 Special Primacy Requirement (40 CFR 142.16)

Section 4.4 (*below*) provides guidance on how states may choose to meet the Special Primacy Requirement.

4.3.6 Attorney General's Statement of Enforceability (40 CFR 142.12(c)(2))

The complete and final primacy revision application must include an Attorney General Statement certifying that the state regulations were duly adopted and are enforceable (unless EPA has waived this requirement by letter to the state). The Attorney General Statement should also certify that the state does not have any audit privilege or immunity laws, or if it has such laws, that these laws do not prevent the state from meeting the requirements of the SDWA. If a state has submitted this certification with a previous revision package, then the state should indicate the date of submittal and the Attorney General need only certify that the status of the audit laws has not changed since the prior submittal. An example of an Attorney General Statement is presented in Example 4.2.

4.3.6.1 Guidance For States on Audit Privilege and/or Immunity Laws

In order for EPA to properly evaluate the state's request for approval, the State Attorney General or independent legal counsel should certify that the state's environmental audit immunity and/or privilege and immunity law does not affect its ability to meet enforcement and information gathering requirements under the SDWA. This certification should be reasonably consistent with the wording of the state audit laws and should demonstrate how state program approval criteria are satisfied.

EPA will apply the criteria outlined in its "Statement of Principles" memo issued on 2/14/97 (*see* http://es.epa.gov/oeca/oppa/pdf/auditimun.pdf) in determining whether states with audit laws have retained adequate enforcement authority for any authorized federal programs. The principles articulated in the guidance are based on the requirements of federal law, specifically the enforcement and compliance and state program approval provisions of environmental statutes and their corresponding regulations. The Principles provide that if provisions of state law are ambiguous, it will be important to obtain opinions from the State Attorney General or independent legal counsel interpreting the law as meeting specific federal requirements. If the law cannot be so interpreted, changes to state laws may be necessary to obtain federal program approval. Before submitting a package for approval, states with audit privilege and/or immunity laws should initiate communications with appropriate EPA Regional Offices to identify and discuss the issues raised by the state's audit privilege and/or immunity law.

Example 4.2: Example of Attorney General Statement

Model Language

I hereby certify, pursuant to my authority as (1) and in accordance with the Safe Drinking Water Act as amended, and (2), that in my opinion the laws of the [state / commonwealth of (3)] [or tribal ordinances of (4)] to carry out the program set forth in the "Program Description" submitted by the (5) have been duly adopted and are enforceable. The specific authorities provided are contained in statutes or regulations that are lawfully adopted at the time this Statement is approved and signed, and will be fully effective by the time the program is approved.

Model Language

I. For States with No Audit Privilege and/or Immunity Laws

Furthermore, I certify that [state / commonwealth of (3)] has not enacted any environmental audit privilege and/or immunity laws.

II. For States with Audit Laws that do Not Apply to the State Agency Administering the Safe Drinking Water Act

Furthermore, I certify that the environmental [audit privilege and/or immunity law] of the [state / commonwealth of (3)] does not affect (3) ability to meet enforcement and information gathering requirements under the Safe Drinking Water Act because the [audit privilege and/or immunity law] does not apply to the program set forth in the "Program Description." The Safe Drinking Water Act program set forth in the "Program Description" is administered by (5); the [audit privilege and/or immunity law] does not affect programs implemented by (5), thus the program set forth in the "Program Description" is unaffected by the provisions of [state / commonwealth of (3)] [audit privilege and/or immunity law].

III. For States with Audit Privilege and/or Immunity Laws that Worked with EPA to Satisfy Requirements for Federally Authorized, Delegated or Approved Environmental Programs

Furthermore, I certify that the environmental [audit privilege and/or immunity law] of the [state / commonwealth of (3)] does not affect (3) ability to meet enforcement and information gathering requirements under the Safe Drinking Water Act because [state / commonwealth of (3)] has enacted statutory revisions and/or issued a clarifying Attorney General's Statement to satisfy requirements for federally authorized, delegated or approved environmental programs.

Seal of Office

_____
Signature

_____
Name and Title

_____
Date

(1) State Attorney General or attorney for the primacy agency if it has independent legal counsel

(2) 40 CFR 142.11(a)(6)(i) for initial primacy applications or 142.12(c)(1)(iii) for primacy program revision applications..

