

RULES AND REGULATIONS

Title 25—ENVIRONMENTAL PROTECTION

ENVIRONMENTAL QUALITY BOARD

[25 PA. CODE CH. 109]

Safe Drinking Water—General Update

Order

The Environmental Quality Board (Board) by this order amends Chapter 109 (relating to safe drinking water). The final-form rulemaking includes major revisions to the regulation of inorganic chemicals (IOCs), synthetic organic chemicals (SOCs) and volatile synthetic organic chemicals (VOCs); minor revisions to the Filter Backwash Recycling Rule (FBRR), Lead and Copper Rule (LCR) and Radionuclide (RAD) Rule requirements; and other minor revisions to Chapter 109 to retain primary enforcement authority (primacy) and to clarify existing requirements.

This order was adopted by the Board at its meeting of January 20, 2009.

A. *Effective Date*

This final-form rulemaking will go into effect upon publication in the *Pennsylvania Bulletin* as final-form rulemaking.

B. *Contact Persons*

For further information, contact R. Barry Greenawald, Chief, Division of Operations Monitoring and Training, P. O. Box 8467, Rachel Carson State Office Building, Harrisburg, PA 17105-8467, (717) 772-4018, or Marylou Barton, Assistant Counsel, Bureau of Regulatory Counsel, P. O. Box 8464, Rachel Carson State Office Building, Harrisburg, PA 17105-8464, (717) 787-7060. Persons with a disability may use the Pennsylvania AT&T Relay Service by calling (800) 654-5984 (TDD users) or (800) 654-5988 (voice users). The final-form rulemaking is available electronically through the Department of Environmental Protection's (Department) web site at www.dep.state.pa.us.

C. *Statutory Authority*

The final-form rulemaking is being made under the authority of section 4 of the Pennsylvania Safe Drinking Water Act (35 P. S. § 721.4), which grants the Board the authority to adopt rules and regulations governing the provision of drinking water to the public, and sections 1917-A and 1920-A of The Administrative Code of 1929 (71 P. S. §§ 510-17 and 510-20).

D. *Background of the Amendments*

The purpose of the amendments is to amend the Department's safe drinking water regulations to: (1) incorporate necessary Federal requirements needed to obtain or maintain primacy for the Phase II/IIB/V, Arsenic, FBRR, LCR and RAD rules, or both; (2) amend several sections to improve data quality; (3) coordinate efforts with several other drinking water regulatory packages, including operator certification and environmental Laboratory Accreditation; and (4) clarify several existing requirements to improve compliance.

1. *Revisions to incorporate Federal requirements.*

a. *Major revisions to IOC, SOC and VOC requirements.*

The United States Environmental Protection Agency (EPA) promulgated the Phase II Rule on January 30, 1991, the Phase IIB Rule on July 1, 1991, the Phase V Rule on July 17, 1992, and the Arsenic Rule on January 22, 2001. These rules established the monitoring requirements for IOCs, SOCs and VOCs for community and nontransient noncommunity water systems. The Department's IOC/SOC/VOC monitoring and waiver requirements in § 109.301 (relating to general monitoring requirements) are not consistent with the Federal rules and are amended to obtain primacy for the Phase II/IIB/V and Arsenic Rules. The Department must also obtain EPA approval of its Monitoring Waiver Program guidance.

b. *Minor revisions to FBRR.*

The EPA promulgated the FBRR on June 8, 2001. The FBRR established additional requirements for surface water systems that recycle spent filter backwash. The Department promulgated final regulations at 34 Pa.B. 1758 (April 3, 2004). As a condition of primacy, the Department must make minor revisions to the public notification requirements to maintain primacy for the FBRR.

c. *Minor revisions to LCR.*

The lead and copper reporting requirements for community and nontransient noncommunity water systems in § 109.1107 (relating to system management responsibilities) are amended to maintain primacy for the LCR.

d. *Minor revisions to RAD.*

Monitoring requirements for bottled, vended, retail and bulk water hauling systems (BVRBs) are being clarified (for those BVRBs that meet the definition of a "community water system" or "nontransient noncommunity water system") to obtain primacy for the RAD Rule.

2. *Revisions to improve data quality.*

- Quality assurance and quality control requirements for continuous monitoring equipment associated with surface water systems are being amended to clarify the requirements for calibration.

- Amendments to require mandatory electronic reporting will improve data quality, reduce reporting violations and streamline the reporting process.

Electronic reporting will be accomplished using the Department's existing secure web application, the Drinking Water Electronic Lab Reporting (DWELR) system. DWELR has been available to water suppliers and labs since 2003. Currently, the Department receives about 80–85% of its data voluntarily through DWELR. Users can upload data or enter data using screen entry forms. The DWELR system includes an error detection program that produces error reports. Errors can be corrected immediately or recalled for correction later. This allows users to correct data entry and other errors, thus preventing erroneous Maximum Contaminant Level (MCL) or monitoring/reporting violations. Water systems can register for access to view the data that's submitted for them by submitting entities. This allows water suppliers to monitor the data, so they can notify their lab if data appears to be incorrect or missing. DWELR works within the Department's Greenport environment.

3. *Revisions to coordinate efforts with several other drinking water regulatory packages.*

Several associated regulatory packages are in various stages of promulgation. To coordinate efforts, the following revisions will be necessary.

- Operator certification requirements under §§ 109.304, 109.704, 109.1105 and 109.1107.
- Chapter 252 (relating to environmental laboratory accreditation) reporting requirements under § 109.810 (relating to reporting and notification requirements).

4. *Revisions to clarify several other requirements.*

- Currently, language that describes how the Department determines compliance with the MCLs has been incorporated by reference. With this final-form rulemaking, the EPA's compliance determination requirements are added to Chapter 109 to better inform the regulated community and improve compliance. Chapter 109 will now be a one-stop-shop in terms of determining whether a water supplier is in compliance with the MCLs.

- Information describing new sources under § 109.503(a)(1)(iii) (relating to public water system construction permits) is amended to clarify the requirements for new source sampling.

- Requirements under § 109.505(2)(ii) (relating to requirements for noncommunity water systems) for noncommunity water systems to file a brief description of the system are being amended to clarify that the information shall be filed prior to construction.

The final-form rulemaking was submitted to the Small Water Systems Technical Assistance Center Advisory Board (TAC) for review and discussion on June 24, 2008. Comments were received from the TAC on July 15, 2008. TAC's comments were addressed as indicated in Section E.

E. *Summary of Changes to the Proposed Rulemaking*

Subchapter C. Monitoring Requirements

§ 109.301(5)(i). *Vinyl chloride.*

This subparagraph was amended in response to an EPA comment regarding consistency with the Federal monitoring requirements found in 40 CFR 141.24(f) (relating to organic chemicals, sampling and analytical requirements). The amended language includes reduced monitoring requirements and incorporates the Federal language regarding monitoring requirements for surface water entry points.

