

Annex A

TITLE 25. ENVIRONMENTAL PROTECTION

PART I. DEPARTMENT OF ENVIRONMENTAL PROTECTION

Subpart C. PROTECTION OF NATURAL RESOURCES

ARTICLE II. WATER RESOURCES

CHAPTER 109. SAFE DRINKING WATER

Subchapter A. GENERAL PROVISIONS

§ 109.1. Definitions.

The following words and terms, when used in this chapter, have the following meanings, unless the context clearly indicates otherwise:

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Consecutive water system—A public water system which obtains all of its water from another public water system and resells the water to a person, provides treatment to meet a primary MCL, **MRDL or treatment technique**, or provides drinking water to an interstate carrier. The term does not include bottled water and bulk water systems.

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Subchapter B. MCLs, MRDLs OR TREATMENT TECHNIQUE REQUIREMENTS

§ 109.202. State MCLs, MRDLs and treatment technique requirements.

(a) *Primary MCLs, MRDLs and treatment technique requirements.*

(1) A public water system shall supply drinking water that complies with the primary MCLs, **MRDLs and treatment technique requirements** adopted by the EQB under the act.

(2) This subchapter incorporates by reference the primary MCLs, **MRDLs and treatment technique requirements** in the National Primary Drinking Water Regulations[, at 40 CFR Part 141, Subparts B and G (relating to maximum contaminant levels)] 40 CFR Part 141 (relating to National Primary Drinking Water Regulations) as State MCLs, **MRDLs and treatment technique requirements** under authority of section 4 of the act (35 P. S. § 721.4), unless other MCLs, **MRDLs and treatment technique requirements** are established by regulations of the Department. The primary MCLs, **MRDLs and treatment technique requirements** which are incorporated by reference are effective on the date established by the Federal regulations.

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(c) *Treatment technique requirements for pathogenic bacteria, viruses and protozoan cysts.* A public water system shall provide adequate treatment to reliably protect users from the adverse health effects of microbiological contaminants, including pathogenic bacteria, viruses and protozoan cysts. The number and type of treatment barriers and the efficacy of treatment provided shall be commensurate with the type, degree and likelihood of contamination in the source water.

(1) A public water supplier shall provide, as a minimum, continuous filtration and disinfection for surface water and GUDI sources. The treatment technique must provide at least 99.9% removal and inactivation of *Giardia lamblia* cysts, and at least 99.99% removal and inactivation of enteric viruses. Beginning January 1, 2002, public water suppliers serving 10,000 or more people shall provide at least 99% removal of *Cryptosporidium* oocysts. Beginning January 1, 2005, public water suppliers serving fewer than 10,000 people shall provide at least 99% removal of *Cryptosporidium* oocysts. The Department, depending on source water quality conditions, may require additional treatment as necessary to meet the requirements of this chapter and to protect the public health.

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[(ii) The combined total effect of disinfection processes utilized in a filtration plant shall achieve at least a 90% inactivation of *Giardia* cysts and a 99.9% inactivation of viruses, as determined by CTs and measurement methods established by the EPA. The residual disinfectant concentration in the water delivered to the distribution system prior to the first customer may not be less than .2 mg/L for more than 4 hours, as demonstrated by measurement taken under § 109.301(1). Failure to maintain this level that extends beyond 4 hours constitutes a breakdown in treatment. A system that experiences a breakdown in treatment shall, under § 109.701(a)(3) (relating to reporting and recordkeeping), notify the Department within 1 hour after the water system learns of the violation or the situation, and shall provide public notice in accordance with § 109.408 (relating to Tier 1 public notice categories, timing and delivery of notice).]

(ii) The combined total effect of disinfection processes utilized in a filtration plant shall:

(A) Achieve at least 1.0-log inactivation of *Giardia* cysts and 3.0-log inactivation of viruses as demonstrated by measurements taken under § 109.301(1). Failure to maintain the minimum log inactivation for more than 4 hours of operation constitutes a breakdown in treatment.

(B) Provide a minimum residual disinfectant concentration of 0.20 mg/L at the entry point as demonstrated by measurements taken under § 109.301(1). Failure to maintain the minimum entry point disinfectant residual for more than 4 hours of operation is a treatment technique violation.

(iii) For an unfiltered surface water source permitted for use prior to March 25, 1989, the public water supplier shall:

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(3) A community public water system shall provide continuous disinfection and comply with Subchapter M (relating to additional requirements for groundwater sources) for groundwater sources.

(4) Public water systems shall conduct assessments in accordance with § 109.705(b) (relating to system evaluations and assessments) after meeting any of the triggers under subparagraph (i) or (ii). Failure to conduct an assessment or complete a corrective action in accordance with § 109.705(b) is a treatment technique violation requiring 1-hour reporting in accordance with § 109.701(a)(3) and public notification in accordance with § 109.409 (relating to Tier 2 public notice—categories, timing and delivery of notice).

(i) A Level 1 assessment is triggered if any of the following conditions occur:

- (A) For systems taking 40 samples or more per month under § 109.301(3), the system exceeds 5.0% total coliform-positive samples for the month.
- (B) For systems taking fewer than 40 samples per month under § 109.301(3), the system has two or more total coliform-positive samples in the same month.
- (C) The system fails to take every required check sample under § 109.301(3) after any single total coliform-positive sample.

(ii) A Level 2 assessment is triggered if any of the following conditions occur:

- (A) A system fails to meet the *E. coli* MCL as specified under subsection (a)(2).
- (B) A system triggers another Level 1 assessment, as defined in subparagraph (i), within a rolling 12-month period, unless the Department has determined a likely reason that the samples that caused the first Level 1 assessment were total coliform-positive and has established that the system has corrected the problem.

(5) Failure by a seasonal water system to complete the approved start-up procedure prior to serving water to the public as required under § 109.715 (relating to seasonal systems) is a treatment technique violation requiring 1-hour reporting in accordance with § 109.701(a)(3) and public notification in accordance with § 109.409.

(46) Community water systems using a chemical disinfectant or that deliver water that has been treated with a chemical disinfectant shall comply with the minimum disinfectant residual specified in § 109.710 (relating to disinfectant residual in the distribution system).

(57) Nontransient noncommunity water systems that have installed chemical disinfection and transient noncommunity water systems that have installed chemical disinfection in accordance with paragraph (1) or § 109.1302(b) (relating to treatment technique requirements) shall comply with the minimum disinfectant residual specified in § 109.710.

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(g) *Treatment technique requirements for disinfection byproduct precursors.* **[Community]** **Community** water systems and nontransient noncommunity water systems that use either surface water or GUDI sources and that use conventional filtration treatment shall provide adequate treatment to reliably control disinfection byproduct precursors in the source water. Enhanced coagulation and enhanced softening are deemed by the Department to be treatment techniques for the control of disinfection byproduct precursors in drinking water treatment and distribution systems. This subchapter incorporates by reference the treatment technique in 40 CFR 141.135 (relating to treatment technique for control of disinfection byproduct (DBP) precursors). Coagulants approved by the Department are deemed to be acceptable for the purpose of this treatment technique. This treatment technique is effective on the date established by the Federal regulations.

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Subchapter C. MONITORING REQUIREMENTS

§ 109.301. General monitoring requirements.

Public water suppliers shall monitor for compliance with MCLs, MRDLs and treatment technique requirements in accordance with the requirements established by the EPA under the National Primary Drinking Water Regulations, 40 CFR Part 141 **[(relating to National primary drinking water regulations)] (relating to National Primary Drinking Water Regulations)**, except as otherwise established by this chapter unless increased monitoring is required by the Department under § 109.302 (relating to special monitoring requirements). Alternative monitoring requirements may be established by the Department and may be implemented in lieu of monitoring requirements for a particular National Primary Drinking Water Regulation if the alternative monitoring requirements are in conformance with the Federal act and regulations. The monitoring requirements shall be applied as follows:

(1) *Performance monitoring for filtration and disinfection.* A public water supplier providing filtration and disinfection of surface water or GUDI sources shall conduct the **following** performance monitoring requirements **[established by the EPA under the National Primary Drinking Water Regulations]**, unless increased monitoring is required by the Department under § 109.302.

(i) Except as provided under subparagraphs (ii) and (iii) a public water supplier:

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(C) Shall continuously monitor and record the residual disinfectant concentration of the water being supplied to the distribution system and record both the lowest value for each day and the number of periods each day when the value is less than **[.2] 0.20** mg/L for more than 4 hours. If a public water system's continuous monitoring or recording equipment fails, the public water supplier may, upon notification of the Department under § 109.701(a)(3) (relating to reporting and recordkeeping), substitute grab sampling or manual recording every 4 hours in lieu of

continuous monitoring. Grab sampling or manual recording may not be substituted for continuous monitoring or recording for longer than 5 working days after the equipment fails.