(3) Name of state or commonwealth

(4) Name of tribe

(5) Name of primacy agency

4.4 Guidance for the Special Primacy Requirement of the FBRR

This section contains information and guidance states can use in addressing the single special primacy requirement of the rule. The rule's only special primacy requirement is as follows:

40 CFR 142.16 Special primacy requirements. (i)(1) State practices or procedures.
(i) *Requirements for states to adopt 40 CFR part 141, §141.76 Recycle Provisions. In addition to the general primacy requirements enumerated elsewhere in this part, including the requirement that the state provisions are no less stringent than the federal requirements, an application for approval of a state program revision that adopts 40 CFR part 141, §141.76 Recycle Provisions must contain the information specified in this paragraph:*

> *(1) State practices or procedures. (i) section 141.76(d) of this chapter - states must have the proper rules and authority to use Sanitary Surveys, comprehensive performance evaluations (CPEs), other inspections, or other activities to evaluate recycle data maintained by systems under §141.76(d) and require modifications to recycle practices.*

The treatment technique requirement of the FBRR is met if (by June 8, 2004) the system recycles all regulated waste streams through the processes of its existing conventional or direct filtration system as defined in 40 CFR 141.2, or at an alternate location approved by the state. An additional 2-year period is allowed if capital improvements are required to modify the recycle location to meet this requirement. However, even if the treatment technique requirement is met, recycle practices may compromise the system's ability to provide 2-log (99 percent) *Cryptosporidium* removal by exceeding operating capacity, creating hydraulic surges, or creating a coagulant chemistry imbalance.

As indicated previously in this manual, EPA believes that evaluating a system's recycle practices is an important step in ensuring that microbial protection and treatment plant performance are not compromised. However, EPA also believes that it is important to provide states with sufficient flexibility to evaluate a system's recycle practices. Accordingly, rather than requiring a specific inspection or evaluation, EPA has required that systems collect and maintain information on recycle practices for evaluation by the state through whatever mechanism the state chooses. EPA encourages states to use Sanitary Surveys, Comprehensive Performance Evaluations, or other periodic inspections to evaluate recycle practices.

As a result of a filter backwash recycle event or other short-term return of recycle, a large volume of water may pass through the treatment plant. This additional stream can potentially overload treatment capability by challenging the ability of each process within a system, including the filters. Some utilities provide complete treatment of their recycle flow prior to returning the flow to the water treatment plant. Although such treatment of the recycle stream reduces the number of microbial constituents a recycle flow may reintroduce into the water treatment process, uncontrolled flow return may still upset treatment performance.

States should use the information submitted by the system and found on file to evaluate whether recycle practices may cause a plant to exceed its operating capacity or otherwise compromise its finished water quality. In the event of such a determination, states must have the ability to require that a system make appropriate modifications to its recycle practice.

This special primacy requirement can be satisfied by a description of statutes, rules, or other authority the state can use to evaluate recycle data maintained by systems through inspections and activities such as sanitary surveys or CPEs and require modifications to recycle practices.

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Section V

SDWIS Reporting and SNC Definitions

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5.1 Safe Drinking Water Information System (SDWIS) Reporting Under the FBRR

SDWIS/FED (Safe Drinking Water Information System/federal version) is an EPA national database storing routine information about the nation's drinking water. Designed to replace the system known as FRDS (Federal Reporting Data System), SDWIS/FED stores the information EPA needs to monitor approximately 175,000 public water systems.

States supervise the drinking water systems within their jurisdictions to ensure that each public water system meets state and EPA standards for safe drinking water. The SDWA requires states to report drinking water information periodically to EPA. This information is maintained in SDWIS/FED.

States report the following information to EPA:

- Basic information on each water system, including: name, ID number, number of people served, type of system (year-round or seasonal), and source of water (ground water or surface water).

- Violation information for each water system: whether it has followed established monitoring and reporting schedules, complied with mandated treatment techniques, or violated any MCLs.

- Enforcement information: what actions states have taken to ensure that drinking water systems return to compliance if they are in violation of a drinking water regulation.

- Sampling results for unregulated contaminants and for regulated contaminants when the monitoring results exceed the MCL.

EPA uses this information to determine if and when it needs to take action against non-compliant systems, oversee state drinking water programs, track contaminant levels, respond to public inquiries, and prepare national reports. EPA also uses this information to evaluate the effectiveness of its programs and regulations, and to determine whether new regulations are needed to further protect public health.

5.1.1 Federally Reported Violations

Under SDWIS/FED reporting, states only report when violations occur. In the interest of reducing the reporting burden on states, EPA has limited the number and type of violations to be reported to SDWIS/FED. However, PWSs must still keep records and report all required information to the state. Any violation of the rule, whether included in the accompanying table or not, is a basis for a state or federal enforcement action. Table 5.1 summarizes the federal reporting for the FBRR.

Table 5.1: Federal Reporting for FBRR (States Report Only When Violations Occur)

Violation Code	Contaminant Code	Treatment Technique Violations
40	0500	Failure to recycle regulated streams at the required location or failure to complete capital improvements by required date.
		Monitoring and Reporting Violations
39	0500	Failure to submit notification to the state in writing.
		Recordkeeping Violation
09	0500	Failure to collect and retain required recycle flow information.
		Public Notification
75	0500	Failure to notify public after a violation.