§ 109.301(5)(viii). *VOC Waivers.*

This subparagraph was amended in response to an EPA comment regarding consistency with the Federal monitoring requirements found in 40 CFR 141.24(f). The amendments clarify that susceptibility waivers are not allowed. This paragraph was also amended in response to a comment regarding the process for obtaining waivers and renewals. The amended language clarifies that applications must be submitted to the Department for review and approval.

§ 109.301(6)(vii). *SOC Waivers.*

This subparagraph was amended to be consistent with the Federal monitoring requirements found in 40 CFR 141.24(h). This paragraph was also amended in response to a comment regarding the process for obtaining waivers

and renewals. The amended language clarifies that applications must be submitted to the Department for review and approval.

§ 109.301(7). *Monitoring requirements for IOCs.*

This paragraph was amended in response to several EPA comments regarding consistency with the Federal monitoring and compliance determination requirements found in 40 CFR 141.23 (relating to inorganic chemical sampling and analytical requirements). This paragraph was also amended in response to comments regarding the factors the Department considers when reviewing and approving waiver applications for IOCs. The phrase "other factors as determined by the Department on a case-by-case basis" was added to allow the Department to consider other potential sources of contamination, as needed, when issuing IOC monitoring waivers.

Subchapter G. System Management Responsibilities

§ 109.701(a)(2)(i)(B).

This clause (B) was amended to recognize that not all treatment plants operate on a 24/7 basis.

§ 109.701(a)(11). *Noncompliance report.*

This paragraph (11) was amended to be consistent with Federal reporting requirements under 40 CFR 141.31(b) (relating to reporting requirements).

§ 109.701(i). *Accuracy of data.*

This subsection was amended in response to comments from the Department's advisory committee. In most cases, the task of reporting accurate data to the Department is a shared responsibility. These amendments are intended to clarify the responsibilities of water suppliers vs. their accredited laboratories. Essentially, water suppliers must provide their lab with enough information (that is, required monitoring period and location, sample type, and the like) to ensure that sample results are properly reported to the Department. A similar provision was added to the lab accreditation section under § 109.810(d).

§ 109.701(j). *Electronic reporting.*

This subsection was amended in response to comments from the Department's advisory committee to clarify that water suppliers may assign the responsibility for reporting their data to an accredited lab or another approved party. These amendments provide other options for reporting data to the Department.

Subchapter H. Environmental Laboratory Accreditation

§ 109.810(b). *Reporting and notification requirements.*

This subsection was amended in response to comments from the Department's advisory committee to clarify that laboratories must notify their water supply clients and the Department whenever an MCL, MRDL, TT or AL is exceeded, or a sample result requires the collection of check or confirmation samples. These amendments ensure that water suppliers and the Department are contacted at the earliest indication of a water quality problem.

§ 109.810(d). *Reporting and notification requirements.*

This subsection was added to clarify that accredited laboratories are responsible for the accuracy of the data that is submitted to the Department. If data entry or other errors occur, the lab is responsible for correcting the data.

Subchapter K. Lead and Copper

§ 109.1102. Action levels and treatment technique requirements.

This section was amended in response to a comment to incorporate the EPA's method of computing the 90th percentile value for lead and copper using interpolation.

F. Benefits, Costs and Compliance

Benefits

The enhanced monitoring and reporting requirements will improve compliance, streamline reporting and provide greater assurance that contaminant levels will remain below the MCLs. The revisions also ensure that the Department, the regulated community and the public are better informed to make decisions affecting public health protection.

Compliance Costs

The amendments primarily address existing monitoring and reporting requirements. As a result, compliance costs are not expected to substantially increase or decrease. For example, a system that exceeds an MCL for a particular contaminant may need to remain on quarterly monitoring for a few more quarters to ensure that the levels stay below the MCL. However, this increased cost may be offset by new opportunities for VOC waivers.

Amendments to require mandatory electronic reporting will improve data quality, reduce reporting violations and streamline the reporting process. Electronic reporting will be accomplished using the Department's existing secure web application, the DWELR system. DWELR has been available to water suppliers and labs since 2003. Currently, the Department receives about 80–85% of its data voluntarily through DWELR. The amendments will enable the Department to collect the remaining 15–20% of the data electronically. To collect the remaining data, some water suppliers (conducting monitoring under § 109.304(c)) may need to either: (1) purchase a computer and internet provider; or (2) pay their accredited lab or another approved party to report additional data on their behalf.

Compliance Assistance Plan

The final-form rulemaking addresses existing monitoring and reporting requirements. As a result, financial assistance should not be necessary.

Paperwork Requirements

The rulemaking addresses existing monitoring and reporting requirements. As a result, some changes to forms, reports and other paperwork are expected. Mandatory electronic reporting requirements are expected to streamline the reporting process and take the place of reporting by means of paper.

G. Sunset Review

The regulations will be reviewed in accordance with the sunset review schedule published by the Department to determine whether the regulations effectively fulfill the goals for which they were intended.

H. Regulatory Review

Under section 5(a) of the Regulatory Review Act (71 P. S. § 745.5(a)), on August 16, 2007, the Department submitted a copy of the notice of proposed rulemaking, published at 37 Pa.B. 4762 (September 1, 2007), to the Independent Regulatory Review Commission (IRRC) and to the Chairpersons of the House and Senate Environmental Resources and Energy Committees (Committees).

Under section 5(c) of the Regulatory Review Act, IRRC and the Committees were provided with copies of the comments received during the public comment period, as well as other documents when requested. In preparing these final-form regulations, the Department has considered all comments from IRRC, the Committees and the public.

Under section 5.1(j.2) of the Regulatory Review Act (71 P. S. § 745.5(j.2)), on April 1, 2009, these final-form regulations were deemed approved by the Committees. Under section 5.1(e) of the Regulatory Review Act, IRRC met on April 2, 2009, and approved the final-form rulemaking.

I. Findings

The Board finds that:

(1) Public notice of proposed rulemaking was given under sections 201 and 202 of the act of July 31, 1968 (P. L. 769, No. 240) (45 P. S. §§ 1201 and 1202), and regulations promulgated thereunder, 1 Pa. Code §§ 7.1 and 7.2 (relating to notice of proposed rulemaking required; and adoption of regulations).

(2) A public comment period was provided as required by law and all comments were considered.

(3) These regulations do not enlarge the purpose of the proposal published at 37 Pa.B. 4762.

(4) These regulations are necessary and appropriate for administration and enforcement of the authorizing acts identified in Section C of this order.