(D) UNTIL (EDITOR'S NOTE: THE BLANK REFERS TO 1 YEAR AFTER THE EFFECTIVE DATE OF ADOPTION OF THIS RULEMAKING.), shall measure and record the residual disinfectant concentration at representative points in the distribution system no less frequently than the frequency required for total coliform sampling for compliance with the MCL for microbiological contaminants.}

(E) BEGINNING (EDITOR'S NOTE: THE BLANK REFERS TO 1 YEAR AFTER THE EFFECTIVE DATE OF ADOPTION OF THIS RULEMAKING.), SHALL MEASURE AND RECORD THE RESIDUAL DISINFECTANT CONCENTRATION AT REPRESENTATIVE POINTS IN THE DISTRIBUTION SYSTEM in accordance with a sample siting plan as specified in § 109.701(a)(8) and as follows:

(I) A public water supplier shall monitor the residual disinfectant concentration at the same time and from the same location that a total coliform sample is collected as specified in paragraph (3)(i) and (ii). Measurements taken under this subclause may be used to meet the requirements under subclause (II).

(II) A public water supplier shall monitor the disinfectant residual at representative locations in the distribution system at least once per week.

(III) A public water supplier that does not maintain the minimum disinfectant residual specified in § 109.710 (relating to disinfectant residual in the distribution system) at one or more sample sites shall include those sample sites in the monitoring conducted the following month.

(IV) Compliance with the minimum disinfectant residual shall be determined in accordance with § 109.710.

(ii) For a public water supplier serving 3,300 or fewer people, the Department may reduce the residual disinfectant concentration monitoring for the water being supplied to the distribution system to a minimum of 2 hours between samples at the grab sampling frequencies prescribed as follows if the historical performance and operation of the system indicate the system can meet the residual disinfectant concentration at all times:

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(iv) A public water supplier providing conventional filtration treatment or direct filtration and serving 10,000 or more people and using surface water or GUDI sources shall, beginning January 1, 2002, conduct continuous monitoring of turbidity for each individual filter using an approved method under the EPA regulation in 40 CFR 141.74(a) (relating to analytical and monitoring requirements) and record the results at least every 15 minutes. Beginning January 1, 2005, public water suppliers providing conventional or direct filtration and serving fewer than 10,000 people and using surface water or GUDI sources shall conduct continuous monitoring of

turbidity for each individual filter using an approved method under the EPA regulation in 40 CFR 141.74(a) and record the results at least every 15 minutes.

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(D) A public water supplier serving fewer than 10,000 persons has a maximum of 14 days following the failure of the equipment to repair or replace the equipment before a violation is incurred.

(v) A public water supplier shall calculate the log inactivation of *Giardia*, using measurement methods established by the EPA, at least once per day during **EXPECTED** peak hourly flow. The log inactivation for *Giardia* must also be calculated whenever the residual disinfectant concentration at the entry point falls below the minimum value specified in § 109.202(c) (relating to State MCLs, MRDLs and treatment technique requirements) and continue to be calculated every 4 hours until the residual disinfectant concentration at the entry point is at or above the minimum value specified in § 109.202(c). Records of log inactivation calculations must be reported to the Department in accordance with § 109.701(a)(2).

(vi) In addition to the requirements specified in subparagraph (v), a public water supplier that uses a disinfectant other than chlorine to achieve log inactivation shall calculate the log inactivation of viruses at least once per day during **EXPECTED** peak hourly flow. The log inactivation for viruses must also be calculated whenever the residual disinfectant concentration at the entry point falls below the minimum value specified in § 109.202(c) and continue to be calculated every 4 hours until the residual disinfectant concentration at the entry point is at or above the minimum value specified in § 109.202(c). Records of log inactivation calculations must be reported to the Department in accordance with § 109.701(a).

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(2) *Performance monitoring for unfiltered surface water and GUDI.* A public water supplier using unfiltered surface water or GUDI sources shall conduct the following source water and performance monitoring requirements on an interim basis until filtration is provided, unless increased monitoring is required by the Department under § 109.302:

(i) Except as provided under subparagraphs (ii) and (iii), a public water supplier:

(A) Shall perform **[fecal coliform] *E. coli*** or total coliform density determinations on samples of the source water immediately prior to disinfection. Regardless of source water turbidity, the minimum frequency of sampling for **[fecal or total coliform determination] total coliform or *E. coli* determinations** may be no less than the following:

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(E) **UNTIL (EDITOR'S NOTE: THE BLANK REFERS TO 1 YEAR AFTER THE EFFECTIVE DATE OF ADOPTION OF THIS RULEMAKING.)** S shall measure the residual disinfectant concentration at representative points in the distribution system ~~f~~no less frequently

than the frequency required for total coliform sampling for compliance with the MCL for microbiological contaminants.}

(F) BEGINNING (EDITOR'S NOTE: THE BLANK REFERS TO 1 YEAR AFTER THE EFFECTIVE DATE OF ADOPTION OF THIS RULEMAKING.), SHALL MEASURE AND RECORD THE RESIDUAL DISINFECTANT CONCENTRATION AT REPRESENTATIVE POINTS IN THE DISTRIBUTION SYSTEM in accordance with a sample siting plan as specified in § 109.701(a)(8) and as follows:

(I) A public water supplier shall monitor the residual disinfectant concentration at the same time and from the same location that a total coliform sample is collected as specified in paragraph (3)(i) and (ii). Measurements taken under this subclause may be used to meet the requirements under subclause (II).

(II) A public water supplier shall monitor the disinfectant residual at representative locations in the distribution system at least once per week.

(III) A public water supplier that does not maintain the minimum disinfectant residual specified in § 109.710 at one or more sample sites shall include those sample sites in the monitoring conducted the following month.

(IV) Compliance with the minimum disinfectant residual shall be determined in accordance with § 109.710.

(i) For a public water supplier serving 3,300 or fewer people, the Department may reduce the residual disinfectant concentration monitoring for the water being supplied to the distribution system to a minimum of 2 hours between samples at the grab sampling frequencies prescribed as follows if the historical performance and operation of the system indicate the system can meet the residual disinfectant concentration at all times:

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(5) *Monitoring requirements for VOCs.* Community water systems and nontransient noncommunity water systems shall monitor for compliance with the MCLs for VOCs established by the EPA under 40 CFR 141.61(a) (relating to [MCLs] maximum contaminant levels for organic contaminants). The monitoring shall be conducted according to the requirements established by the EPA under 40 CFR 141.24(f) (relating to organic chemicals, sampling and analytical requirements), incorporated herein by reference, except as modified by this chapter. Initial or first year monitoring mentioned in this paragraph refers to VOC monitoring conducted on or after January 1, 1993.

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(iii) *Repeat monitoring for entry points at which a VOC is detected.* For entry points at which a VOC is detected at a level equal to or greater than 0.0005 mg/L, then:

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(B) The Department may decrease the quarterly monitoring requirement specified in clause (A) provided it has determined that the system is reliably and consistently below the MCL. **[The Department will not make this determination unless a groundwater or GUDI system takes a minimum of 2 quarterly samples and a surface water system takes a minimum of 4 quarterly samples.] For an initial detection of a VOC, the Department will not make this determination until the water system obtains results from a minimum of four consecutive quarterly samples that are reliably and consistently below the MCL.**

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(6) *Monitoring requirements for SOCs (pesticides and PCBs).* Community water systems and nontransient noncommunity water systems shall monitor for compliance with the MCLs for SOCs established by the EPA under 40 CFR 141.61(c). The monitoring shall be conducted according to the requirements established by the EPA under 40 CFR 141.24(h), incorporated herein by reference except as modified by this chapter.

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(ii) *Repeat monitoring for SOCs that are detected.* If an SOC is detected (as defined by the EPA under 40 CFR **[Part]** 141.24(h)(18) or by the Department), then:

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(B) The Department may decrease the quarterly monitoring requirement specified in clause (A) provided it has determined that the system is reliably and consistently below the MCL. **[The Department will not make this determination unless a groundwater or GUDI system takes a minimum of 2 quarterly samples and a surface water system takes a minimum of 4 quarterly samples.] For an initial detection of a SOC, the Department will not make this determination until the water system obtains results from a minimum of four consecutive quarterly samples that are reliably and consistently below the MCL.**

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(vii) *Waivers.* A waiver will be granted to a public water supplier from conducting the initial compliance monitoring or repeat monitoring, or both, for an SOC based on documentation provided by the public water supplier and a determination by the Department that the criteria in clause (B), (C) or (D) has been met. A waiver is effective for one compliance period and may be renewed in each subsequent compliance period. If the Department has not granted a use waiver in accordance with clause (B), the public water supplier is responsible for submitting a waiver application and renewal application to the Department for review in accordance with clause (B) **[or], (C) or (D)** for specific entry points. Waiver applications will be evaluated relative to the vulnerability assessment area described in clause (A) and the criteria in clause (B) **[or], (C) or (D)**. Entry points at which treatment has been installed to remove an SOC are not eligible for a monitoring waiver for the SOCs for which treatment has been installed.