Table 5.2 contains the federally reportable violations for the FBRR in more detail. These violations are listed by contaminant or requirement and violation type. The table includes the regulatory citation, system type affected, a detailed description of the violation, and the initial compliance date. This table will allow a user to better understand violations listed in SDWIS. For more information on how to report FBRR violations to SDWIS, please refer to Appendix D the *Primacy Agency Data Entry Instructions for the Filter Backwash Recycling Rule*.

Table 5.2: List of Filter Backwash Rule Violations[1]

SDWIS Reporting Code	Regulated Contaminant/ Requirement	Citation	Violation Type	System Size and Type Affected	Violation	Compliance Date
39/0500	Recycle Notification	§141.76(b)(1)&(2)	M/R Major	All Subpart H systems that employ conventional filtration or direct filtration treatment and recycle spent filter backwash, thickener supernatant, or liquids from dewatering processes.	Failure of system to notify the state that system meets criteria at left. Notice to state must include: ▸ A plant schematic showing the origin of all recycle flows, the hydraulic conveyance used to transport the recycle flows, and the location at which recycle flows are returned to the plant processes. ▸ The plant's typical recycle flow in gallons per minute (gpm), the highest observed plant flow experienced in the previous year (gpm), the design flow for the treatment plant (gpm), and state-approved operating capacity for the plant where the state has made such determinations.	December 8, 2003
40/0500	Recycle Return Location	§141.76(c)	TT	All Subpart H systems as above that recycle spent filter backwash, thickener supernatant, or liquids from dewatering processes.	Failure of system to return these flows through the processes of a system's existing conventional or direct filtration system (as defined in §141.2) or at an alternative location properly approved by the state by June 8, 2004.	June 8, 2004 (or if capital improvements are necessary to modify the recycle return location at a later date approved by the state, but not later than June 8, 2006).

Table 5.2 List of Filter Backwash Rule Violations[1] (Continued)

SDWIS Reporting Code	Regulated Contaminant/ Requirement	Citation	Violation Type	System Size and Type Affected	Violation	Compliance Date
40/0500	Completion of Capital Improvements Required to Modify Recycle Location	§141.76(c)	TT	All Subpart H systems as above that recycle spent filter backwash, thickener supernatant, or liquids from dewatering processes.	Failure of a system to complete, by June 8, 2006, the capital improvements required to modify the recycle location to return recycle flows to its conventional or direct filtration system (as defined in §141.2) or at an alternative location properly approved by the state by June 8, 2004)	June 8, 2006
09/0500	Records on Recycle Flow Kept on Site	§141.76(d)(1) - (6)	Record-keeping	All Subpart H systems that employ conventional filtration or direct filtration treatment and recycle spent filter backwash, thickener supernatant, or liquids from dewatering processes.	Failure of system to collect and retain on file one or more of the following: ▸ A copy of the recycle notification and information submitted to state under §141.76(b). ▸ A list of all recycle flows and frequency with which they are returned. ▸ Average and maximum backwash flow rate through the filters and the average and maximum duration of the filter backwash process in minutes. ▸ Typical filter run length and a written summary of how filter run length is determined. ▸ Type of treatment provided for the recycle flow. ▸ Data on the physical dimensions of the equalization and/or treatment units, typical 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.	June 8, 2004

[1] This chart contains federally reportable violations for the Filter Backwash Rule. In the interest of reducing the reporting burden on states, EPA has limited the number and type of violations to be reported to SDWIS/FED. However, PWSs must keep records and report all required information to the state. Any violation of the rule is a basis for a state or federal enforcement action.

5.2 FBRR - SNC Definition

Significant noncompliers (SNCs) are community, nontransient noncommunity and transient noncommunity water systems that have more serious, frequent, or persistent violations. The criteria used by EPA to designate a system as a SNC vary by contaminant or treatment technique requirement.

SNC Definition for the FBRR

A Public Water System (PWS) is in significant noncompliance of the SDWA Filter Backwash Recycling Rule (FBRR) if it violates the requirements of the rule by a:

- Failure to recycle at an approved location by June 8, 2004, or
- Failure to make the required capital improvements by June 8, 2006.

Return to Compliance (RTC) is accomplished by the public water system's recycling of all regulated recycling streams to an approved location, or finalization of the required capital improvements.

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Section VI

FBRR Public Notification and Consumer Confidence Report Examples

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This section provides examples for violations that systems may incur under the FBRR. These examples address the Public Notification (PN) Rule and Consumer Confidence Report (CCR) Rule requirements for systems that incur these kinds of violations. Public notification and notification in the CCR are required follow-up activities for violations of the National Primary Drinking Water Regulations. Also included in the examples are sample public notices and sample excerpts from CCR reports that would meet these public notification and CCR requirements. The examples in this section are adapted from examples in Appendix D the *Primacy Agency Data Entry Instructions for the Filter Backwash Recycling Rule*. For more information on system reporting requirements and SDWIS reporting, refer to the *Primacy Agency Data Entry Instructions for the Filter Backwash Recycling Rule* and the examples contained therein. (See Appendix D.)

