

Ohio EPA Policy	Waste Management for Water Treatment Plants	
DSW-0400.024 Removed	Statutory reference: Rule reference:	Ohio EPA, Division of Surface Water Revision 0, July 8, 1993 Removed, April 30, 2003
<p>THIS POLICY DOES NOT HAVE THE FORCE OF LAW Pursuant to Section 3745.30 of the Revised Code, this policy was reviewed and removed.</p>		

This policy does not meet the definition of policy contained in Section 3745.30 of the Ohio Revised Code. Ohio EPA is removing this document from the Division of Surface Water Policy Manual and is considering addressing this topic in a future rulemaking.

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Waste Management for Water Treatment Plants

PURPOSE

The purpose of this policy is to define requirements for management of wastestreams generated during the process of producing potable water supplies.

OBJECTIVE

The objective of this policy is to achieve consistency throughout the State of Ohio in regard to regulation of water treatment plant wastes.

APPLICABILITY

This policy applies to all public water systems, as well as any other municipal, privately owned, industrial, and commercial entities, which produce potable water for human consumption.

Requirements:

- A. Wastestream recycling will be employed to the maximum extent possible consistent with the Division of Drinking and Ground Water's Drinking Water Treatment Plant Waste Recycling Policy (attached).
- B. If wastestream recycling is not permissible pursuant to Division of Drinking and Ground Water policy, disposal shall be via one or a combination of the following:
 1. Discharge to a POTW. Discharges to a POTW must comply with all applicable federal, state, and local pretreatment standards and requirements.
 2. Direct discharge to surface waters. Direct discharges must maintain instream water quality standards, but in no case shall the NPDES permit requirements be less stringent than the limits shown in Table 1.

The frequency of wastestream monitoring shall be determined using DWPC policy number 1.20, Determination of Sampling Frequency Formula for Industrial Waste Discharges.

If the entity cannot meet the permit limits, a compliance schedule shall be included in the NPDES permit or Director's Final Findings and Orders indicating that the entity must submit detailed plans for approval to provide treatment to achieve compliance.

- C. Sludges will be managed and disposed of in accordance with applicable DWPC policies. Facilities utilizing lime and lime-soda ash softening treatment process will be required to submit a sludge management plan.

Water Treatment Process	TSS mg/l 30 day/Daily	pH (S.U.) min-max.	Susp. Iron mg/l 30 day/Daily	Susp. Manganese Chloride mg/l 30 day/daily	Trihalo- methane
Plain Purification	30/45	6.5-9.0	-	-	M
Lime-Soda Softening	30/45	6.5-11.0	-	-	M
Ion Exchange	-	6.5-9.0	-	-	M -
Iron & Manganese Removal	30/45	6.5-9.0	1.0/2.0	1.0/2.0	- -
Ion Exchange* and Iron & Manganese Removal	30/45	6.5-9.0	1.0/2.0	1.0/2.0	M -

M Monitoring requirements only. Trihalomethane monitoring requirements should be based on site specific facts such as the quality of the water source or contamination when developing a monitoring schedule. If there is a low risk of THM formation, a once per year monitoring frequency is appropriate.

W For wastewater discharges less than 0.1 MGD, the chlorine limitation should be 0.5 mg/l as a daily maximum. Water quality standards for chlorine are to be met outside the mixing zone for discharges greater than 0.1 MGD. When solids removal is provided to meet TSS limitations in Table 1, chlorine monitoring or limitations are not necessary.

I The pH is allowed to be up to 11 S.U. in the mixing zone. A pH of 6.5 to 9.0 S.U. must be achieved outside the mixing zone. If pH violations are suspected, up and down stream monitoring may be required on a site-specific basis.

* The total volume of ion exchange wastewater generated each day shall be discharged at a controlled rate for over a period of at least 24-hours.

A Plain purification surface water treatment plants which use only the Ohio River as a water source must meet the following:

1. The solids load discharged to the Ohio River must not be more than a de minimus increase in the amount of solids removed from the river.

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This shall be a narrative requirement for the applicable outfall(s). Monitoring shall be required at the intake(s) and outfall(s). No actual numeric limit will be placed in the permit. A schedule requiring a report detailing plant operating practices necessary to achieve no more than a de minimus increase in solids discharged to the river shall be written into the permit to assure compliance. The operation report shall cover the following:

- a. Location, amounts (both load and concentration), and type of all chemicals (solids or liquids) added in the potable water treatment process. Toxicity information on the polymers and/or other chemicals used in the treatment processes must be submitted to Ohio EPA for approval.
 - b. Location, source, and discharge points of all sludges or waste streams. The volume and loading of solids/sludges to be discharged to the Ohio River.
 - c. A graphical representation of the difference between the intake and discharge concentration and loads based on permit sampling requirements. Sampling is to be representative of plant operations.
2. The permittee shall submit to the district office of the Ohio EPA on a yearly basis a graphical representation of the difference between the intake and discharge concentration and loads based on permit sampling requirements. Sampling is to be representative of plant operations.
 3. Solids retained in the water plant for over 30-days may not be discharged. These solids must be handled as a sludge as part of an approved sludge management plan.
 4. Filter backwash may be returned to the head of the plant if it is allowed by the Division of Drinking and Ground Waters.
 5. Discharge to the receiving stream must not violate Part III, Section 2, of the NPDES permit, i.e., no visible plumes are allowed.
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Policy on Drinking Water Treatment Plant Waste Recycling
Ohio EPA/Division of Public Drinking Water
February 1, 1990

I. Introduction

The recycling of certain water treatment plant process water waste streams is an accepted practice under controlled conditions. However, there are situations under which such recycling can create major water quality problems in the finished drinking water produced by the plant. Operational (process balance, filter clogging from algae), aesthetic (taste, odor and appearance) and health (trihalomethane formation) based water quality problems have all been documented.

The following policy is based on the Ten States Recommended Standards for Water Works, 1987 edition, and approved practice in Ohio water treatment plants as it has been established over the years.

II. Water Treatment Plant Types

Water treatment plants can be classified as to source and treatment. The recycling permitted depends upon the quality of the waste stream, which depends upon the source and treatment. Treatment provided also affects the type of wastes which can be recycled.

Water treatment plants are classified by the Division of Public Drinking Water as follows:

A. Ground Water Source

1. iron/manganese removal
2. iron exchange softening
3. lime and lime-soda ash softening

B. Surface Water Source

1. conventional clarification
2. lime and lime-soda ash softening

III. Recycling Permissibility

A. Ground Water Source of Supply

1. Drinking water treatment: iron and/or manganese removal

Type of waste: filter backwash "red water" waste

Recycling permitted: none

Suggested wastewater treatment: NPDES permitted discharge from surface sand filters or lagoons, or discharge to an acceptable sanitary sewer.

2. Drinking water treatment: ion-exchange softening

Type of waste: brine waste

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Recycling permitted: none

Suggested wastewater treatment: equalization tank with NPDES permitted discharge, or discharge to an acceptable sanitary sewer.

3. Drinking water treatment: lime and lime-soda ash softening

Type of waste: a. filter backwash water
b. lime sludge
c. lime sludge supernatant

Required design provisions: recycling at groundwater lime/lime-soda ash softening plants can cause upset of the treatment process. Therefore design provisions must be installed for the total elimination of all recycling when such problems may occur.

Recycling permitted:

- a. Filter backwash water from a covered filter waste water holding basin may be returned to the head of the plant at a combined rate (see c below) of less than 10 percent of the instantaneous raw water flow rate entering the plant.
- b. A portion of the fresh lime sludge may be returned from a covered sludge holding basin for internal recycling of solids to enhance the clarification process. A means for the net removal of all of the sludge from the treatment system on an ongoing basis must be provided.
- c. Lime sludge supernatant from a covered sludge holding basin may be returned to the head of the plant at a combined rate (see a above) of no more than 10 percent of the instantaneous raw water flow rate entering the plant.

Recycling not permitted: neither supernatant nor sludge may be recycled from filter wastewater lagoons or sludge lagoons. Floor drain and roof drain flows may not be recycled.

Suggested wastewater treatment: lagoons, mechanical dewatering, farm land application or approved landfill disposal; NPDES permitted discharge of lagoon and dewatering supernatants.

B. Surface Water Source of Supply

Drinking water treatment: conventional clarification, lime, or lime-soda ash softening

Type of waste: a. filter backwash water
b. clarification sludge, or lime sludge
c. sludge supernatant

Required design provisions: Recycling at a surface water treatment

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plant will often upset the treatment process or cause or aggravate problems with algae control, trihalomethane formation, tastes and odors. Therefore design provisions must be installed for the total elimination of all recycling when such problems may occur.

Recycling permitted:

- a. Decant water from a filter backwash waste water holding basin may be returned to the head of the plant at less than 10 percent of the instantaneous raw water flow rate entering the plant.
- b. A portion of the fresh sludge from a covered holding basin may be returned to clarifiers for internal recycling of solids to enhance the clarification process. A means for the net removal of all of the sludge from the treatment process on an ongoing basis must be provided.

Recycling not permitted:

- c. Sludge supernatant may not be recycled; neither filter backwash waste water nor sludge supernatant may be discharged or recycled to a raw water storage reservoir or upstream from a raw water intake structure. Floor drain and roof drain flows may not be recycled.

Suggested waste treatment: lagoons, mechanical dewatering, farm land application (lime sludge only), discharge to an acceptable sanitary sewer (clarification sludge only); sanitary sewer or NPDES permitted discharge of liquid waste streams.