J. Order

The Board, acting under the authorizing statutes, orders that:

(a) The regulations of the Department, 25 Pa. Code Chapter 109, are amended by amending §§ 109.1, 109.301, 109.303, 109.304, 109.410, 109.503–109.505, 109.605, 109.701, 109.703, 109.704, 109.810, 109.1003, 109.1102, 109.1103, 109.1105 and 109.1107 to read as set forth in Annex A, with ellipses referring to the existing text of the regulations.

(b) The Chairperson of the Board shall submit this order and Annex A to the Office of General Counsel and the Office of Attorney General for review and approval as to legality and form as required by law.

(c) The Chairperson of the Board shall submit this order and Annex A to IRRC and the Committees as required by the Regulatory Review Act.

(d) The Chairperson of the Board shall certify this order and Annex A and deposit them with the Legislative Reference Bureau, as required by law.

(e) This order shall take effect immediately.

JOHN HANGER,
Chairperson

(Editor's Note: For the text of the order of the Independent Regulatory Review Commission relating to this document, see 39 Pa.B. 2064 (April 18, 2009).)

Fiscal Note: Fiscal Note 7-412 remains valid for the final adoption of the subject regulations.

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:

* * * * *

MCL—Maximum Contaminant Level—The maximum permissible level of a contaminant in water which is delivered to a user of a public water system, and includes the primary and secondary MCLs established under the Federal act, and MCLs adopted under the act.

* * * * *

Reliably and consistently below the MCL—

(i) For VOCs, SOCs and IOCs (with the exception of nitrate and nitrite), this means that each sample result is less than 80% of the MCL.

(ii) For nitrate and nitrite, this means that each sample result is less than 50% of the MCL.

* * * * *

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), 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 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:

(A) Shall determine and record the turbidity level of representative samples of the system's filtered water as follows:

(I) For systems that operate continuously, at least once every 4 hours that the system is in operation, except as provided in clause (B).

(II) For systems that do not operate continuously, at start-up, at least once every 4 hours that the system is in operation, and also prior to shutting down the plant, except as provided in clause (B).

(B) May substitute continuous turbidity monitoring and recording for grab sample monitoring and manual recording if it validates the continuous measurement for accuracy on a regular basis using a procedure specified by the manufacturer. At a minimum, calibration with an EPA-approved primary standard shall be conducted at least quarterly. For systems using slow sand filtration or filtration treatment other than conventional filtration, direct filtration or diatomaceous earth filtration, the Department may reduce the sampling frequency to once per day.

* * * * *

(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.

(A) The water supplier shall calibrate turbidimeters using the procedure specified by the manufacturer. At a minimum, calibration with an EPA-approved primary standard shall be conducted at least quarterly.

(B) If there is failure in the continuous turbidity monitoring or recording equipment, or both, the system shall conduct grab sampling or manual recording, or both, every 4 hours in lieu of continuous monitoring or recording.

* * * * *

(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:

* * * * *

(B) Shall measure the turbidity of a representative grab sample of the source water immediately prior to disinfection as follows:

(I) For systems that operate continuously, at least once every 4 hours that the system is in operation, except as provided in clause (C).

(II) For systems that do not operate continuously, at start-up, at least once every 4 hours that the system is in operation, and also prior to shutting down the plant, except as provided in clause (C).

(C) May substitute continuous turbidity monitoring for grab sample monitoring if it validates the continuous measurement for accuracy on a regular basis using a procedure specified by the manufacturer. At a minimum,

calibration with an EPA-approved primary standard shall be conducted at least quarterly.

(D) Shall continuously monitor and record the residual disinfectant concentration required under § 109.202(c)(1) (iii) (relating to State MCLs, MRDLs and treatment technique requirements) of the water being supplied to the distribution system and record the lowest value for each day. 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), substitute grab sampling or manual recording, or both, every 4 hours in lieu of continuous monitoring. Grab sampling or manual recording may not be substituted for continuous monitoring for longer than 5 days after the equipment fails.

* * * * *

(3) *Monitoring requirements for coliforms.* Public water systems shall determine the presence or absence of total coliforms for each routine or check sample; and, the presence or absence of fecal coliforms or *E. coli* for a total coliform positive sample in accordance with analytical techniques approved by the Department under § 109.304 (relating to analytical requirements). A system may forego fecal coliform or *E. coli* testing on a total coliform-positive sample if the system assumes that any total coliform-positive sample is also fecal coliform-positive. A system which chooses to forego fecal coliform or *E. coli* testing shall, under § 109.701(a)(3), 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).

* * * * *

(iv) *Compliance determinations.*

(A) The MCL is based on the presence or absence of total coliforms in a sample, rather than coliform density.

(I) For a system which collects at least 40 samples per month, if no more than 5.0% of the samples collected during a month are total coliform-positive, the system is in compliance with the MCL for total coliforms.

(II) For a system which collects fewer than 40 samples per month, if no more than one sample collected during the month is total coliform-positive, the system is in compliance with the MCL for total coliforms.

(B) Any fecal coliform-positive repeat sample or *E. coli*-positive repeat sample, or any total coliform-positive repeat sample following a fecal coliform-positive or *E. coli*-positive routine sample constitutes a violation of the MCL for total coliforms.

(C) A public water system shall determine compliance with the MCL for total coliforms in clauses (A) and (B) for each month in which it is required to monitor for total coliforms.

(v) Special purpose samples, such as those taken to determine whether disinfection practices are sufficient following pipe placement, replacement or repair, may not be used to determine compliance with the MCL for total coliform. Check samples taken under subparagraph (ii) are not considered special purpose samples, and shall be used to determine compliance with the monitoring and MCL requirements for total coliforms established under this paragraph and § 109.202(a)(2).

* * * * *

(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 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.

(i) *Vinyl chloride.* Monitoring for compliance with the MCL for vinyl chloride is required for groundwater entry points at which one or more of the following two-carbon organic compounds have been detected: trichloroethylene, tetrachloroethylene, 1,2-dichloroethane, 1,1,1-trichloroethane, cis-1,2-dichloroethylene, trans-1,2-dichloroethylene or 1,1-dichloroethylene and shall consist of quarterly samples. If the results of the first analysis do not detect vinyl chloride, monitoring shall be reduced to one sample during each compliance period. Surface water entry points shall monitor for vinyl chloride as specified by the Department.

(ii) *Initial monitoring.* Initial monitoring shall consist of 4 consecutive quarterly samples at each entry point in accordance with the following monitoring schedule during the compliance period beginning January 1, 1993, except for systems which are granted reduced initial monitoring in accordance with clauses (E) and (F). A system which monitors during the initial monitoring period, but begins monitoring before its scheduled initial monitoring year specified in this subparagraph, shall begin monitoring every entry point during the first calendar quarter of the year it begins monitoring, except as provided in clause (E).

