

DATE: July 8, 2005

TO: Office of Drinking Water Staff

THROUGH: Gerald W. Peaks, P.E., Director
Office of Drinking Water

FROM: Steve Pellei, P.E., Director
Division of Technical Services

SUBJECT: Water - Policy – Secondary Maximum Contaminant Levels (SMCLs)

RELATED: WMs 432 (Sample Collection/Analysis), 808 (LCR-Operational Control Monitoring), 859 (PN Rule Implementation), and 884 (Use of Emergency Wells)

Summary Statement:

This memo establishes policy for the treatment of waterworks with distribution system entry point levels that exceed one or more SMCLs.

Background:

This memo is an effort to formalize policy regarding exceeding SMCLs. The policy is meant to allow for Field Office flexibility and also provide for consistency in the treatment of waterworks that exceed SMCL levels. The current regulations under 12VAC5-590-390 (chemical and physical quality) for select SMCL parameters are as follows:

SMCL parameter	SMCL level	Applies to	Public Notice required for exceedance?
Iron (Fe)	0.3	C (& NTNCs)	No
Manganese (Mn)	0.05	C (& NTNCs)	No
Fluoride	2.0	C	Yes
Chloride (Cl)	250.0	C	No
Sodium (Na) ¹	none	C	No
Sulfate (SO ₄)	250.0	C	No
Zinc (Zn)	5.0	C	No
Total Dissolved Solids (TDS)	500	C	No
Odor	3 TON	C	No
Color	15 CUs	C	No

SMCL Units are mg/l unless listed otherwise. TON = threshold odor number, CUs = Color Units

The Lead and Copper Rule may place additional requirements on certain waterworks. These requirements are not addressed here.

¹ See WM 432, section 17.10.02 for additional information on Sodium.

General Policy:

ODW recommends treatment for all new and existing community waterworks that have an entry points that exceed an SMCL. However, ODW recognizes that this may impose an unnecessary economic burden on those existing waterworks whose customers do not experience the nuisance conditions associated with elevated SMCL parameters.

Therefore, ODW will require new community waterworks that exceed an SMCL to install treatment. Existing waterworks that exceed an SMCL will not be required to install treatment unless certain conditions are met. NOVs will not normally be issued for SMCL violations, unless ODW will be pursuing formal enforcement action. ODW will not initiate enforcement on existing waterworks that exceed the SMCL that do not have complaints. ODW will not generally issue design exceptions or operational variances to new community waterworks. However, in accordance with 12VAC5-590-140 (Variances) Community waterworks that provide adequate justification with a formal operational variance request shall be evaluated on a case-by-case basis.

New and existing waterworks: Treatment is defined as either removal (i.e. by RO or EDR) or blending (i.e. by mixing prior to entry point). Both means must achieve a product (finished) water that is below the SMCL.

An NTNC or TNC waterworks that changes classification to a Community waterworks will be treated as a new Community waterworks.

Point of use devices (POUs) and bottled water are not acceptable to meet SMCL requirements on a permanent basis. In some rare cases, managed POUs have been found acceptable to meet SMCL requirements on a long term basis; such as Fluoride.

Specific Policies:

Part A. Iron and Manganese:

Based on a variety of factors (such as source water chemistry and distribution piping) iron and manganese may or may not be problematic at the SMCL levels. They must be limited when they cause nuisance conditions to the extent that consumers are seeking alternate sources of water. When treatment is required sequestration may be considered at lower concentrations as an acceptable means of complying with the SMCL. The following policy has been established specifically for Iron and Manganese:

1. New Waterworks

- a. Community waterworks: All new waterworks must comply with the SMCLs by treatment, alternate sources, blending, etc., or shall alleviate the problems associated with the secondary contaminants by sequestration.

- b. NTNCs and TNCs: ODW is to educate the owner on the possible impacts of not installing treatment for elevated SMCLs and strongly encourage all new waterworks that exceed the SMCLs to install treatment. Owners who choose not to install treatment will be reminded that if complaints are received or if levels become excessive, ODW may require treatment. Operational variances are not to be issued to NTNC or TNCs.

2. Existing Waterworks

Existing community and NTNCs waterworks that exceed the SMCL will be required to comply with the SMCL, when certain conditions are met. When single complaints are received ODW should call the waterworks and request they investigate. When several complaints are received ODW will investigate in an attempt to identify the problem (distribution system or source) and discuss solutions with the owner.

ODW will require treatment for source related SMCLs if: There are numerous complaints from multiple consumers² to support ODW involvement and there is sufficient consumer support for the installation of treatment (this may include increased fees). If there are multiple complaints from multiple users, ODW will strongly encourage the owner to meet with consumers to discuss the issue, discuss alternatives, and present the possible costs involved. If the owner refuses to meet with the consumers, ODW may meet with (and/or survey) consumers in order to gauge the desire for treatment. If there are sufficient valid complaints ODW will begin to issue NOV's in preparation for formal enforcement actions that will require treatment.

3. Expansions:

An existing waterworks that expands capacity by developing a new source that is above the SMCL must provide treatment unless they can maintain entry point levels below the SMCLs by blending.

4. Source Replacements:

Waterworks without treatment can replace an existing (old) source with a new source and not provide treatment if the new source is of the same or better quality than the old source. If the new source increases capacity, follow the guidelines for expansion. The old source should not be used as a primary well but may be used as an emergency well. See WM 884 for additional information.

5. Public Notice

Exceeding the SMCLs will NOT require the waterworks to provide public notice of the exceedance. Waterworks may voluntarily provide information about Fe and Mn in CCRs, but the information should appear separately from information supplied for contaminants with PMCLs.

² This can be roughly 10% or more of the households.

Part B. Fluoride:

The fluoride standards (Primary Maximum Contaminant Level [PMCL] and SMCL) apply only to community waterworks - they specifically do not apply to non-community waterworks.³ The following recommendations by the Fluoride Compliance workgroup will be followed:

1. New Waterworks

- a. All new community waterworks must comply with the Fluoride PMCL. If treatment is installed, the target is to achieve concentrations below the SMCL but preferably at the optimal fluoride level.
- b. All new community waterworks that exceed the SMCL but are below the PMCL will not be required to achieve compliance with the SMCL, although treatment will be recommended.

2. Existing Waterworks

- a. Existing community waterworks that exceed the SMCL but are below the PMCL will not be required to achieve compliance with the SMCL.
- b. An existing community waterworks that exceeds the PMCL⁴ and that develops a new source that is above the SMCL but below the PMCL will be able to replace the old source (> PMCL) with the new source without treatment. The high-fluoride well that has been replaced should not be used as a primary well but may be used as an emergency well. See WM 884 for additional information.

3. Public Notice

Exceeding the SMCL (or the PMCL) will require the community waterworks to provide public notice of the exceedance, in accordance with the Public Notice (PN) Rule (see 12VAC5-590-540G). For the SMCL exceedance many waterworks will do this by including the required language as part of their annual CCR.

Part C. Chloride, Sulfate, Zinc, TDS, Odor and Color:

These SMCL standards apply only to community waterworks. See General Policy.

³ Note that when EPA adopted the revised fluoride standard in 1984 (affirmed by the federal courts in 1986); there were only two classes of waterworks - community and non-community. NTNC was not developed as a sub-category of non-community waterworks until later.

⁴ Existing community waterworks that exceed the PMCL must comply with the PMCL, whether by treatment, alternate sources, etc. If treatment is installed, the target is to get water below the SMCL, preferably at the optimal fluoride range.