(A) *Vulnerability assessment area for SOCs [except] including dioxin and PCBs.*

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(D) ~~Waiver~~ **WAIVER** requests and renewals. Waiver requests and renewals shall be submitted to the Department, on forms provided by the Department, for review and approval prior to the end of the applicable monitoring period. Until the waiver request or renewal is approved, the public water system is responsible for conducting all required monitoring.

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[(E) Waivers for dioxin and PCBs. A system is granted a waiver from monitoring for dioxin and PCBs unless the Department determines that there is a source of dioxin or PCB contamination which poses a threat to a drinking water source.]

(viii) *Invalidation of SOC samples.*

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(7) *Monitoring requirements for IOCs.* Community water systems and nontransient noncommunity water systems shall monitor for compliance with the MCLs for IOCs established by the EPA under 40 CFR 141.62 (relating to maximum contaminant levels [(MCLs)] for inorganic contaminants). Transient noncommunity water suppliers shall monitor for compliance with the MCLs for nitrate and nitrite. The monitoring shall be conducted according to the requirements established by the EPA under 40 CFR 141.23 (relating to inorganic chemical sampling and analytical requirements). The requirements are incorporated by reference except as modified by this chapter.

(i) *Monitoring requirements for asbestos.*

[(A) Waivers for asbestos monitoring. A system is granted a waiver from asbestos monitoring unless the Department determines that the system's distribution system contains asbestos cement pipe and the system has not implemented optimum corrosion control measures, or the Department determines that the system's source water is vulnerable to asbestos contamination.]

(B) Initial monitoring schedule.] (A) Monitoring frequency. Community water systems and nontransient noncommunity water systems not granted a waiver under clause [(A)] (F) shall monitor for compliance with the MCL for asbestos by taking one sample at each vulnerable sampling point during the first 3-year compliance period of each 9-year compliance cycle, with the initial compliance monitoring beginning not later than the calendar year beginning January 1, 1995.

(B) Sampling points. A system shall monitor at the following locations:

(I) Each entry point to the distribution system.

(II) At least one representative location within the distribution system identified in a written sample site plan that includes a materials evaluation of the distribution system. The written sample site plan must be maintained on record and submitted to the Department prior to conducting initial monitoring or upon request.

(C) *Monitoring of new entry points.* New entry points which begin operation after December 31, 1995, shall conduct initial monitoring during the first compliance period of the first compliance cycle after the entry point begins serving the public, if the Department determines that a waiver cannot be granted in accordance with clause [(A)] (F).

(D) *Repeat monitoring for systems that exceed the asbestos MCL.* If a sample exceeds the MCL for asbestos, the monitoring at that sampling point shall be continued quarterly beginning in the quarter following the MCL [violation] exceedance. After [4] four consecutive quarterly samples with results reliably and consistently below the MCL at that entry point, the required monitoring is reduced to one sample at that entry point during the first 3-year compliance period of each subsequent 9-year compliance cycle, if treatment has not been installed to remove asbestos from the source water. Compliance monitoring at entry points at which treatment has been installed to remove asbestos from source water shall be conducted at least annually, and performance monitoring shall be conducted quarterly.

(E) *Confirmation samples.* For asbestos sample results in excess of the MCL during annual or less frequent compliance monitoring, the water supplier shall take a confirmation sample within 2 weeks of notification by the accredited laboratory performing the analysis. The average of the results of the original and the confirmation sample will be used to determine compliance. Monitoring shall be completed by the deadline specified for asbestos compliance monitoring.

(F) *Waivers for asbestos monitoring.* A waiver will be granted to a public water supplier from conducting compliance monitoring for asbestos based on documentation provided by the public water supplier and a determination by the Department that the criteria in this clause have been met. A waiver is effective for one compliance period and may be renewed in each subsequent compliance period. Entry points at which treatment has been installed to remove asbestos are not eligible for a monitoring waiver.

(I) A waiver for entry point compliance monitoring may be granted if the sources supplying the entry point are not vulnerable to asbestos contamination.

(II) A waiver for distribution system monitoring may be granted if the distribution system does not contain asbestos cement pipe as indicated in the materials evaluation or if the water system has optimized corrosion control as specified in Subchapter K (relating to lead and copper).

(III) Waiver requests and renewals shall be submitted to the Department, on forms provided by the Department, for review and approval prior to the end of the applicable monitoring period. Until the waiver request or renewal is approved, the public water system is responsible for conducting all required monitoring.

(ii) *Monitoring requirements for nitrate and nitrite.*

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(iii) *Monitoring requirements for antimony, arsenic, barium, beryllium, cadmium, cyanide, chromium, fluoride, mercury, nickel, selenium and thallium.*

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(C) *Repeat monitoring for entry points at which an IOC MCL is exceeded.*

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(II) After analyses of [4] four consecutive quarterly samples [at an entry point where treatment has not been installed to comply with an IOC MCL] indicate that contaminant levels are reliably and consistently below the MCLs, the required monitoring at an entry point where treatment has not been installed to comply with an IOC MCL for each IOC that is reliably and consistently below the MCL is reduced to the frequencies stated in clause (A). This reduced monitoring option does not apply to entry points at which treatment has been installed for IOC removal. Compliance monitoring for IOCs for which treatment has been installed to comply with an MCL shall be conducted at least annually, and performance monitoring shall be conducted quarterly.

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(12) *Monitoring requirements for disinfection byproducts and disinfection byproduct precursors.* Community water systems and nontransient noncommunity water systems that use a chemical disinfectant or oxidant shall monitor for disinfection byproducts and disinfection byproduct precursors in accordance with this paragraph. Community water systems and nontransient noncommunity water systems that obtain finished water from another public water system that uses a chemical disinfectant or oxidant to treat the finished water shall monitor for TTHM and HAA5 in accordance with this paragraph. Systems that use either surface water or GUDI sources and that serve at least 10,000 persons shall begin monitoring by January 1, 2002. Systems that use either surface water or GUDI sources and that serve fewer than 10,000 persons, or systems that use groundwater sources, shall begin monitoring by January 1, 2004. Systems monitoring for disinfection byproducts and disinfection byproduct precursors shall take all samples during normal operating conditions. Systems monitoring for disinfection byproducts and disinfection byproduct precursors shall use only data collected under this chapter to qualify for reduced monitoring. Compliance with the MCLs and monitoring requirements for TTHM, HAA5, chlorite (where applicable) and bromate (where applicable) shall be determined in accordance with 40 CFR 141.132 and 141.133 (relating to monitoring requirements; and compliance requirements) which are incorporated herein by reference.

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(iv) *Bromate*. Community water systems and nontransient noncommunity water systems that use ozone for disinfection or oxidation shall monitor for bromate.

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(B) *Reduced monitoring*.

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(II) Beginning April 1, 2009, a system required to analyze for bromate may reduce monitoring from monthly to quarterly, if the system's running annual average bromate concentration computed quarterly is less than or equal to 0.0025 mg/L based on monthly measurements as prescribed in clause (A) **analyzed using methods specified in 40 CFR 141.132(b)(3)(ii)(B)** for the most recent 4 quarters. Systems qualifying for reduced bromate monitoring under subclause (I) may remain on reduced monitoring as long as the running annual average of quarterly bromate samples **analyzed using methods specified in 40 CFR 141.132(b)(3)(ii)(B)** is less than or equal to 0.0025 mg/L. If the running annual average bromate concentration is greater than 0.0025 mg/L, the system shall resume routine monitoring as prescribed under clause (A).

