

IX.I

DIVISION OF DRINKING WATER POLICY/PROCEDURE

Title:	Surface Water Treatment Rule (SWTR) Implementation Policy - Consecutive Systems	L 02
References:		
Contact:	Lead Secretary, Division of Drinking Water	
Effective Date:	1/15/92	
Supersedes:	N/A	
Approved:		Director, Division of Drinking Water

PURPOSE STATEMENT

To identify specific SWTR treatment technique and monitoring requirements for public water system buying water from public water systems using surface water or ground water under the direct influence of surface water (GWI).

To define "first customer", identify how to determine SWTR compliance and to clarify applicable SWTR compliance deadlines for wholesalers and purchasing system.

BACKGROUND:

Status of Federal/State SWTR

The federal SWTR was promulgated in June, 1989. The SWTR requires public water systems using surface or GWI sources to achieve 99.9% removal and/or inactivation of Giardia lamblia cysts and 99.99% removal and/or inactivation of viruses. This must be accomplished by providing:

- * Disinfection:
- * Filtration, unless certain source water quality and site-specific conditions are met; and
- * Operation by qualified personnel.

The state must adopt regulations at least as stringent as the federal SWTR. Adoption of state regulations is expected sometime in Summer, 1992. Until the state SWTR is adopted, DOH will be implementing the federal rule.

Under the federal rule, monitoring requirements for unfiltered systems went into effect in January, 1991. To remain unfiltered, systems must meet the criteria to avoid filtration by January 1, 1992.

IX.I

Federal SWTR Requirements for Purchasing Systems

The federal SWTR does not address treatment technique or monitoring requirements for systems purchasing water from a system using a surface or GWI source. DOH has full discretion on how to implement this aspect of the rule.

This policy establishes requirements for Group A systems which purchase water from wholesalers using surface or GWI sources. The policy addresses treatment and monitoring requirements for systems receiving "completely treated" water and systems receiving "incompletely treated" water. The requirements established in this policy will be incorporated into the drinking water regulations as part of the SWTR revisions.

Definition/Current Status of Purchasing Systems

Throughout this policy, the term "purchasing system" is used. A purchasing system is defined as an independently owned public water system that uses water, not from a source owned by the system, but instead purchased wholesale from an entity acceptable to the Department (usually an adjacent public water system).

Purchasing systems currently fall into one of the following three categories - system buying:

1. Raw water from a wholesaler using a surface water source or ground water source under the direct influence of surface water (GWI).
2. "Completely treated" surface or GWI water (i.e., meeting all SWTR requirements including CTs).
3. "Incompletely treated" surface or GWI water.

For purposes of SWTR, "incompletely treat" water is defined as water that does not meet all SWTR requirements (water that doesn't meet CT requirements, etc.).

Current Requirements for Systems Buying "Completely Treated" Water

Purchasing systems are currently required under WAC 246-290-300 to conduct bacteriological and THM monitoring. Wholesalers are responsible for monitoring water quality parameters not expected to change from the wholesaler to the purchasing system (ICHEMs, VOCs). Also, under WAC 246-290-440, purchasing systems must maintain a 0.2 mg/L chlorine residual in the distribution system; purchasing systems that chlorinate must also monitor disinfectant residuals in their distribution systems.

POLICY FOR SYSTEMS BUYING "COMPLETELY TREATED" WATER

Applicability

This policy addresses SWTR requirements for public water systems buying **completely** treated water from a public water system subject to the SWTR.

Treatment Requirements

Purchasing systems that buy water which complies with the SWTR (including CT requirements) at or before the turnout or master meter will be required to maintain a detectable residual within the distribution system.

IX.I

Monitoring and Reporting Requirements

Under this policy, the current requirement to monitor chlorine residuals is expanded. All Group A systems buying chlorinated surface or GWI water that meets the SWTR requirements will be required to monitor chlorine residuals within the distribution system. The residual disinfectant concentration within the distribution system shall be measured at the same time and location as total coliforms are sampled (under the Coliform Rule) and no less than once per day or as approved by the Department. Heterotrophic plate counts (HPC) may be measured in lieu of disinfectant residuals in the distribution system.

Purchasing systems will be required to submit distribution system monitoring reports on a monthly basis to the appropriate regional office and to report any waterborne disease outbreaks attributed to the system.

POLICY FOR SYSTEMS BUYING RAW OR "INCOMPLETELY" TREATED SURFACE WATER

Applicability

This policy addresses SWTR requirements for public water systems buying raw or incompletely treated water from a public water system subject to the SWTR.

Overview

The SWTR shall be applied to wholesalers and purchasing systems as separate public water systems. SWTR compliance and filtration decisions for wholesalers and purchasing systems shall be based on results of individual systems respectively.

Definition of "First Customer"

"First customer" is defined by the Department as "the first service connection, i.e., the point where water is first withdrawn for human consumption." This definition is critical when determining SWTR compliance, because the 3/4 log removal/inactivation requirements for Giardia lamblia cysts and viruses must be met at or before the first customer.