* * * * *

(G) Systems with new entry points associated with new sources which are permitted under Subchapter E (relating to permit requirements) to begin operation after December 31, 1992, shall conduct initial monitoring as follows. New entry points shall be monitored quarterly, beginning the first full quarter the entry point begins serving the public.

(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:

(A) Monitoring shall be repeated quarterly beginning the quarter following the detection for VOCs for which the EPA has established MCLs under 40 CFR 141.61(a), except for vinyl chloride as provided in subparagraph (i), until reduced monitoring is granted in accordance with this subparagraph.

(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.

(C) If the Department determines that the system is reliably and consistently below the MCL, the Department may allow the system to monitor annually. Systems which monitor annually shall monitor during the quarter that previously yielded the highest analytical result, or as specified by the Department.

(iv) *Repeat monitoring for entry points at which no VOC is detected.*

(A) For entry points at which VOCs are not detected during the first year of quarterly monitoring, or annual

monitoring if only one sample was required at an entry point for first year monitoring under subparagraph (ii)(E), or (F), required monitoring is reduced to one sample per entry point per year.

(B) For groundwater or GUDI entry points where VOCs are monitored in accordance with this paragraph, but are not detected during 3 years of quarterly or annual monitoring, or both, required monitoring is reduced to one sample per entry point during each subsequent compliance period. Reduced monitoring shall be conducted at 3-year intervals from the year of required initial monitoring.

(v) *Repeat monitoring for VOCs with MCL exceedances.* For entry points at which a VOC MCL is exceeded, monitoring shall be conducted quarterly, beginning the quarter following the exceedance. Quarterly monitoring shall continue until a minimum of 4 consecutive quarterly samples shows the system is in compliance as specified in subparagraph (x) and the Department determines the system is reliably and consistently below the MCL. If the Department determines that the system is in compliance and is reliably and consistently below the MCL, the Department may allow the system to monitor in accordance with subparagraph (iii)(C).

(vi) *Confirmation samples.* A confirmation sample shall be collected and analyzed for each VOC listed under 40 CFR 141.61(a) which is detected at a level in excess of its MCL during annual or less frequent compliance monitoring. The confirmation sample shall be collected within 2 weeks of notification by the accredited laboratory performing the analysis that an MCL has been exceeded. 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 VOC compliance monitoring.

(vii) *Reduced monitoring.* When reduced monitoring is provided under subparagraph (iii) or (iv), the system shall monitor the entry point during the calendar year quarter that previously yielded the highest analytical result, or as specified by the Department. The reduced monitoring option in subparagraph (iv)(B) does not apply to entry points at which treatment has been installed for VOC removal. Quarterly performance monitoring is required for VOCs for which treatment has been installed.

(viii) *Waivers.* Waivers under 40 CFR 141.24(f)(7) and (10) will not be available for the VOC monitoring requirements in this paragraph. Systems with groundwater or GUDI entry points which have 3 consecutive years of quarterly or annual samples with no detection of a VOC may apply to the Department for a waiver. Entry points at which treatment has been installed to remove a VOC are not eligible for a monitoring waiver.

(A) A use waiver may be granted to a public water supplier from conducting monitoring under subparagraph (iii)(C), based on documentation provided by the public water supplier and a determination by the Department that the criteria has been met. Waivers may be granted after evaluating the following criteria:

(I) Knowledge of previous use, including transport, storage or disposal, of a substance containing VOCs within the wellhead protection area Zones I and II as defined under § 109.1 (relating to definitions).

(II) If a determination by the Department reveals no previous use, a waiver may be granted.

(B) If a use waiver is granted by the Department, required monitoring is reduced to one sample per entry

point during each subsequent compliance period. Monitoring shall be conducted at 3-year intervals from the year of required initial monitoring.

(C) A use waiver is effective for one compliance period and may be renewed in each subsequent compliance period.

(D) Susceptibility waivers under 40 CFR 141.24(f)(8)(ii) will not be available for the VOC monitoring requirements in this paragraph.

(E) 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.

(ix) *Invalidation of VOC samples.*

(A) The Department may invalidate results of obvious sampling errors.

(B) A VOC sample invalidated under this subparagraph does not count towards meeting the minimum monitoring requirements of this paragraph.

(x) *Compliance determinations.* Compliance with the VOC MCLs shall be determined based on the analytical results obtained at each entry point. If one entry point is in violation of an MCL, the system is in violation of the MCL.

(A) For systems monitoring more than once per year, compliance with the MCL is determined by a running annual average of all samples taken at each entry point.

(B) If monitoring is conducted annually or less frequently, the system is out of compliance if the level of a contaminant at any entry point is greater than the MCL. If a confirmation sample is collected as specified in subparagraph (vi), compliance is determined using the average of the two sample results.

(C) If any sample result will cause the running annual average to exceed the MCL at any entry point, the system is out of compliance with the MCL immediately.

(D) If a system fails to collect the required number of samples, compliance with the MCL will be based on the total number of samples collected.

(E) If a sample result is less than the detection limit, zero will be used to calculate compliance.

(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.

(i) *Initial monitoring.* Initial monitoring shall consist of 4 consecutive quarterly samples at each entry point beginning during the quarter beginning January 1, 1995, except for systems which are granted an initial monitoring waiver in accordance with subparagraph (vii). Systems which monitor during the initial monitoring period but begin monitoring before 1995 shall begin monitoring during the first calendar quarter of the year. New entry points associated with new sources which are vulnerable to SOC contamination, as determined in accordance with subparagraph (vii), and which begin operation after

March 31, 1995, shall be monitored quarterly, beginning the first full quarter the entry point begins serving the public.

(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:

(A) Monitoring for the detected SOC shall be conducted quarterly, beginning the quarter following the detection, until reduced monitoring is granted in accordance with this subparagraph.

(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.

(C) If the Department determines that the system is reliably and consistently below the MCL, the Department may allow the system to monitor annually. Systems which monitor annually shall monitor during the quarter that previously yielded the highest analytical result, or as specified by the Department.

(D) Systems which have 3 consecutive years of quarterly or annual samples with no detection of a contaminant may apply to the Department for a waiver as specified in subparagraph (vii). A waiver is effective for one compliance period and may be renewed in each subsequent compliance period.

(E) For entry points at which either heptachlor or heptachlor epoxide is detected during the initial round of consecutive quarterly samples, or in subsequent repeat samples, the monitoring shall be continued for both contaminants in accordance with the more frequent monitoring required of the two contaminants based on the level at which each is detected.