The following list summarizes the examples discussed in section 6:

Example 1 January 2004 and System A has not submitted the required notification, in writing, to the state.

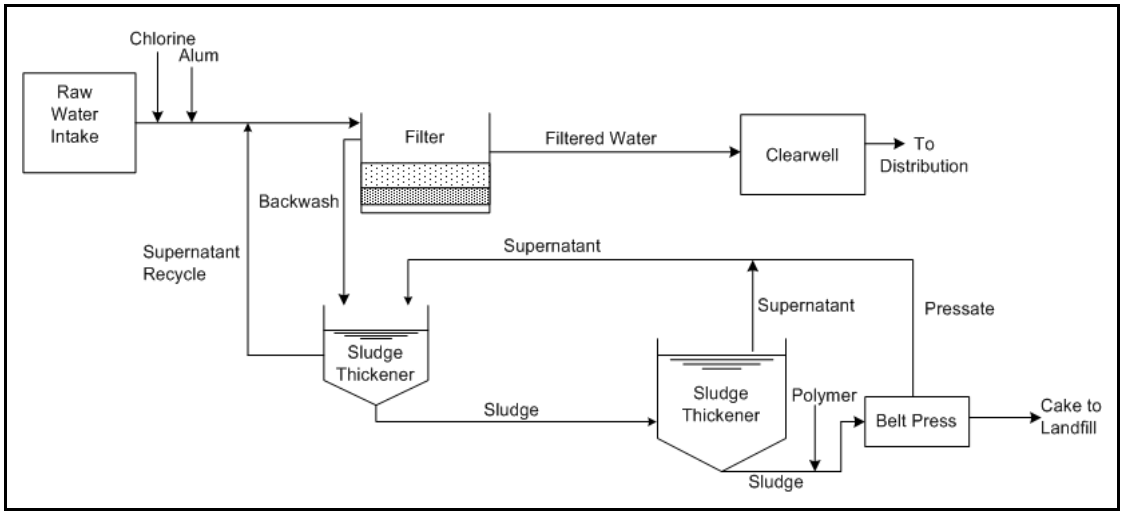
Example 2 It is July 1, 2004, and System A is NOT recycling before all processes of the direct filtration treatment train, has not obtained state approval for use of an alternative location, and is not pursuing capital improvements.

Example 3 During a Sanitary Survey performed on July 10, 2004, the state determines that System A has not been collecting or retaining recycle information on file.

Example 4 On January 15, 2004, the system became aware that it had failed to submit the typical recycle flow information and the state-approved operating capacity of the plant in the recycle notification sent to the state on December 1, 2003.

System A, referred to in each of the examples, is a direct filtration plant that recycles spent filter backwash water, liquids from dewatering processes, and thickener supernatant to a location in the treatment process which is after coagulation but prior to the filtration unit process in this filtration plant (Figure 6.1). System A is a community water system.

Figure 6.1: System A Water Treatment Plant



Example 1 - M&R Violation

It is January of 2004 and System A has not submitted the required notification, in writing, to the state that they were recycling spent filter backwash, thickener supernatant, and liquids from the dewatering process by the reporting requirement deadline of December 8, 2003.

Violation Determination:

System A failed to submit notification to the state by December 8, 2003, that they are recycling spent filter backwash water, thickener supernatant, or liquids from the dewatering process. As a result, the system has incurred a monitoring and reporting (M&R) violation.

Return To Compliance:

System A submits the notification in writing with additional required information on February 26, 2004, and is returned to compliance.

Public Notification/Consumer Confidence Reports:

System A failed to submit the required notification to the state by December 8, 2003, that they are recycling. This is a monitoring and reporting violation that requires Tier 3 public notification. The system must provide public notification within one year of learning of the violation. Notification must be provided by mail or other direct delivery method (such as hand delivery), and any other reasonable method to reach affected individuals that would not have received the information by mail or the direct delivery method used. Notice must be provided to each customer receiving a bill and other service connections to which water is delivered.

Since System A is a community water system, it could use the Consumer Confidence Report (CCR) to inform the public of the Tier 3 violation if the CCR is released within one year of the system learning of the violation. For this example, the violation occurred and the system knew of the violation on December 8, 2003. The public could therefore be informed of the violation in the CCR produced for calendar year 2003, if the CCR is released prior to December 8, 2004 (the CCR is required to be released by July 1, 2004, for compliance with the CCR Rule). In this situation, additional public notification would not be required. However, whether public notification is provided by the CCR for calendar year 2003 or by other means, this violation would still have to be reported by the system in the CCR produced for the calendar year 2003, since all violations of National Primary Drinking Water Regulations (NPDWRs) must be reported in the CCR for the calendar year in which the system became aware of this violation. The violation report in the CCR should include information similar to what was included in the public notice. An example of a public notice that fulfills the public notification requirements for this violation is shown in Example 6.1. An example of a report of this violation in the CCR is shown in Example 6.2.