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(13) *Monitoring requirements for disinfectant residuals*. Community water systems and nontransient noncommunity water systems that use either chlorine[,] or chloramines or **[chlorine dioxide] that obtain finished water from another public water system that uses either chlorine or chloramines, and transient noncommunity water systems that install chemical disinfection treatment in accordance with § 109.1302(b) (relating to treatment technique requirements)** shall monitor for disinfectant residuals in accordance with this paragraph. Community water systems **[and], nontransient noncommunity water systems [that obtain finished water from another public water system that uses either chlorine or] and transient noncommunity water systems that use chlorine dioxide to treat the finished water shall monitor for chlorine [residual] dioxide in accordance with this paragraph. [Community water systems and nontransient noncommunity water systems that obtain finished water from another public water system that uses chloramines to treat the finished water shall monitor for chloramine residual in accordance with this paragraph. Transient noncommunity water systems that use chlorine dioxide as either a disinfectant or oxidant shall monitor for chlorine dioxide residual in accordance with this paragraph. Systems that use either surface water or GUDI sources and that serve at least 10,000 persons shall begin monitoring by January 1, 2002. Systems that use either surface water or GUDI sources and that serve fewer than 10,000 persons, or systems that use groundwater sources, shall begin monitoring by January 1, 2004.]** Systems monitoring for disinfectant residuals shall take all samples during normal operating conditions. Compliance with the MRDLs and monitoring requirements for chlorine, chloramines and chlorine dioxide (where applicable) shall be determined in accordance with 40 CFR 141.132 and 141.133 **[(relating to monitoring requirements; and compliance requirements)]** which are incorporated herein by reference.

Compliance with the minimum disinfectant residual shall be determined in accordance with § 109.710.

(i) Chlorine and chloramines.

(A) UNTIL (EDITOR'S NOTE: THE BLANK REFERS TO 1 YEAR AFTER THE EFFECTIVE DATE OF ADOPTION OF THIS RULEMAKING.), systems shall measure the residual disinfectant level ~~at the same points in the distribution system and at the same time that total coliforms are sampled, as specified in paragraph (3). Systems that used either surface water or GUDI sources may use the results of residual disinfectant concentration sampling conducted under paragraph (1) or (2) in lieu of taking separate samples.~~

(B) BEGINNING (EDITOR'S NOTE: THE BLANK REFERS TO 1 YEAR AFTER THE EFFECTIVE DATE OF ADOPTION OF THIS RULEMAKING.), SYSTEMS SHALL MEASURE THE RESIDUAL DISINFECTANT LEVEL in accordance with a sample siting plan as specified in § 109.701(a)(8) and as follows:

~~(A)~~ Public water systems shall monitor the residual disinfectant concentration at the same time and from the same location that a total coliform sample is collected as specified in paragraph (3)(i) and (ii). Systems that use either surface water or GUDI sources may use the results of residual disinfectant concentration sampling conducted under paragraph (1) or (2) instead of taking separate samples. Measurements taken under this clause may be used to meet the requirements under clause (B).

~~(B)~~ Public water systems shall monitor the disinfectant residual at representative locations in the distribution system at least once per week.

~~(C)~~ A public water system that does not maintain the minimum disinfectant residual specified in § 109.710 at one or more sample sites shall include those sample sites in the monitoring conducted the following month.

(ii) Chlorine dioxide.

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§ 109.303. Sampling requirements.

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(e) Compliance monitoring samples for the contaminants listed under 40 CFR ~~[141.40(n)]~~ 141.40(a), 141.61(a) and (c), 141.62 and 141.88 may be composited in accordance with 40 CFR 141.23(a)(4), 141.24(f)(14)[, (g)(7)] and (h)(10) and 141.88(a)(1)(iv) (relating to inorganic chemical sampling and analytical requirements; organic chemicals [other than total trihalomethanes], sampling and analytical requirements; and monitoring requirements for lead and copper in source water) except:

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Subchapter D. PUBLIC NOTIFICATION

§ 109.408. Tier 1 public notice—categories, timing and delivery of notice.

(a) *General violation categories and other situations requiring a Tier 1 public notice.* A public water supplier shall provide Tier 1 public notice for the following circumstances:

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(2) Violation of the MCL for nitrate, nitrite or total nitrate and nitrite, as defined in § 109.202(a)(2), or when the water supplier fails to take a confirmation sample within 24 hours of the system's receipt of the first sample showing an exceedance of the nitrate or nitrite MCL, as specified in [~~§ 109.301(7)(ii)(C)(V)~~] ~~§ 109.301(7)(ii)(C)(IV)-(V).~~

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(6) Violation of a treatment technique requirement for pathogenic bacteria, viruses and protozoan cysts as defined in § 109.202(c), resulting from [a]:

(i) A single exceedance of the maximum allowable turbidity limit.

(ii) A failure to meet the minimum log inactivation for more than 4 hours.

(iii) A failure to maintain the minimum entry point disinfectant residual for more than 4 hours and **EITHER OF THE FOLLOWING: a failure to calculate the log inactivation in accordance with § 109.301(1)(v) and (vi).**

(A) A FAILURE TO CALCULATE THE LOG INACTIVATION IN ACCORDANCE WITH § 109.301(1)(V) AND (VI).

(B) A FAILURE TO MEET THE MINIMUM LOG INACTIVATION FOR MORE THAN 4 HOURS.

(7) Violation of a treatment technique requirement for *Cryptosporidium* as defined in § 109.1203 (relating to bin classification and treatment technique requirements), resulting from a failure to provide the level of treatment appropriate for the systems bin classification.

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Subchapter G. SYSTEM MANAGEMENT RESPONSIBILITIES

§ 109.701. Reporting and recordkeeping.

Commented [A4]: We should not have deleted (V), we should have simply added (IV). IV is check samples for all PWSs; V is check samples for NCWS with an ANL. I think we need both.

Commented [A5]: In response to a public comment

(a) *Reporting requirements for public water systems.* Public water systems shall comply with the following requirements:

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(2) *Monthly reporting requirements for performance monitoring.* **In addition to the reporting requirements specified in paragraph (1), public water systems shall report performance monitoring data as follows:**

(i) The test results of performance monitoring required under § 109.301(1) (relating to general monitoring requirements) for public water suppliers providing filtration and disinfection of surface water or GUDI sources must include the following at a minimum:

* * * * *

(B) For performance monitoring of the residual disinfectant concentration of the water being supplied to the distribution system:

(I) The date, time and lowest value each day the residual disinfectant concentration remains equal to or greater than the required minimum.

(II) The initial date, time and value for each occurrence that the residual disinfectant concentration is less than the required minimum, and the subsequent date, time and value that the residual disinfectant concentration is equal to or greater than the required minimum.

(III) The date the entry point is not in operation.

[(C) For performance monitoring of the residual disinfectant concentration at representative points in the distribution system report the following:

(I) The number of monthly routine samples required.

(II) The number of monthly routine samples collected and analyzed.

(III) The number of samples in which the residual disinfectant concentration was less than 0.02 mg/L.

(IV) For samples in which the residual disinfectant concentration was less than 0.02 mg/L: the date, time and value of each sample.]

(C) For performance monitoring of the log inactivation for Giardia, public water systems shall report as follows:

(I) The date, time and lowest log inactivation value for each day the value remains equal to or greater than the required minimum.

(II) The initial date, time and value for each occurrence that the log inactivation is less than the required minimum, and the subsequent date, time and value that the log inactivation is equal to or greater than the required minimum.

(III) The date the entry point is not in operation.

(D) For performance monitoring of the log inactivation for viruses, public water systems using a disinfectant other than chlorine to achieve log inactivation of viruses shall report as follows:

(I) The date, time and lowest log inactivation value for each day the value remains equal to or greater than the required minimum.

(II) The initial date, time and value for each occurrence that the log inactivation is less than the required minimum, and the subsequent date, time and value that the log inactivation is equal to or greater than the required minimum.

(III) The date the entry point is not in operation.

(ii) The test results of performance monitoring required under § 109.301(2) for public water suppliers using unfiltered surface water or GUDI sources shall include the following, at a minimum:

* * * * *

(B) For performance monitoring of the residual disinfectant concentration of the water being supplied to the distribution system:

(I) The date, time and lowest value each day the concentration is less than the residual disinfectant concentration required under § 109.202(c)(1)(iii) (relating to State MCLs, MRDLs and treatment technique requirements).

(II) If the concentration does not fall below that required under § 109.202(c)(1)(iii) during the month, report the date, time and lowest value measured that month.

[(C) For performance monitoring of the residual disinfectant concentration at representative points in the distribution system, report the following:

(I) The number of monthly routine samples required.

(II) The number of monthly routine samples collected and analyzed.

(III) The number of samples in which the residual disinfectant concentration was less than 0.02 mg/L.

(IV) For samples in which the residual disinfectant concentration was less than 0.02 mg/L: the date, time and value of each sample.

(D)] (C) For performance monitoring of the **[fecal coliform] *E. coli*** or total coliform density determinations on samples of the source water immediately prior to disinfection: the date, time and value of each sample.

(iii) The test results from performance monitoring required under § 109.301(8)(v) of the residual disinfectant concentration of the water in the distribution system shall include the date, time and value of each sample.

[(iv) The test results of heterotrophic plate count measurements taken under § 109.710(b) (relating to disinfectant residual in the distribution system) shall include the date, time and value of each sample.]