For some unfiltered systems wholesaling water, the first service connection may be a purchased system's master meter. **For purposes of SWTR, the first customer for the wholesaler will not apply at the purchased system's master meter.** Instead, the first customer will be the first individual service connection in the wholesaler's system.

Likewise, first customer for the purchasing system shall be the first individual service connection following the master meter.

Treatment Technique Requirements

The wholesaler and purchasing system shall each be responsible for meeting the treatment technique and monitoring requirements of SWTR for filtered or unfiltered systems (whichever is applicable) as specified below:

- a. For systems buying from unfiltered wholesalers

A system buying water that doesn't meet the SWTR requirements shall be responsible for providing whatever additional treatment is necessary to comply with the SWTR treatment technique

IX.I

requirements. Purchasing systems buying water that doesn't meet the CT requirements and trying to remain unfiltered shall:

- * Provide additional disinfection to achieve the overall 3/4 log removal/inactivation requirements and redundant disinfection components to ensure continuous disinfection;
- * Ensure that the requirements for 0.2 mg/L residual at entry to distribution and detectable residuals within the distribution system are met;
- * Comply with the operator certification requirements;
- * Comply with the Coliform and THM rules; and
- * Ensure that no waterborne disease outbreaks occur (note: outbreaks due to cross-connections will not trigger filtration).

DOH will "apply" an unfiltered wholesaler's watershed control program towards a purchasing system trying to remain unfiltered.

b. For systems buying from wholesalers with filtration

Some unfiltered systems buy from wholesalers with filtration. In these cases, DOH shall apply the removal credit for filtration and inactivation credit disinfection achieved by the wholesaler towards the purchasing system's SWTR compliance determination.

Monitoring and reporting requirements

The wholesaler and purchasing system each shall be responsible for meeting the monitoring and reporting requirements of SWTR for filtered or unfiltered systems (whichever is applicable). However, for unfiltered systems buying water from unfiltered wholesalers, source quality monitoring and reporting (bacteriological and turbidity) shall be the responsibility of the wholesaler.

This assumes that the turbidity of the source as measured by the wholesaler is representative of the water being delivered to customers in the purchased system. If this assumption is not valid, the purchaser shall be responsible for conduction "source" turbidity monitoring.

Compliance Determinations

Compliance for the wholesaler and purchasing system shall be based on individual system monitoring results. Monitoring results shall not be combined for compliance determinations. For example, wholesaler and purchasing system shall each submit data regarding disinfectant residuals within their own distribution systems - results for the two distribution systems should not be combined on one report form.

In addition to meeting the other criteria to avoid filtration, compliance for a wholesaler trying to remain unfiltered shall be based on CTs at the wholesaler's first customer and results of residuals at entry to and within the wholesaler's distribution system. Compliance for an unfiltered purchasing system shall be based on CTs at the purchasing system's first customer and results of residuals at entry to and within the purchasing system's distribution system.

To determine compliance with the CT requirements, the purchasing system shall add the CTs achieved to the master meter by the wholesaler to the CTs achieved to their own first customer. When determining

IX.I

compliance with the criteria to remain unfiltered, DOH will apply the wholesaler's watershed control program and source quality monitoring data towards the purchasing system's requirements.

NOTE: Under this policy, a wholesaler meeting the criteria to avoid filtration may remain unfiltered, while a purchasing system using that same water may be required to instal filtration. This would occur if the purchasing system failed to meet one or more of the following:

- * CT values;
- * Residual entering the distribution system;
- * Residuals within the distribution system;
- * Redundant disinfection components;
- * Coliform Rule or THM MCL;
- * On-site inspection.

Compliance Deadlines/Filtration Decisions/Enforcement Strategy

Wholesalers, as well as systems buying water that doesn't meet the SWTR requirements, must meet the criteria to avoid filtration by January 1, 1991. Systems failing to meet the criteria by this date will be required to install filtration, unless DOH grants them additional time to meet the criteria to remain unfiltered. Depending on which criteria a system fails to meet, treatment technique violations could occur beginning January, 1992. Purchasing systems receiving filtration letters from DOH must install filtration by June 1993, or 18 months from the date of notification, whichever is later. Example letters are provided in the SWTR Enforcement Strategy.

In keeping with the intent of the federal SWTR, DOH shall use administrative orders (AO) or bilateral compliance agreements (BCA) to address unfiltered systems that want to remain unfiltered and buy incompletely treated surface water from a wholesaler allowed to remain unfiltered. In these cases, it is suggested that a "joint" BCA or AO be used (both purchasing system and wholesaler sign). Purchasing systems buying water from a wholesaler required to install filtration should also be addressed through joint BCAs or AOs.

It should be noted that each public water system is ultimately responsible for compliance with the SWTR. Thus, if the wholesaler fails to meet the SWTR compliance deadlines, DOH can take enforcement action against the purchasing system and the wholesaler (assuming the wholesaler also serves water to the public). It is recommended that each purchasing system negotiate an enforceable contract with its wholesaler to provide water that meets all SWTR/drinking water requirements (by a specific date acceptable to DOH).