Example 6.1: Example Tier 3 Public Notification for Example 1 - M&R Violation

IMPORTANT INFORMATION ABOUT YOUR DRINKING WATER
Reporting Requirements Not Met for System A

Our system failed to submit a notification about recycle practices in our treatment plant to the state by the deadline of December 8, 2003. Although this incident was not an emergency, as our customers, you have a right to know what happened and what we did to correct this situation.

What should I do?

There is nothing you need to do. You do not need to boil your water or take other corrective actions. You may continue to drink the water. If a situation arises where the water is no longer safe to drink, you will be notified within 24 hours. We will announce any emergencies on Channel 22 or Radio Station KMMM (97.3 FM).

What was done?

We submitted notification to the state on February 26, 2004, that we are recycling flows in our treatment plant and we included all of the required additional information. This situation is now resolved and our system is in compliance.

For more information, please contact John Johnson, manager of System A, at 555-1234 or write to 2600 Winding Rd., Townsville, SA 12345.

Please share this information with all the other people who drink this water, especially those who may not have received this notice directly (for example, people in apartments, nursing homes, schools, and businesses). You can do this by posting this notice in a public place or distributing copies by hand or mail.

This notice is being sent to you by System A.

State Water System ID# SA1234567. Sent: 4/15/04

Example 6.2: Example of a Notice in the CCR for Example 1 - M&R Violation

<u>Violation</u>

- Our water system failed to submit a notification about recycle practices in our treatment plant to the state by the deadline of December 8, 2003. We submitted notification to the state on February 26, 2004, that we are recycling flows in our treatment plant and we included all of the required additional information. This violation was resolved and our system is in compliance.

Example 2 - TT Violation

It is July 1, 2004, and as shown in Figure 6.1, System A is NOT recycling spent filter backwash, thickener supernatant, and liquids from dewatering processes before all processes of the direct filtration treatment train. The system has not obtained state approval for use of an alternative location and is not pursuing capital improvements.

Violation Determination:

System A failed to recycle the regulated recycle streams at a location that incorporates all direct filtration processes and did not receive state approval by June 8, 2004, for an alternate recycle return location. The system has incurred a treatment technique violation.

Return To Compliance:

System A obtained state approval for the alternative location and began recycling to the approved location on August 10, 2004, and is returned to compliance.

Public Notification/Consumer Confidence Reports:

System A has incurred a treatment technique violation for failure to recycle a regulated recycle stream at the required location. This violation requires Tier 2 public notification. The system must provide public notification as soon as practical but no later than 30 days of learning of the violation. Notification must be provided by mail or other direct delivery method (such as hand delivery), and any other reasonable method to reach affected individuals that would not have received the information by mail or the direct delivery method used. Notice must be provided to each customer receiving a bill and other service connections to which water is delivered. For any unresolved violation following an initial Tier 2 notice, notice must generally be repeated every three months for as long as the violation persists. The system was aware of the violation on June 8, 2004. Repeat public notification was not required in this instance since the violation was resolved on August 10, 2004.

An example of a public notice that fulfills the public notification requirements for this violation is shown in Example 6.3.

All treatment technique violations must also be included in the Consumer Confidence Report (CCR). An explanation of how the system returned to compliance could also be included. An example of a report of this violation that could be used in the system's CCR for calendar year 2004 is shown in Example 6.4.

Example 6.3: Example Tier 2 Public Notification for Example 2 - Treatment Technique Violation

IMPORTANT INFORMATION ABOUT YOUR DRINKING WATER
System A Does Not Meet Treatment Technique Requirements

Our system did not meet the recycle return location requirement to return all recycle flows to the required location by the deadline of June 8, 2004, and did not receive state approval for the location other than the required recycle return location (referred to as an alternate location). Although this incident was not an emergency, as our customers, you have a right to know what happened and what we did to correct this situation.

What should I do?

There is nothing you need to do unless you have a severely compromised immune system, have an infant, or are elderly. These people may be at increased risk and should seek advice about drinking water from their health care providers. General guidelines on ways to lessen the risk of infection by microbes are available from EPA's Safe Drinking Water Hotline at 1 (800) 426-4791. If you have specific health concerns, consult your doctor.

You do not need to boil your water or take other corrective actions. If a situation arises where the water is no longer safe to drink, you will be notified within 24 hours. We will announce any emergencies on Channel 22 or Radio Station KMMM (97.3 FM).

What does this mean?