(iii) *Repeat monitoring for SOCs that are not detected.* For entry points at which SOCs are not detected during the first year of quarterly monitoring, the required monitoring is reduced to one sample in each 3-year compliance period for systems serving 3,300 or fewer persons and to 2 consecutive quarterly samples in each compliance period for systems serving more than 3,300 persons. Reduced monitoring shall be conducted at 3-year intervals from the year of required initial VOC monitoring, in accordance with paragraph (5)(ii).

(iv) *Repeat monitoring for SOCs with MCL exceedances.* For entry points at which an SOC MCL is exceeded, monitoring for the detected SOC shall be conducted quarterly, beginning the quarter following the exceedance. Quarterly monitoring shall continue until a minimum of 4 consecutive quarterly samples shows the system is in compliance as specified in subparagraph (ix) and the Department determines the system is reliably and consistently below the MCL. If the Department determines that the system is in compliance and is reliably and consistently below the MCL, the Department may allow the system to monitor in accordance with subparagraph (ii)(C).

(v) *Confirmation samples.* A confirmation sample shall be collected and analyzed for each SOC listed under 40 CFR 141.61(c) which is detected at a level in excess of its MCL during annual or less frequent compliance monitoring. The confirmation sample shall be collected within 2 weeks of the water supplier receiving notification from the accredited laboratory performing the analysis that an

MCL has been exceeded. The average of the results of the original and the confirmation samples will be used to determine compliance. Confirmation monitoring shall be completed by the deadline specified for SOC compliance monitoring.

(vi) *Reduced monitoring.* When reduced monitoring is provided under subparagraph (ii) or (iii), the system shall monitor the entry point during the second calendar year quarter, or the second and third calendar year quarter when 2 quarterly samples are required in each compliance period, unless otherwise specified by the Department. The reduced monitoring option in subparagraph (iii) does not apply to entry points at which treatment has been installed for SOC removal. Compliance monitoring for SOCs for which treatment has been installed to comply with an MCL shall be conducted at least annually, and performance monitoring shall be conducted quarterly.

(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) 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). 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 dioxin and PCBs.*

(I) For groundwater or GUDI entry points, the vulnerability assessment area shall consist of wellhead protection area Zones I and II.

(II) For surface water entry points, the vulnerability assessment area shall consist of the area that supplies water to the entry point and is separated from other watersheds by the highest topographic contour.

(B) *Use waivers.* A use waiver will be granted by the Department for contaminants which the Department has determined have not been used, stored, manufactured, transported or disposed of in this Commonwealth, or portions of this Commonwealth. A use waiver specific to a particular entry point requires that an SOC was not used, stored, manufactured, transported or disposed of in the vulnerability assessment area. If use waiver criteria cannot be met, a public water supplier may apply for a susceptibility waiver.

* * * * *

(D) *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.

(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.*

(A) The Department may invalidate results of obvious sampling errors.

(B) An SOC sample invalidated under this subparagraph does not count towards meeting the minimum monitoring requirements of this paragraph.

(ix) *Compliance determinations.* Compliance with the SOC MCLs shall be determined based on the analytical results obtained at each entry point. If one entry point is in violation of an MCL, the system is in violation of the MCL.

(A) For systems monitoring more than once per year, compliance with the MCL is determined by a running annual average of all samples taken at each entry point.

(B) If monitoring is conducted annually or less frequently, the system is out of compliance if the level of a contaminant at any entry point is greater than the MCL. If a confirmation sample is collected as specified in subparagraph (v), compliance is determined using the average of the two sample results.

(C) If any sample result will cause the running annual average to exceed the MCL at any entry point, the system is out of compliance with the MCL immediately.

(D) If a system fails to collect the required number of samples, compliance with the MCL will be based on the total number of samples collected.

(E) If a sample result is less than the detection limit, zero will be used to calculate compliance.

(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.*

* * * * *

(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. After 4 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.

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

(A) *Initial monitoring schedule.* A public water system shall begin monitoring for nitrate and nitrite by taking one annual sample at each groundwater or GUDI entry point to the distribution system beginning during the year beginning January 1, 1993. Community water systems and nontransient noncommunity water systems with surface water sources shall monitor quarterly at each surface water entry point for nitrate and nitrite beginning during the quarter beginning January 1, 1993. Transient noncommunity water systems shall monitor each surface water entry point by taking one annual sample beginning during the year beginning January 1, 1993.

(B) *Monitoring of new entry points.*

(I) New community and nontransient noncommunity surface water entry points associated with new sources shall be monitored quarterly, beginning the first full quarter the entry point begins serving the public. Quarterly monitoring shall continue until reduced monitoring is granted in accordance with clause (C)(II) or (D).

(II) New community and nontransient noncommunity groundwater or GUDI entry points and new transient noncommunity entry points associated with new sources shall be monitored annually, beginning within 1 year of serving the public.

(C) *Repeat monitoring for systems with nitrate or nitrite levels equal to or greater than 50% of the MCLs.*

(I) For entry points at which initial monitoring results or subsequent monitoring indicate nitrate or nitrite levels equal to or greater than 50% of the MCL, water systems shall begin quarterly monitoring the quarter following detection at that level and continue quarterly monitoring for both nitrate and nitrite, unless reduced monitoring is granted in accordance with subclause (II) or (III).

(II) For surface water entry points, after 4 consecutive quarterly samples at an entry point for a water system indicate nitrate and nitrite levels in each sample are less than 50% of the MCLs, the required compliance monitoring is reduced to 1 sample per year at the entry point. Annual monitoring shall be conducted during the quarter which previously resulted in the highest analytical result, unless the Department determines that a different monitoring quarter should be used in accordance with paragraph (10).

(III) For groundwater or GUDI entry points, after 4 consecutive quarterly samples at an entry point for a water system indicate nitrate and nitrite levels in each sample are reliably and consistently below the MCL, the required compliance monitoring is reduced to 1 sample per year at the entry point. Annual monitoring shall be conducted during the quarter which previously resulted in the highest analytical result, unless the Department determines that a different monitoring quarter should be used in accordance with paragraph (10).

(IV) For nitrate or nitrite sample results in excess of the MCLs, the water supplier shall take a confirmation sample within 24 hours of having received the original sample result. A water supplier that is unable to comply with the 24-hour sampling requirement shall immediately notify persons served by the public water system in accordance with § 109.408. Systems exercising this option

shall take and analyze a confirmation sample within 2 weeks of notification of the analytical results of the first sample.

(V) Noncommunity water systems for which an alternate nitrate level has been approved by the Department in accordance with 40 CFR 141.11(d) are not required to collect a confirmation sample if only the nitrate MCL is exceeded and nitrate is not in excess of the alternate nitrate level. If the alternate nitrate level is exceeded, the water supplier shall collect a confirmation sample within 24 hours after being advised by the certified laboratory performing the analysis that the compliance sample exceeded 20 mg/L for nitrate. Confirmation monitoring shall be completed by the deadline for compliance monitoring.