(3) *One-hour reporting requirements.* A public water supplier shall report the circumstances to the Department within 1 hour of discovery for the following violations or situations:

* * * * *

(7) *Form.* Reports required by this chapter shall be submitted in a manner or form acceptable to the Department.

[(8) *Reporting requirements for disinfectant residuals.* In addition to the reporting requirements specified in paragraph (1), public water systems shall report MRDL monitoring data as follows:

(i) Systems monitoring for chlorine dioxide under § 109.301(13) shall report the number of days chlorine dioxide was used at each entry point during the last month.

(ii) Systems monitoring for either chlorine or chloramines under § 109.301(13) shall report the following:

(A) The number of samples taken during the month.

(B) The arithmetic average of all distribution samples taken in the last month.]

(8) *Reporting requirements for disinfectant residuals.* In addition to the reporting requirements specified in paragraph (1), public water systems monitoring for disinfectant residuals under § 109.301 shall submit to the Department a written sample siting plan by ____ (*Editor's Note: The blank refers to 6 months after the effective date of adoption of this proposed FINAL rulemaking.*). A public water system that begins operation after ____ (*Editor's Note: The blank refers to the effective date of adoption of this proposed FINAL rulemaking.*), shall submit the sample siting plan prior to serving water to the public. At a minimum, the sample siting plan must include the following:

(i) A list of representative sample site locations in the distribution system to be used for disinfectant residual monitoring. Representative locations include, but are not limited to, the following:

- (A) Dead ends.
- (B) First service connection.
- (C) Finished water storage facilities.
- (D) Interconnections with other public water systems.
- (E) Areas of high water age.
- (F) Areas with previous coliform detections.

(ii) Whether the sample site location is also used as a coliform, disinfection byproducts, or lead and copper sampling location.

(iii) A water supplier shall revise and resubmit its sample siting plan within 30 days of notification by the Department that a sample siting plan fails to meet the criteria in subparagraphs (i) and (ii).

(iv) The water supplier shall notify the Department of subsequent revisions to a sample siting plan as they occur. Revisions to a sample siting plan shall be submitted in written form to the Department within 30 days of notifying the Department of the revisions.

(9) *Level 1 and Level 2 assessments.* A public water supplier shall:

- (i) Submit an assessment form completed in accordance with § 109.705(b) (relating to system evaluations and assessments) to the Department within 30 days after the system learns that it has exceeded a trigger under § 109.202(c)(4).
- (ii) Submit a revised assessment form in accordance with § 109.705(b) within 30 days of notification from the Department that revisions are necessary.

* * * * *

§ 109.710. Disinfectant residual in the distribution system.

(a) UNTIL *(EDITOR'S NOTE: THE BLANK REFERS TO 1 YEAR AFTER THE EFFECTIVE DATE OF ADOPTION OF THIS RULEMAKING.)*. ~~A community water system using a chemical disinfectant or that delivers water that has been treated with a chemical disinfectant shall maintain a minimum~~ disinfectant residual [acceptable to the Department shall be maintained] throughout the distribution system [of the community water system] sufficient to assure compliance with the microbiological MCLs and the treatment technique requirements specified in § 109.202 (relating to State MCLs, MRDLs and treatment

technique requirements). ~~¶~~The Department will determine the acceptable residual of the disinfectant considering factors such as type and form of disinfectant, temperature and pH of the water, and other characteristics of the water system. ~~¶ The minimum disinfectant residual is 0.2 mg/L measured as free chlorine for systems using chlorine, 0.2 mg/L measured as total chlorine for systems using chloramines or another level approved by the Department for systems using an alternate oxidizing disinfection treatment.~~

~~¶~~(b) UNTIL ~~(EDITOR'S NOTE: THE BLANK REFERS TO 1 YEAR AFTER THE EFFECTIVE DATE OF ADOPTION OF THIS RULEMAKING.)~~, ~~A~~a public water system that uses surface water or GUDI sources or obtains finished water from another permitted public water system using surface water or GUDI sources shall comply with the following requirements:

(1) As a minimum, a detectable residual disinfectant concentration of 0.02 mg/L measured as total chlorine, combined chlorine or chlorine dioxide shall be maintained throughout the distribution system as demonstrated by monitoring conducted under § 109.301(1) and (2) or (8)(v) (relating to general monitoring requirements).

(2) Sampling points with nondetectable disinfectant residuals which have heterotrophic plate count (HPC) measurements of less than 500/ml are deemed to be in compliance with paragraph (1).

(3) When the requirements of paragraph (1) or (2) cannot be achieved, the supplier shall initiate an investigation under the Department's direction to determine the cause, potential health risks and appropriate remedial measures. ~~¶~~

(c) BEGINNING ~~(EDITOR'S NOTE: THE BLANK REFERS TO 1 YEAR AFTER THE EFFECTIVE DATE OF ADOPTION OF THIS RULEMAKING.)~~, A COMMUNITY WATER SYSTEM USING A CHEMICAL DISINFECTANT OR THAT DELIVERS WATER THAT HAS BEEN TREATED WITH A CHEMICAL DISINFECTANT SHALL MAINTAIN A MINIMUM DISINFECTANT RESIDUAL THROUGHOUT THE DISTRIBUTION SYSTEM SUFFICIENT TO ASSURE COMPLIANCE WITH THE MICROBIOLOGICAL MCLS AND THE TREATMENT TECHNIQUE REQUIREMENTS SPECIFIED IN § 109.202 (RELATING TO STATE MCLS, MRDLS AND TREATMENT TECHNIQUE REQUIREMENTS). THE MINIMUM DISINFECTANT RESIDUAL IS 0.2 MG/L MEASURED AS FREE CHLORINE FOR SYSTEMS USING CHLORINE, 0.2 MG/L MEASURED AS TOTAL CHORINE FOR SYSTEMS USING CHLORAMINES OR ANOTHER LEVEL APPROVED BY THE DEPARTMENT FOR SYSTEMS USING AN ALTERNATE OXIDIZING DISINFECTION TREATMENT.

~~(b)~~d BEGINNING ~~(EDITOR'S NOTE: THE BLANK REFERS TO 1 YEAR AFTER THE EFFECTIVE DATE OF ADOPTION OF THIS RULEMAKING.)~~, ~~A~~a nontransient noncommunity water system that has installed chemical disinfection or a transient noncommunity water system that has installed chemical disinfection in accordance with § 109.202(c)(1) or § 109.1302(b) (relating to treatment technique requirements) shall

maintain a minimum disinfectant residual throughout the distribution system sufficient to assure compliance with the microbiological MCLs and the treatment technique requirements specified in § 109.202. The minimum disinfectant residual is 0.2 mg/L measured as free chlorine for systems using chlorine, 0.2 mg/L measured as total chlorine for systems using chloramines or another level approved by the Department for systems using an alternate oxidizing disinfection treatment.

(ee) **BEGINNING** **(EDITOR'S NOTE: THE BLANK REFERS TO 1 YEAR AFTER THE EFFECTIVE DATE OF ADOPTION OF THIS RULEMAKING.)** Compliance with the disinfectant residual treatment technique will be based on samples collected as specified in the system distribution sample siting plan submitted to the Department under § 109.701(a)(8) (relating to reporting and recordkeeping). Compliance will be determined as follows:

(1) For a public water system that serves 33,000 or fewer persons, if no more than 1 sample collected per month is less than the minimum level specified in subsection (a) or (b) for 2 consecutive months, the system is in compliance with the treatment technique.

(2) For a public water system that serves more than 33,000 persons, if no more than 5% of the samples collected per month are less than the minimum level specified in subsection (a) or (b) for 2 consecutive months, the system is in compliance with the treatment technique.

(3) A public water system that experiences a treatment technique violation shall notify the Department within 1 hour of discovery of the violation in accordance with § 109.701(a)(3) and issue a Tier 2 public notice in accordance with § 109.409 (relating to Tier 2 public notice—categories, timing and delivery of notice).

(4) In addition to the requirements in paragraphs (1)—(3), a public water system that fails to meet the minimum level specified in subsection (a) or (b) at any sample location for 2 consecutive months or more shall conduct an investigation to determine the cause and appropriate corrective actions and shall submit a written report to the Department within 60 days.

[(c)] ~~(d)~~ ~~(f)~~ Public water systems may increase residual chlorine or chloramine, but not chlorine dioxide, disinfectant levels in the distribution system to a level that exceeds the MRDL for that disinfectant and for a time necessary to protect public health or to address specific microbiological contamination problems caused by circumstances such as, but not limited to, distribution line breaks, storm runoff events, source water contamination events or cross-connection events.

(Editor's Note: The following section is new and printed in regular type to enhance readability.)

§ ~~109.715~~ **109.716**. Nitrification control plan.