This is not an emergency. If it had been, you would have been notified within 24 hours.
Our failure to return our recycled flows at an approved location by the deadline on June 8, 2006, may have impacted our water. *Inadequately treated water may contain disease-causing organisms. These organisms include bacteria, viruses, and parasites which can cause symptoms such as nausea, cramps, diarrhea, and associated headaches*. However, we were not aware of any health effects on you, our customer, as a result of our failure to return our recycled flows at an approved location by the deadline.

What is being done?

Our system is seeking approval from the state for our location other than the required recycle return location (referred to as an alternate location) for the return of recycled flows. We hope to receive approval from the state by August 31, 2004.

For more information, please contact John Johnson, manager of System A, at 555-1234 or write to 2600 Winding Rd., Townsville, SA 12345.

Please share this information with all the other people who drink this water, especially those who may not have received this notice directly (for example, people in apartments, nursing homes, schools, and businesses). You can do this by posting this notice in a public place or distributing copies by hand or mail.

This notice is being sent to you by System A.

State Water System ID# SA1234567. Sent: 7/1/04

Example 6.4: Example of a Notice in the CCR for Example 2 - TT Violation

Water Quality Data

Contaminant	MCL/MRDL/ TT	Value	Date	Violation	Source
Cryptosporidium	TT		6/8/04	Yes*	Sewage treatment plants, septic systems, agricultural livestock operations, and wildlife.

*System A incurred a treatment technique violation for failure to return all recycled flows to the required location or to receive state approval for the alternate location by the deadline of June 8, 2004. More information about this violation is provided in the violation section.

Violation

- We did not return all recycled flows to the required location by the deadline of June 8, 2004, and did not receive state approval for the location other than the required recycle return location (referred to as an alternate location). Our failure to return our recycled flows at an approved location by the deadline of June 8, 2004, may have impacted our water. Inadequately treated water may contain disease-causing organisms. These organisms include bacteria, viruses, and parasites which can cause symptoms such as nausea, cramps, diarrhea, and associated headaches. However, we were not aware of any health effects on you, our customer, as a result of our failure to return our recycle flows at an approved location by the deadline.

  Our system received approval from the state for our location other than the required recycle return location (referred to as an alternate location) for the return of recycled flows on August 10, 2004. This violation was resolved.

Example 3 - Recordkeeping Violation

During a Sanitary Survey performed on July 10, 2004, the state determines that System A has not been collecting or retaining recycle information on file.

Violation Determination:

System A failed to collect and retain the requisite recycle flow information on file beginning June 8, 2004. As a result, the system has incurred a recordkeeping violation.

Return To Compliance:

The state requested the system collect the required information and submit a copy to the state. The system collected and submitted the required information on October 3, 2004. The system also retained a copy to be reviewed by the state during the next visit. Therefore, the system returned to compliance on October 3, 2004.

Public Notification/Consumer Confidence Reports:

System A has incurred a recordkeeping violation for failure to retain recycle information on file beginning June 8, 2004. This violation requires Tier 3 public notification. The system must provide public notification within one year of learning of the violation. Notification must be provided by mail or other direct delivery method (such as hand delivery), and any other reasonable method to reach affected individuals that would not have received the information by mail or the direct delivery method used. Notice must be provided to each customer receiving a bill and other service connections to which water is delivered.

Since System A is a community water system, it could use the Consumer Confidence Report (CCR) to inform the public of the Tier 3 violation if the CCR is released within one year of the system learning of the violation. For this particular example, the system knew it was in violation on June 9, 2004. The public could therefore be informed of the violation in the CCR produced for calendar year 2004, if the CCR is released prior to June 9, 2005 (the CCR is required to be released by July 1, 2005, for compliance with the CCR Rule). In this situation, additional public notification would not be required. However, since all violations of National Primary Drinking Water Regulations must be reported in the CCR, this violation would have to be reported by the system in its calendar year 2004 CCR even if public notification is provided by other means. The violation report in the CCR should include information similar to what was included in the public notice. An example of a public notice that fulfills the public notification requirements for this violation, for both community and non-community water systems, is shown in Example 6.5. An example of a report of this violation in the CCR is shown in Example 6.6.

Example 6.5: Example Tier 3 Public Notification for Example 3 - Recordkeeping Violation

IMPORTANT INFORMATION ABOUT YOUR DRINKING WATER
Recordkeeping Requirements Not Met for System A

Our water system failed to begin collecting and retaining specific information about our recycling practices by the deadline of June 8, 2004. Although this incident was not an emergency, as our customers, you have a right to know what happened and what we did to correct this situation.

What should I do?

There is nothing you need to do. You do not need to boil your water or take other corrective actions. You may continue to drink the water. If a situation arises where the water is no longer safe to drink, you will be notified within 24 hours. We will announce any emergencies on Channel 22 or Radio Station KMMM (97.3 FM).