(VI) Quarterly performance monitoring is required for nitrate and nitrite at entry points where treatment has been installed to remove nitrate or nitrite.

(D) *Repeat monitoring for systems with nitrate and nitrite levels less than 50% of the MCLs.* For entry points at which initial monitoring results indicate nitrate and nitrite levels in each sample are less than 50% of the MCLs, nitrate and nitrite monitoring shall be repeated annually during the calendar quarter which previously resulted in the highest analytical result, unless the Department determines that a different monitoring quarter should be used in accordance with paragraph (10).

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

(A) *Initial monitoring schedule.* Community water systems and nontransient noncommunity water systems shall monitor each surface water entry point annually beginning during the year beginning January 1, 1993, and shall monitor each groundwater or GUDI entry point once every 3 years beginning during the year beginning January 1, 1994.

(B) *Monitoring of new entry points.* New groundwater or GUDI entry points which begin operation after December 31, 1994, shall begin initial monitoring in accordance with the schedule in clause (A)—that is, 1997, and so forth. New surface water entry points shall begin initial annual monitoring during the first new calendar year after the entry point begins serving the public.

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

* * * * *

(II) After analyses of 4 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 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.

(III) A confirmation sample shall be collected and analyzed for each IOC listed under 40 CFR 141.62(b) which is detected at a level in excess of its MCL during annual or less frequent compliance monitoring. The confirmation sample shall be collected within 2 weeks of notification by the accredited laboratory performing the analysis that an MCL has been exceeded. The average of

the results of the original and the confirmation samples will be used to determine compliance. Confirmation monitoring shall be completed by the deadline specified for IOC compliance monitoring.

(D) *Waivers for antimony, arsenic, barium, beryllium, cadmium, chromium, fluoride, mercury, nickel, selenium and thallium monitoring.* Except when treatment has been installed to remove the IOC, after 3 consecutive rounds of quarterly, annual or triennial monitoring indicate the contaminant level for an IOC is reliably and consistently below the MCL in all samples at an entry point, routine monitoring for the remainder of the compliance cycle for that IOC may be waived and the required monitoring for the IOC may be reduced to 1 sample per 9-year compliance cycle at that entry point.

(I) Waivers may be granted based on the following criteria:

(-a-) Previous analytical results.

(-b-) Other factors which may affect contaminant concentrations such as changes in groundwater pumping rates, changes in the system's configuration, changes in the system's operating procedures, changes in stream flows or characteristics, or other factors as determined by the Department on a case-by-case basis.

(II) A decision by the Department to grant a waiver will be made in writing and will set forth the basis for the determination. The determination may be made upon an application by the public water system. The public water system shall specify the basis for its request. The Department will review and, when appropriate, revise its determination of the appropriate monitoring frequency when the system submits new monitoring data or when other data relevant to the system's appropriate monitoring frequency becomes available.

(III) Reduced monitoring shall be conducted during the first monitoring period of the next monitoring cycle. A waiver is effective for one compliance cycle and may be renewed in each subsequent compliance cycle.

(IV) 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.

(E) *Waivers for cyanide monitoring.* Waivers may be granted for monitoring of cyanide, provided that the system is not vulnerable due to lack of any industrial source of cyanide.

(F) *Operational monitoring for fluoride.* Public water suppliers who fluoridate shall conduct operational monitoring for fluoride daily.

(iv) *Invalidation of IOC samples.*

(A) The Department may invalidate results of obvious sampling errors.

(B) An IOC sample invalidated under this subparagraph does not count towards meeting the minimum monitoring requirements of this section.

(v) *Compliance determinations.* Compliance with the IOC MCLs shall be determined based on the analytical results obtained at each entry point. If one entry point is in violation of an MCL, the system is in violation of the MCL.

(A) For systems monitoring more than once per year, compliance with the MCL for antimony, arsenic, asbestos,

barium, beryllium, cadmium, chromium, cyanide, fluoride, mercury, nickel, selenium or thallium is determined by a running annual average of all samples taken at each entry point. If the average at any entry point is greater than the MCL, then the system is out of compliance. If any one sample would cause the annual average to be exceeded, then the system is out of compliance immediately.

(B) For systems monitoring annually, or less frequently, the system is out of compliance with the MCL for antimony, arsenic, asbestos, barium, beryllium, cadmium, chromium, cyanide, fluoride, mercury, nickel, selenium or thallium if the level of a contaminant at any sampling point is greater than the MCL. If a confirmation sample is collected as specified in subparagraph (ii)(C)(III), compliance is determined using the average of the two samples.

(C) Compliance with the MCLs for nitrate and nitrite is determined based on one sample if the levels of these contaminants are below the MCLs. If the levels of nitrate or nitrite exceed the MCLs in the initial sample, a confirmation sample is required in accordance with subparagraph (ii)(C)(III), and compliance shall be determined based on the average of the initial and confirmation samples.

(D) If a system fails to collect the required number of samples, compliance with the MCL will be based on the total number of samples collected.

(E) If a sample result is less than the detection limit, zero will be used to calculate compliance.

(8) *Monitoring requirements for public water systems that obtain finished water from another public water system.*

* * * * *

(ii) Community consecutive water suppliers shall monitor the distribution system for compliance with the MCL for asbestos at the frequency indicated in paragraph (7)(i), when the Department determines that the system's distribution system contains asbestos cement pipe and optimum corrosion control measures have not been implemented.

(iii) Consecutive water suppliers may be exempt from conducting monitoring for the MCLs for VOCs, SOCs and IOCs and radionuclides if the public water system from which the finished water is obtained complies with paragraphs (5)–(7) and (14) and is in compliance with the MCLs, except that asbestos monitoring is required in accordance with subparagraph (ii) .

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(vii) A community water system which is a consecutive water system shall comply with the monitoring requirements for lead and copper as specified in § 109.1101(c) (relating to lead and copper).

* * * * *

(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 TTHMs 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 TTHMs, 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.

(i) *TTHMs and HAA5.*

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(B) *Reduced monitoring.* Systems shall monitor for TTHMs and HAA5 for at least 1 year prior to qualifying for reduced monitoring. Systems serving at least 500 persons and that use either surface water or GUDI sources shall monitor source water TOC monthly for at least 1 year prior to qualifying for reduced monitoring. The Department retains the right to require a system that meets the requirements of this clause to resume routine monitoring.