Commented [A6]: RTRC Seasonal Systems is now 109.715

(a) A public water system that uses chloramines or purchases water that contains chloramines shall develop **BY _____** ***(EDITOR'S NOTE: THE BLANK REFERS TO 6 MONTHS AFTER THE EFFECTIVE DATE OF ADOPTION OF THIS RULEMAKING.)*** a nitrification control plan. The plan must conform to the guidelines in industry standards such as the American Water Works Association's M56 Manual on Nitrification and contain at least the following information:

(1) A system-specific monitoring plan that includes, at a minimum:

(i) The list of parameters that will be monitored such as pH, free ammonia, total chlorine, monochloramine, HPC, nitrite and nitrate.

(ii) The monitoring locations.

(iii) The monitoring schedule.

(2) A response plan with expected water quality ranges and action levels.

(b) The public water system shall implement the nitrification control plan in accordance with accepted practices of the water supply industry.

(c) The public water system shall review and update the plan as necessary.

(d) The plan shall be retained onsite and shall be made available to the Department upon request.

Subchapter J. BOTTLED WATER AND VENDED WATER SYSTEMS, RETAIL WATER FACILITIES AND BULK WATER HAULING SYSTEMS

§ 109.1002. MCLs, MRDLs or treatment techniques.

(a) Bottled water and vended water systems, retail water facilities and bulk water hauling systems shall supply drinking water that complies with the MCLs, MRDLs and treatment technique requirements under §§ 109.202 and 109.203 (relating to State MCLs, MRDLs and treatment technique requirements; and unregulated contaminants). **Bottled water systems, vended water systems, retail water facilities and bulk water hauling systems using surface water or GUDI sources shall comply with the requirements in § 109.204 (relating to disinfection profiling and benchmarking).** Bottled water systems, vended water systems, retail water facilities and bulk water hauling systems shall provide continuous disinfection for groundwater sources. Water for bottling labeled as mineral water[,] under § 109.1007 (relating to labeling requirements for bottled water systems, vended water systems and retail water facilities) shall comply with the MCLs except that mineral water may exceed the MCL for total dissolved solids.

* * * * *

(c) Bottled water and vended water systems, retail water facilities and bulk water hauling systems shall comply with the treatment technique requirements under Subchapter L [(relating to bin classification and treatment technique rule)] (relating to long-term 2 enhanced surface water treatment rule).

* * * * *

§ 109.1003. Monitoring requirements.

(a) *General monitoring requirements.* Bottled water and vended water systems, retail water facilities and bulk water hauling systems shall monitor for compliance with the MCLs [and MRDLs in accordance with § 109.301 (relating to general monitoring requirements) and shall comply with § 109.302 (relating to special monitoring requirements)]. The monitoring requirements shall be applied, MRDLs and treatment techniques as follows, except that systems which have installed treatment to comply with a primary MCL shall conduct quarterly operational monitoring for the contaminant which the [facility] treatment is designed to remove:

(1) Bottled water systems, retail water facilities and bulk water hauling systems, for each entry point shall:

* * * * *

(ix) *TTHM and HAA5 Stage 2 DBP Rule.* Beginning October 1, 2013, monitor annually for TTHM and HAA5 if the system uses a chemical disinfectant or oxidant to treat the water, or obtains finished water from another public water system that uses a chemical disinfectant or oxidant to treat the water as follows:

(A) *Routine monitoring.* Systems shall take at least one dual sample set per year per entry point during the **peak historical** month [of warmest water temperature].

(B) *Increased monitoring.* If any sample results exceed either a TTHM or HAA5 MCL, the system shall take at least one dual sample set per quarter (**every 90 days**) per entry point. The system shall return to the sampling frequency of one dual sample set per year per entry point if, after at least 1 year of monitoring, each TTHM sample result is no greater than 0.060 mg/L and each HAA5 sample result is no greater than 0.045 mg/L.

(C) COMPLIANCE DETERMINATIONS. COMPLIANCE WITH THE TTHM AND HAA5 MCLS IS BASED ON THE LRAA.

(I) A SYSTEM REQUIRED TO MONITOR QUARTERLY SHALL CALCULATE LRAAS FOR TTHM AND HAA5 USING MONITORING RESULTS COLLECTED UNDER THIS SUBPARAGRAPH AND DETERMINE THAT EACH LRAA DOES NOT EXCEED THE MCL. A SYSTEM THAT FAILS TO COMPLETE FOUR CONSECUTIVE QUARTERS OF MONITORING, SHALL CALCULATE COMPLIANCE WITH THE MCL BASED ON THE AVERAGE OF THE AVAILABLE

DATA FROM THE MOST RECENT 4 QUARTERS. A SYSTEM THAT TAKES MORE THAN ONE SAMPLE PER QUARTER AT A MONITORING LOCATION SHALL AVERAGE ALL SAMPLES TAKEN IN THE QUARTER AT THAT LOCATION TO DETERMINE A QUARTERLY AVERAGE TO BE USED IN THE LRAA CALCULATION.

(II) A SYSTEM REQUIRED TO MONITOR YEARLY OR LESS FREQUENTLY SHALL DETERMINE THAT EACH SAMPLE RESULT IS LESS THAN THE MCL. IF ANY SINGLE SAMPLE RESULT EXCEEDS THE MCL, THE SYSTEM SHALL COMPLY WITH THE REQUIREMENTS OF CLAUSE (B). IF NO SAMPLE RESULT EXCEEDS THE MCL, THE SAMPLE RESULT FOR EACH MONITORING LOCATION IS CONSIDERED THE LRAA FOR THAT MONITORING LOCATION.

(III) A SYSTEM REQUIRED TO CONDUCT QUARTERLY MONITORING, SHALL MAKE COMPLIANCE CALCULATIONS AT THE END OF THE 4TH CALENDAR QUARTER THAT FOLLOWS THE COMPLIANCE DATE (OR EARLIER IF THE LRAA CALCULATED BASED ON FEWER THAN 4 QUARTERS OF DATA WOULD CAUSE THE MCL TO BE EXCEEDED REGARDLESS OF THE MONITORING RESULTS OF SUBSEQUENT QUARTERS) AND AT THE END OF EACH SUBSEQUENT CALENDAR QUARTER. A SYSTEM REQUIRED TO CONDUCT MONITORING AT A FREQUENCY THAT IS LESS THAN QUARTERLY SHALL MAKE COMPLIANCE CALCULATIONS BEGINNING WITH THE FIRST COMPLIANCE SAMPLE TAKEN AFTER THE COMPLIANCE DATE.

(IV) A SYSTEM IS IN VIOLATION OF THE MCL WHEN THE LRAA AT ANY LOCATION EXCEEDS THE MCL FOR TTHM OR HAA5, CALCULATED AS SPECIFIED IN SUBCLAUSE (I), OR THE LRAA CALCULATED BASED ON FEWER THAN 4 QUARTERS OF DATA IF THE MCL WOULD BE EXCEEDED REGARDLESS OF THE MONITORING RESULTS OF SUBSEQUENT QUARTERS. A SYSTEM IS IN VIOLATION OF THE MONITORING REQUIREMENTS FOR EACH QUARTER THAT A MONITORING RESULT WOULD BE USED IN CALCULATING AN LRAA IF IT FAILS TO MONITOR.

Commented [A7]: Added in response to EPA comment

(x) Beginning January 1, 2004, monitor daily for chlorite if the system uses chlorine dioxide for disinfection or oxidation. Systems shall take at least one daily sample at the entry point. If a daily sample exceeds the chlorite MCL, the system shall take three additional samples within 24 hours from the same lot, batch, machine, carrier vehicle or point of delivery. The chlorite MCL is based on the average of the required daily sample plus any additional samples.

(xi) Beginning ____ (*Editor's Note: The blank refers to the effective date of adoption of this proposed FINAL rulemaking.*), a system using chlorine dioxide shall take one sample per day at each entry point. ~~If any daily sample exceeds the MRDL, the system shall collect chlorine dioxide check samples as follows:~~ A VIOLATION OF THE CHLORINE DIOXIDE MRDL OCCURS WHEN ANY ENTRY POINT SAMPLE RESULT EXCEEDS THE CHLORINE DIOXIDE MRDL.

~~(A) A bottled water system shall take at least one sample from the same lot or batch and a bulk water hauler shall take at least one sample from the same tanker load.~~

~~(B) A vend or retail water system shall take at least one sample as soon as possible but within 24 hours.~~

~~(C) A violation of the chlorine dioxide MCL occurs when any check sample result exceeds the chlorine dioxide MCL following a routine sample result that exceeds the MCL.~~

[(xi)] (xii) Beginning January 1, 2004, monitor monthly for bromate if the system uses ozone for disinfection or oxidation.