What was done?

We began collecting and retaining the required information about our recycle practices on October 3, 2004. This situation is now resolved.

For more information, please contact John Johnson, manager of System A, at 555-1234 or write to 2600 Winding Rd., Townsville, SA 12345.

Please share this information with all the other people who drink this water, especially those who may not have received this notice directly (for example, people in apartments, nursing homes, schools, and businesses). You can do this by posting this notice in a public place or distributing copies by hand or mail.

This notice is being sent to you by System A.

State Water System ID# SA1234567. Sent: 11/15/04

Example 6.6: Example of a Notice in the CCR for Example 3 - Recordkeeping Violation

<u>Violation</u>

- Our water system failed to begin collecting and retaining specific information about our recycling practices by the deadline on June 8, 2004. We began collecting and retaining the required information about our recycle practices on October 3, 2004, at which time this violation was resolved.

Example 4 - M&R Violation

On December 1, 2003, System A submitted a notice, in writing, to the state that they were recycling spent filter backwash water, thickener supernatant and liquids from dewatering processes and included the required schematic of recycle streams and water treatment plant design flow information. However, on January 15, 2004, the system became aware, that in the notice submitted on December 1, 2003, it had failed to submit the typical recycle flow information and the state-approved operating capacity of the plant.

Violation Determination:

System A failed to include all of the required information when it submitted notification to the state by December 8, 2003, that they are recycling. As a result, the system has incurred an M&R violation.

Return To Compliance:

System A resubmits the notification in writing with all of the additional required information, including the typical recycle flow information and the state-approved operating capacity for the plant on January 20, 2004, and is returned to compliance.

Public Notification/Consumer Confidence Reports:

System A has incurred a monitoring/reporting violation for failure to include, by the deadline of December 8, 2003, all of the required information in its notification to the state of flow recycling. This violation requires Tier 3 public notification. The system must provide public notification within one year of learning of the violation. Notification must be provided by mail or other direct delivery method (such as hand delivery), and any other reasonable method to reach affected individuals that would not have received the information by mail or the direct delivery method used. Notice must be provided to each customer receiving a bill and other service connections to which water is delivered.

Since System A is a community water system, it could use the Consumer Confidence Report (CCR) to inform the public of the Tier 3 violation if the CCR is released within one year of the system learning of the violation. For this particular example, the system became aware of the violation on January 15, 2004. The public could therefore be informed of the violation in the CCR produced for calendar year 2003, if the CCR is released prior to January 15, 2005 (the CCR for calendar year 2003 is required to be released by July 1, 2004, for compliance with the CCR Rule). In this situation, additional public notification would not be required. However, since all violations of National Primary Drinking Water Regulations must be reported in the CCR, this violation would also have to be reported by the system in its calendar year 2004 CCR even if public notification is provided by other means. The violation report in the CCR should include information similar to what was included in the public notice. An example of a public notice that fulfills the public notification requirements for this violation is shown in Example 6.7. An example of a report of this violation in the CCR is shown in Example 6.8.

Example 6.7: Example Tier 3 Public Notification for Example 4 - Monitoring and Reporting Violation

IMPORTANT INFORMATION ABOUT YOUR DRINKING WATER
Reporting Requirements Not Met for System A

Our water system failed to include, by the deadline of December 8, 2003, all of the required information in our notification about recycle practices in our treatment plant to the state. Although this incident was not an emergency, as our customers, you have a right to know what happened and what we did to correct this situation.

What should I do?

There is nothing you need to do. You do not need to boil your water or take other corrective actions. You may continue to drink the water. If a situation arises where the water is no longer safe to drink, you will be notified within 24 hours. We will announce any emergencies on Channel 22 or Radio Station KMMM (97.3 FM).

What was done?

We re-submitted our notification to the state that we are recycling flows on January 20, 2004, and included all of the required information. This situation is now resolved and the system is in compliance.

For more information, please contact John Johnson, manager of System A, at 555-1234 or write to 2600 Winding Rd., Townsville, SA 12345.

Please share this information with all the other people who drink this water, especially those who may not have received this notice directly (for example, people in apartments, nursing homes, schools, and businesses). You can do this by posting this notice in a public place or distributing copies by hand or mail.

This notice is being sent to you by System A.

State Water System ID# SA1234567. Sent: 6/15/04

Example 6.8. Example of a Notice in the CCR for Example 4 - Monitoring and Reporting Violation

Violation

- Our water system failed to include, by the deadline of December 8, 2003, all of the required information in our notification about recycle practices in our treatment plant to the state. We re-submitted our notification to the state on January 20, 2004, and included all of the required information. This violation was resolved and the system is in compliance.