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(II) For systems that use only groundwater sources not included under subclause (I), the required monitoring is reduced according to the following:

(-a-) For systems serving at least 10,000 persons that have a TTHM running annual average that is no greater than 0.040 mg/L and an HAA5 running annual average that is no greater than 0.030 mg/L, the required monitoring is reduced to one sample per year per treatment plant. The sample shall be taken during the month of warmest water temperature and at a location that represents a maximum residence time. If the annual TTHM average exceeds 0.060 mg/L or the annual HAA5 average exceeds 0.045 mg/L, the system shall resume routine monitoring as prescribed in clause (A) in the quarter immediately following the quarter in which the system exceeds 0.060 mg/L for TTHMs or 0.045 mg/L for HAA5.

(-b-) For systems serving fewer than 10,000 persons that have an annual TTHM average that is no greater than 0.040 mg/L and an annual HAA5 average that is no greater than 0.030 mg/L for 2 consecutive years or an annual TTHM average that is no greater than 0.020 mg/L and an annual HAA5 average that is no greater than 0.015 mg/L for 1 year, the required monitoring is reduced to one sample per 3-year period per treatment plant. The sample shall be taken at a location that represents a maximum residence time during the month of warmest water temperature. The 3-year period shall begin on January 1 following the quarter in which the system qualifies for reduced monitoring. If the TTHM average exceeds 0.060 mg/L or the HAA5 average exceeds 0.045 mg/L, the system shall resume routine monitoring as prescribed in clause (A), except that systems that exceed either a TTHM or HAA5 MCL shall increase monitoring to at least one sample per quarter per treatment plant beginning in the quarter immediately following the quarter in which the system exceeds the TTHM or HAA5 MCL.

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(14) *Monitoring requirements for radionuclides.* Community water systems shall monitor for compliance with the MCLs for radionuclides established by the EPA under 40 CFR 141.66(b), (c), (d) and (e) (relating to maximum contaminant levels for radionuclides). The monitoring shall be conducted according to the requirements established by the EPA under 40 CFR 141.25 and 141.26 (relating to analytical methods for radioactivity; and monitoring frequency and compliance requirements for radionuclides in community water systems) which are incorporated by reference, except as modified by this chapter. Initial or first-year monitoring mentioned in this paragraph refers to monitoring conducted on or after January 1, 2005.

(i) *Monitoring requirements for gross alpha particle activity, radium-226, radium-228 and uranium.*

(A) *Initial monitoring schedule.* The initial monitoring shall consist of 4 consecutive quarterly samples for each radionuclide at each entry point in accordance with the following monitoring schedule except for systems that are granted reduced initial monitoring in accordance with subclause (V).

(I) Systems serving more than 3,300 persons shall begin monitoring during the quarter beginning January 1, 2005.

(II) Systems serving 500 to 3,300 persons shall begin monitoring during the quarter beginning January 1, 2006.

(III) Systems serving fewer than 500 persons shall begin monitoring during the quarter beginning January 1, 2007.

(IV) Systems that add new entry points associated with new sources shall conduct initial quarterly monitoring beginning the first full quarter the entry point begins serving the public. Quarterly monitoring shall continue until reduced monitoring is granted in accordance with clause (B) or subclause (V).

(V) If the first 2 quarterly samples for a radionuclide at an entry point have results below the detection limit, as defined in 40 CFR 141.25(c)(1), the final 2 quarterly samples for that radionuclide at that entry point are waived.

(VI) For entry points at which the average of the initial monitoring results for a radionuclide is above the MCL, the system shall collect and analyze quarterly samples for that radionuclide at that entry point until the system has results from 4 consecutive quarters for that radionuclide at that entry point that are at or below the MCL.

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§ 109.303. Sampling requirements.

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(c) Public water suppliers shall assure that samples for laboratory analysis are properly collected and preserved, are collected in proper containers, do not exceed maximum holding times between collection and analysis and are handled in accordance with guidelines governing quality control which may be established by the Department. A public water supplier who utilizes an accredited laboratory for sample collection as well as analysis satisfies the requirements of this subsection.

(d) Compliance monitoring samples for the VOCs listed under 40 CFR 141.61(a) shall be collected by a person properly trained by a laboratory accredited by the Department to conduct VOC or vinyl chloride analysis.

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(g) Samples taken to determine compliance with combined radium-226 and radium-228, gross alpha particle activity, or uranium under 40 CFR 141.66(b), (c) and (e) (relating to maximum contaminant levels for radionuclides) may be composited from a single entry point if the analysis is done within 1 year of the date of the collection of the first sample. The Department will treat analytical results from the composited sample as the average analytical result to determine compliance with the MCLs and the future monitoring frequency.

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§ 109.304. Analytical requirements.

(a) 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.

(b) An alternate analytical technique may be employed with the written approval of the Department and the concurrence of the Administrator. An alternate technique will be accepted only if it is substantially equivalent to the prescribed test in both precision and accuracy as it relates to the determination of compliance with MCLs or MRDLs or treatment technique requirements. The use of the alternate analytical technique may not decrease the frequency of monitoring required by this subchapter.

(c) For the purpose of determining compliance with the monitoring and analytical requirements established under this subchapter and Subchapter K (relating to lead and copper), the Department will consider only samples analyzed by a laboratory accredited by the Department, except that measurements for turbidity, fluoridation operation, residual disinfectant concentration, temperature, pH, alkalinity, orthophosphates, silica, calcium, conductivity, daily chlorite, and magnesium hardness may be performed by a person meeting one of the following requirements:

(1) A person meeting the requirements of § 109.704 (relating to operator certification).

(2) A person using a standard operating procedure as provided under authority of the Water and Wastewater Systems Operators' Certification Act (63 P. S. §§ 1001—1015.1).

(3) An environmental laboratory meeting the requirements of Chapter 252 (relating to environmental laboratory accreditation).

Subchapter D. PUBLIC NOTIFICATION

§ 109.410. Tier 3 public notice—categories, timing and delivery.

(a) *General violation categories and other situations requiring a Tier 3 public notice.* A public water supplier shall provide Tier 3 public notice for the following circumstances:

(1) Monitoring violations under Subchapter C or K (relating to monitoring requirements; and lead and copper), except when a Tier 1 notice is required under § 109.408 (relating to Tier 1 public notice—categories, timing and delivery of notice) or where the Department determines that a Tier 2 notice is required.

(2) Reporting and record maintenance violations under § 109.701(h) (relating to reporting and recordkeeping).

(3) Operation under a variance or an exemption granted under Subchapter I (relating to variances and exemptions issued by the Department).

(4) Availability of unregulated contaminant monitoring results, as required under 40 CFR 141.40 (relating to monitoring requirements for unregulated contaminants).

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Subchapter E. PERMIT REQUIREMENTS

§ 109.503. Public water system construction permits.