(A) *Routine monitoring.* Systems shall take one sample per month for each entry point that uses ozone while the ozonation system is operating under normal conditions.

(B) *Reduced monitoring.*

(I) Until March 31, 2009, systems shall reduce monitoring for bromate from monthly to quarterly if the average source water bromide concentration is less than 0.05 mg/L based upon representative monthly bromide measurements for 1 year. Systems on reduced monitoring shall continue monthly source water bromide monitoring. If the running annual average source water bromide concentration, computed quarterly, is equal to or exceeds 0.05 mg/L, the system shall revert to routine monitoring as prescribed by clause (A).

(II) Beginning April 1, 2009, a system required to analyze for bromate may reduce monitoring from monthly to quarterly, if each sample result **ANALYZED USING METHODS SPECIFIED IN 40 CFR 141.132(b)(3)(ii)(B)** is less than or equal to 0.0025 mg/L based on monthly measurements as prescribed in clause (A) for the most recent 12 months. Systems qualifying for reduced bromate monitoring under subclause (I) may remain on reduced monitoring as long as each sample result **ANALYZED USING METHODS SPECIFIED IN 40 CFR 141.132(b)(3)(ii)(B)** from the previous 12 months is less than or equal to 0.0025 mg/L. If any sample result exceeds 0.0025 mg/L, the system shall resume routine monitoring as prescribed under clause (A).

(xiii) Beginning ____ (*Editor's Note: The blank refers to the effective date of adoption of this proposed FINAL rulemaking.*), a system that provides filtration of surface water or GUDI sources shall comply with the following:

(A) Maintain a residual at the entry point as specified in § 109.202(c)(1)(ii) (relating to State MCLs, MRDLs and treatment technique requirements).

(B) Monitor disinfectant residual at the entry point in accordance with § 109.301(1)(i)(C).

(C) Report the results in accordance with § 109.701(a)(2) (relating to reporting and recordkeeping).

(xiv) Beginning ____ (*Editor's Note: The blank refers to the effective date of adoption of this proposed FINAL rulemaking.*), a system that uses or obtains finished water from

Commented [A8]: Edits made in response to EPA comment to be at least as stringent as the federal rule. Chlorine dioxide MRDL & M/R applies to all systems using chlorine dioxide. However, BVBRs do not have distribution systems so they cannot collect check samples in accordance with 40 CFR 141.132; our proposed language was not sufficient so we have to be more stringent.
NOTE: There currently are NO BVRB systems using this treatment, nor are there likely to ever be any prior to the time we update all of subchapter J.

Commented [A9]: To be consistent with language in 109.301(12)(iv)(B)(II).

another permitted public water system using surface water or GUDI sources shall comply with the following requirements:

(A) As a minimum, a detectable residual disinfectant concentration of 0.2 mg/L measured as total chlorine, combined chlorine, chlorine dioxide or another level approved by the Department for systems using an alternate oxidizing disinfection treatment shall be maintained at the entry point as demonstrated by monitoring conducted under § 109.301(1) and (2) or (8)(v).

(B) Sampling points with nondetectable disinfectant residuals which have heterotrophic plate count measurements of less than 500/ml are deemed to be in compliance with clause (A).

(C) When the requirements of clause (A) or (B) cannot be achieved, the supplier shall initiate an investigation under the Department's direction to determine the cause, potential health risks and appropriate remedial measures.

(2) Vended water systems shall monitor in accordance with paragraph (1) except that vended water systems qualifying for permit by rule under § 109.1005(b), for each entry point shall:

- (i) Monitor monthly for microbiological contaminants.
- (ii) Monitor annually for total dissolved solids, lead and cadmium.
- (iii) Conduct special monitoring as required by the Department.

(iv) Beginning ____ (*Editor's Note: The blank refers to the effective date of adoption of this proposed FINAL rulemaking.*), a system that obtains finished water from another permitted public water system using surface water or GUDI sources shall also monitor in accordance with subparagraph (a)(1)(xiv).

(b) *Sampling requirements.*

* * * * *

(2) For the purpose of determining compliance with the monitoring and analytical requirements established under this subchapter, the Department will consider only those samples analyzed by a laboratory [certified] accredited by the Department, except that measurements of turbidity, fluoridation operation, residual disinfection concentration, **DAILY CHLORITE** temperature and pH may be performed by a person meeting the requirements of § 109.1008(c) (relating to system management responsibilities).

* * * * *

Commented [A10]: Added in response to EPA comment

(5) Compliance monitoring samples required under subsection (a)(1)(iii) may be composited in accordance with 40 CFR 141.24(g)(7) (relating to organic chemicals [other than total trihalomethanes], sampling and analytical requirements) except:

* * * * *

(v) Samples obtained from an entry point which contains water treated by a community water supplier or nontransient noncommunity water supplier to specifically meet an MCL for a VOC listed under 40 CFR 141.61(a) may not be composited with other entry point samples.

(6) Sampling and analysis shall be performed in accordance with analytical techniques adopted by the EPA under the Federal act or methods approved by the Department.

(c) *Repeat monitoring for microbiological contaminants.*

(d) *A bulk water hauling system that serves at least 25 of the same persons year around. A bulk water hauling system that is determined by the Department to serve at least 25 of the same persons year round shall **ALSO** comply with the monitoring requirements for community water systems in accordance with § 109.301.*

(e) *A bulk water hauling [or] system, vended water system or retail water facility that serves at least 25 of the same persons over 6 months per year. A bulk water hauling [or] system, vended water system or retail water facility that is determined by the Department to serve at least 25 of the same persons over 6 months per year shall **ALSO** comply with the monitoring requirements for nontransient noncommunity water systems in accordance with § 109.301.*

Commented [A11]: Added in response to EPA comment

(f) *Additional monitoring requirements for surface water and GUDI sources.* Bottled water and vended water systems, retail water facilities and bulk water hauling systems shall comply with the monitoring requirements under Subchapter L (relating to long-term 2 enhanced surface water treatment rule).

(g) *Additional monitoring requirements for groundwater sources.* Bottled water and vended water systems, retail water facilities and bulk water hauling systems shall comply with the monitoring requirements under Subchapter M (relating to additional requirements for groundwater sources).

(h) Compliance determinations. Compliance with MCLs, MRDLs and treatment techniques shall be determined in accordance with §§ 109.202 and 109.301.

(i) Special monitoring requirements. Bottled water and vended water systems, retail water facilities and bulk water hauling systems shall comply with § 109.302 (relating to special monitoring requirements).

§ 109.1004. Public notification.

(a) *General public notification requirements.* A bottled water [or retail water] supplier shall give public notification in accordance with this section. A bulk water [or] hauler, vended water supplier or retail water supplier shall give public notification in accordance with Subchapter D (relating to public notification [requirements]). For the purpose of establishing a bulk [water or] hauling, vended or retail water supplier's responsibilities under Subchapter D, a bulk water supplier shall comply with the public notification requirements specified for a community water system and a vended or retail water supplier shall comply with the public notification requirements specified for a noncommunity water system.

(1) A bottled water [or retail water] supplier who knows that a primary MCL or an MRDL has been exceeded or treatment technique performance standard has been violated or has reason to believe that circumstances exist which may adversely affect the quality of drinking water, including, but not limited to, source contamination, spills, accidents, natural disasters or breakdowns in treatment, shall report the circumstances to the Department within 1 hour of discovery of the problem.

(2) If the Department determines, based upon information provided by the bottled water [or retail water] supplier or other information available to the Department, that the circumstances present an imminent hazard to the public health, the water supplier shall issue a water supply warning approved by the Department and, if applicable, initiate a program for product recall approved by the Department under this subsection. The water supplier shall be responsible for disseminating the notice in a manner designed to inform users who may be affected by the problem.

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§ 109.1008. System management responsibilities.

* * * * *

(b) *Operation and maintenance plan requirements.* Bottled water, vended water, retail water and bulk water suppliers shall develop an operation and maintenance plan for each system. The operation and maintenance plan shall conform to the guidelines contained in Part III of the Department's *Public Water Supply Manual* which is available from the Bureau of [Water Standards and Facility Regulation] Safe Drinking Water, Post Office Box 8467, Harrisburg, Pennsylvania 17105-8467. The water supplier shall implement the operation and maintenance plan in accordance with this chapter, and if appropriate in accordance with accepted practices of the bottled water, vended water, retail water facility or bulk water hauling industry. The plan shall be reviewed and updated as necessary to reflect changes in the operation or maintenance of the water system. The plan shall be bound and placed in locations which are readily accessible to the water system's personnel, and shall be presented upon request to the Department.