Example 5 - TT Violation

As shown in Figure 2.1, System A is NOT recycling their recycle streams prior to or at the point of coagulation, therefore, their recycle location is an alternate location. The system applied to the state on May 12, 2004, for approval of an alternate location, but the state did not approve the alternate location. Capital improvements to re-locate the chlorine and alum addition with rapid mix to a point downstream of the recycle stream return location are required in order for the system to return recycle flows through the system's existing processes. The system is required to complete any necessary capital improvements by June 8, 2006, but was not able to complete all capital improvements until September 22, 2006.

Violation Determination:

System A failed to complete capital improvements necessary to modify the recycle location by June 8, 2006. Therefore, the system has incurred a treatment technique violation.

Return To Compliance:

System A completed all capital improvements by September 22, 2006 and returned to compliance.

Public Notification/Consumer Confidence Reports:

System A has incurred a treatment technique violation for failure to complete capital improvements to relocate the recycle return by June 8, 2006. This violation requires Tier 2 public notification. The system must provide public notification as soon as practical but no later than 30 days of learning of the violation. Notification must be provided by mail or other direct delivery method (such as hand delivery), and any other reasonable method to reach affected individuals that would not have received the information by mail or the direct delivery method used. Notice must be provided to each customer receiving a bill and other service connections to which water is delivered. For any unresolved violation following an initial Tier 2 notice, notice must generally be repeated every three months for as long as the violation persists. Unless the state specifies otherwise, repeat public notification is required in this instance since the violation was incurred on June 8, 2006, and was not resolved until September 22, 2006.

All treatment technique violations must be reported in the Consumer Confidence Report (CCR).

An example of a public notice that fulfills the public notification requirements for this violation is shown in Example 6.9. An example of a report of this violation in the CCR is shown in Example 6.10.

Example 6.9: Example Tier 2 Public Notification for Example 5 - Treatment Technique Violation

IMPORTANT INFORMATION ABOUT YOUR DRINKING WATER
System A Does Not Meet Treatment Technique Requirements

Our system failed to complete the necessary plant modifications to relocate the return location for our recycled flows by the deadline on June 8, 2006. Although this incident was not an emergency, as our customers, you have a right to know what happened and what we did to correct this situation.

What should I do?

There is nothing you need to do unless you have a severely compromised immune system, have an infant, or are elderly. These people are at increased risk and should seek advice about drinking water from their health care providers. General guidelines on ways to lessen the risk of infection by microbes are available from EPA's Safe Drinking Water Hotline at 1 (800) 426-4791. If you have specific health concerns, consult your doctor.

You do not need to boil your water or take other corrective actions. If a situation arises where the water is no longer safe to drink, you will be notified within 24 hours. We will announce any emergencies on Channel 22 or Radio Station KMMM (97.3 FM).

What does this mean?

This is not an emergency. If it had been, you would have been notified within 24 hours.

Our failure to relocate the return location for our recycle flows by the deadline of June 8, 2006, may have impacted our water. *Inadequately treated water may contain disease-causing organisms. These organisms include bacteria, viruses, and parasites which can cause symptoms such as nausea, cramps, diarrhea, and associated headaches*. However, we were not aware of any health effects on you, our customer, as a result of our failure to complete modifications by the deadline.

What is being done?

Our necessary plant modifications are still in progress and we hope to have them completed by the end of September, 2006.

For more information, please contact John Johnson, manager of System A, at 555-1234 or write to 2600 Winding Rd., Townsville, SA 12345.

Please share this information with all the other people who drink this water, especially those who may not have received this notice directly (for example, people in apartments, nursing homes, schools, and businesses). You can do this by posting this notice in a public place or distributing copies by hand or mail.

This notice is being sent to you by System A.

State Water System ID# SA1234567. Sent: 7/1/06

Note: This system must re-issue this public notification again since more than three months lapsed between the initial violation (June 8, 2006) and when the violation was resolved (September 22, 2006).

Example 6.10: Example of a Notice in the CCR for Example 5 - Treatment Technique Violation

Water Quality Data

Contaminant	MCL/MRDL/ TT	Value	Date	Violation	Source
Cryptosporidium	TT		6/8/06	Yes*	Sewage treatment plants, septic systems, agricultural livestock operations, and wildlife.

*System A incurred a treatment technique violation for failure to complete capital improvements to relocate the return location for recycled flows by the deadline of June 8, 2006. More information about this violation is provided in the violation section.

Violation

- Our system failed to complete the necessary plant modifications to relocate the return location for our recycled flows by the deadline of June 8, 2006.

  Our failure to relocate the return location for our recycle flows by the deadline on June 8, 2006, may have impacted our water. Inadequately treated water may contain disease-causing organisms. These organisms include bacteria, viruses, and parasites which can cause symptoms such as nausea, cramps, diarrhea, and associated headaches. However, we were not aware of any health effects on you, our customer, as a result of our failure to complete modifications by the deadline.

  Our construction was completed on September 22, 2006. This violation was resolved.

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