* * * * *

(f) *Cross-connection control program.* At the direction of the Department, the bottled water, vended water, retail water or bulk water supplier shall develop and implement a comprehensive

control program for the elimination of existing cross-connections or the effective containment of sources of contamination, and prevention of future **[cross connections] cross-connections**. A description of the program, including the following information, shall be submitted to the Department for approval:

- (1) A description of the methods and procedures to be used.
- (2) An implementation schedule for the program.

(g) *Level 1 and Level 2 assessments*. Bottled water systems, vended water systems, retail water facilities and bulk water hauling systems shall comply with the requirements of § 109.705(b) (relating to system evaluations and assessments). Bottled water systems, vended water systems, retail water facilities and bulk water hauling systems may use a Nationally-recognized organization which inspects bottled water systems for compliance with 21 CFR Part 129, such as NSF, or another organization, state or country which utilizes an inspection protocol as stringent as NSF's protocols to conduct the Level 2 assessment.

(h) *Seasonal systems*. A bottled water system, vended water system, retail water facility or bulk water hauling system that operates as a seasonal system shall comply with the requirements of § 109.715 (relating to seasonal systems). (3) A description of the methods and devices which will be used to protect the water system.

(gi) Significant deficiencies. Bottled water and vended water systems, retail water facilities and bulk water hauling systems shall comply with § 109.705~~(d)~~ and **(ed)** (relating to sanitary surveys).

Commented [A12]: RTCR changed 109.705(d) & (e) to 109.705 (c) & (d).

(hj) Stage 2 Disinfectants/Disinfection Byproducts Rule monitoring plan and operational evaluation levels. A bulk water hauling system, vended water system or retail water facility that is determined by the Department to meet the definition of a community or nontransient noncommunity public water system and that uses a chemical disinfectant or that obtains finished water from another public water system that uses a chemical disinfectant or oxidant shall comply with § 109.701(g)(2).

Commented [A13]: RTCR added new (g) & (h), so these are renumbered

Subchapter K. LEAD AND COPPER

§ 109.1103. Monitoring requirements.

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(c) *Follow-up monitoring after construction or modification of corrosion control treatment facilities*. A system which completes construction or modification of corrosion control treatment facilities in accordance with § 109.1102(b)(2) shall conduct the applicable monitoring specified in this subsection. A system which exceeds the lead action level after construction or modification of corrosion control treatment facilities shall begin lead service line replacement in accordance with § 109.1107(d) (relating to system management responsibilities).

(1) *Lead and copper tap monitoring.* A system shall monitor for lead and copper at the tap during each specified monitoring period at the number of sample sites specified in subsection (a)(1)(v).

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(ii) A small or medium water system shall monitor during each of two consecutive 6-month monitoring periods beginning no later than 60 months from the **[date an action level was exceeded] end of the monitoring period in which the action level was exceeded.** The water supplier shall submit within 30 days of the end of the second monitoring period a request for the Department to designate optimal corrosion control treatment performance requirements for the system. Upon approval of the request, the Department will designate water quality parameter performance requirements in accordance with § 109.1102(b)(5) or source water treatment performance requirements in accordance with § 109.1102(b)(4). A small or medium water system that does not exceed the lead and copper action levels during each of two consecutive 6-month monitoring periods may reduce the number of sample sites and reduce the frequency of sampling to once per year in accordance with subsection (e)(1)(i). Systems not eligible for reduced monitoring under subsection (e)(1) shall monitor in accordance with subsection (d)(1).

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(d) *Monitoring after performance requirements are established.* A system shall conduct the applicable monitoring under this subsection beginning no later than the next 6-month monitoring period that begins on January 1 or July 1 following the Department's designation of optimal corrosion control treatment water quality parameter performance requirements under § 109.1102(b)(5) or source water performance requirements under § 109.1102(b)(4). **A system which exceeds the lead action level after construction or modification of corrosion control treatment facilities shall begin lead service line replacement in accordance with § 109.1107(d).**

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(e) *Reduced monitoring.*

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(3) *Reduced monitoring revocation.*

(i) *Reduced monitoring revocation for large water systems.* A large water system authorized to conduct reduced monitoring under this subsection that fails to meet the lead or copper action level during any 4-month monitoring period or that fails to operate within the range of performance requirements for the water quality parameters specified by the Department under § 109.1102(b)(5) on more than any 9 days in a 6-month period shall comply with the following:

* * * * *

(D) **[The] If either the lead or copper action level is exceeded, the** water supplier shall conduct source water monitoring in accordance with subsection (d)(3). Monitoring is required only for the parameter for which the action level was exceeded. For systems on annual or less frequent monitoring, the end of the monitoring period is September 30 of the calendar year in which sampling occurs, or, if the Department has designated an alternate monitoring period, the end of the monitoring period is the last day of the 4-month period in which sampling occurs.

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(g) *Sample site location plan.* The water supplier shall complete a sample site location plan which includes a materials evaluation of the distribution system, lead and copper tap sample site locations, water quality parameter sample site locations[,] and certification that proper sampling procedures are used. The water supplier shall complete the steps in paragraphs (1)—(3) by the applicable date for commencement of lead and copper tap monitoring under subsection (a)(1) and the step in paragraph (4) following completion of the monitoring. The water supplier shall keep the sample site location plan on record and submit the plan to the Department in accordance with § 109.1107(a)(1).

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(2) *Lead and copper tap sample site selection.* Lead and copper tap sampling sites are classified as tier 1, tier 2 or tier 3. Tier 1 sites are the highest priority sample sites.

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(v) *Sample sites with lead service lines.* A system that has a distribution system containing lead service lines shall draw 50% of the samples it collects during each monitoring period from sites that contain lead pipes or copper pipes with lead solder, and 50% of **[those samples] the samples it collects during each monitoring period** from sites served by a lead service line. If a water system cannot identify a sufficient number of sampling sites served by a lead service line, the system shall collect first draw samples from each site identified as being served by a lead service line.

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(k) *Monitoring waivers for small systems.* A small system that meets the criteria of this subsection may apply to the Department to reduce the frequency of monitoring for lead and copper under this section to once every 9 years if it meets all of the materials criteria specified in paragraph (1) and all of the monitoring criteria specified in paragraph (2). A system that meets the criteria in paragraphs (1) and (2) only for lead, or only for copper, may apply to the Department for a waiver to reduce the frequency of tap water monitoring to once every 9 years for that contaminant only.

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(6) *Requirements following waiver revocation.* A water system whose waiver has been revoked is subject to the corrosion control treatment, and lead and copper tap water monitoring requirements as follows:

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(ii) If the system meets both the lead and copper action levels, the system shall monitor for lead and copper at the tap no less frequently than once every 3 years **[using] in accordance with the frequency, timing and** the reduced number of sample sites specified in subsection (e).

§ 109.1107. System management responsibilities.

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(d) *Lead service line replacement.*

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(4) *Conditions of replacement.* The water supplier shall replace the portion of the lead service line that it owns. In cases where the system does not own the entire lead service line, the system shall notify the owner of the line, or the owner's authorized agent, that the system will replace the portion of the service line that the system owns and shall offer to replace the owner's portion of the line. A system is not required to **bear the cost of replacing the privately-owned portion of the line or to** replace the **privately-owned portion of the line** if the owner refuses to pay for the cost of replacement of the privately owned portion of the line, or if any laws prohibit this replacement. A system that does not replace the entire length of service line shall complete the following tasks:

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Subchapter L. LONG-TERM 2 ENHANCED SURFACE WATER TREATMENT RULE

§ 109.1202. Monitoring requirements.

(a) *Initial round of source water monitoring.* A system shall conduct the following monitoring on the schedule in subsection (c) unless it meets the monitoring exemption criteria in subsection (d):

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(4) Filtered systems serving less than 10,000 people shall sample their source water for *Cryptosporidium* at least twice per month for 12 months or at least monthly for 24 months if they meet one of the following subparagraphs, based on monitoring conducted under paragraph (3):

(i) For systems using lake/reservoir sources, the annual mean *E. coli* concentration is greater than **[10] 100 E. coli/100 mL**.

(ii) For systems using flowing stream sources, the annual mean *E. coli* concentration is greater than [50] 100 *E. coli*/100 mL.

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(i) *Source water sample collection period.* Systems shall collect samples within 2 days before or 2 days after the dates indicated in their sampling schedule (that is, within a 5 day period around the schedule date) unless one of the conditions of [subsection (b)(1) or (2)] paragraph (1) or (2) applies.

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Subchapter M. ADDITIONAL REQUIREMENTS FOR GROUNDWATER SOURCES

§ 109.1302. Treatment technique requirements.

(a) *Community groundwater systems.* Community groundwater systems are required to provide continuous disinfection under [§ 109.202(c)(2)] § 109.202(c)(3) (relating to [state] State MCLs, MRDLs and treatment technique requirements) and in addition shall:

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