(a) *Permit application requirements.* An application for a public water system construction permit shall be submitted in writing on forms provided by the Department and shall be accompanied by plans, specifications, engineer's report, water quality analyses and other data, information or documentation reasonably necessary to enable the Department to determine compliance with the act and this chapter. The Department will make available to the applicant the *Public Water Supply Manual*, available from the Bureau of Water Standards and Facility Regulation, Post Office Box 8467, Harrisburg, Pennsylvania 17105 which contains acceptable design standards and technical guidance. Water quality analyses shall be conducted by a laboratory accredited under this chapter.

(1) *General requirements.* An application must include:

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(iii) *Information describing new sources.* The Department may accept approval of an out-of-State source by the agency having jurisdiction over drinking water in that state if the supplier submits adequate proof of the approval and the agency's standards are at least as stringent as this chapter. Information describing sources must include:

* * * * *

(B) An evaluation of the quality of the raw water from each new source. This clause does not apply when the new source is finished water obtained from an existing permitted community water system unless the Department provides written notice that an evaluation is required. The evaluation must include analysis of the following:

(I) VOCs for which MCLs have been established by the EPA under the National Primary Drinking Water Regulations in 40 CFR 141.61(a) (relating to maximum contaminant levels for organic contaminants). Vinyl chloride monitoring is required only if one or more of the two-carbon organic compounds specified under § 109.301(5)(i) (relating to general monitoring requirements) are detected. Samples for VOCs shall be collected in accordance with § 109.303(d) (relating to sampling requirements).

(II) Except for asbestos, IOCs for which MCLs have been established by the EPA under the National Primary Drinking Water Regulations in 40 CFR 141.62 (relating to maximum contaminant levels for inorganic contaminants). The new source shall be monitored for asbestos if the Department has reason to believe the source water is vulnerable to asbestos contamination.

(III) Lead.

(IV) Copper.

(V) Total coliform concentration and, if total coliform-positive, analyze for fecal coliform concentration.

(VI) SOCs.

(-a-) Except for SOCs that have been granted a State-wide waiver, SOCs for which MCLs have been established by the EPA under the National Primary Drinking Water Regulations in 40 CFR 141.61(c).

(-b-) Dioxin where there is a source of dioxin contamination within 1,000 feet of a groundwater source or within 1 mile upstream of a surface water source.

(-c-) Polychlorinated biphenyls (PCBs) where there is a source of PCB contamination within 1,000 feet of a groundwater source or within 1 mile upstream of a surface water source.

* * * * *

(VIII) Aluminum, chloride, color, foaming agents, iron, manganese, pH, silver, sulfate, total dissolved solids and zinc for which MCLs have been established by the EPA under the National Secondary Drinking Water Regulations in 40 CFR 143.3 (relating to secondary MCLs).

(IX) Alkalinity.

(X) Hardness.

(XI) Temperature.

(XII) Other contaminants that the Department determines necessary to evaluate the potability of the source.

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§ 109.504. Public water system operation permits.

(a) To obtain an operation permit for a new system or an amended operation permit for system modifications, the public water supplier shall submit a certification of construction to the Department upon completion of the applicable construction or modification. The certification shall state that the work was completed in accordance with the approved plans and specifications and shall be signed by the professional engineer or other person responsible for the work.

(b) The Department will not issue an operation permit or an amended operation permit, unless the following conditions are satisfied:

(1) Construction of the new or modified facilities has been approved by the Department.

(2) The water supplier has demonstrated to the Department that adequate operation and maintenance information for the new or modified facilities is available onsite for use by the public water system's personnel.

(3) The water supplier has demonstrated to the Department that they are in compliance with § 109.704 (relating to operator certification).

(c) Issuance of an operation permit authorizes only the operation included in the permit. The permit's continuing validity is conditioned upon satisfaction of all provisions of the permit.

§ 109.505. Requirements for noncommunity water systems.

A noncommunity water system shall obtain a construction permit under § 109.503 (relating to public water system construction permits) and an operation permit under § 109.504 (relating to public water system operation permits), unless the noncommunity water system satisfies paragraph (1) or (2). The Department retains the right to require a noncommunity water system that meets the requirements of paragraph (1) or (2) to obtain a construction and an operation permit, if, in the judgment of the Department, the noncommunity water system cannot be adequately regulated through standardized specifications and conditions. A noncommunity water system which is released from the obligation to obtain a construction and an operation permit shall comply with the other requirements of this chapter, including design, construction and operation requirements described in

Subchapters F and G (relating to design and construction standards; and system management responsibilities).

(1) A noncommunity water system which holds a valid permit or license issued after December 8, 1984, under one or more of the following acts satisfies the permit requirement under the act. The licensing authority will review the drinking water facilities under this chapter when issuing permits under the following acts:

(i) The act of May 23, 1945 (P. L. 926, No. 369) (35 P. S. §§ 655.1—655.13).

(ii) The Seasonal Farm Labor Act (43 P. S. §§ 1301.101—1301.606).

(iii) The Public Bathing Law (35 P. S. §§ 672—680d).

(2) A noncommunity water system not covered under paragraph (1) is not required to obtain a construction and an operation permit if it satisfies the following specifications and conditions:

(i) The sources of supply for the system are groundwater sources requiring treatment no greater than disinfection to provide water of a quality that meets the primary MCLs established under Subchapter B (relating to MCLs, MRDLs or treatment technique requirements).

(ii) The water supplier files a brief description of the system, including raw source quality data, on forms acceptable to the Department. Amendments to the system description shall be filed when a substantial modification is made to the system. Descriptions of new systems or modifications shall be submitted and approved by the Department prior to construction.

(3) A noncommunity water system which satisfies the requirements of paragraphs (1) and (2) shall provide the Department with the following information describing new sources, including an evaluation of the quality of the raw water from each new source. Water quality analyses shall be conducted by a laboratory certified under this chapter. This paragraph does not apply when the new source is finished water obtained from an existing permitted community water system or an existing permitted or approved noncommunity water system unless the Department provides written notice that one or more of the provisions of this paragraph apply.

(i) For transient noncommunity water systems, the evaluation must include analysis of the following:

- (A) Nitrate (as nitrogen) and nitrite (as nitrogen).
- (B) Total coliform concentration and, if total coliform-positive, analyze for fecal coliform concentration.
- (C) Any other contaminant which the Department determines is necessary to evaluate the potability of the source or which the Department has reason to believe is present in the source water and presents a health risk to the users of the system.

(ii) For nontransient noncommunity water systems, the evaluation must include the information required under § 109.503(a)(1)(iii)(B).

Subchapter F. DESIGN AND CONSTRUCTION STANDARDS

§ 109.605. Minimum treatment design standards.

The level of treatment required for raw water depends upon the characteristics of the raw water, the nature of the public water system and the likelihood of contamination. The following minimum treatment design standards apply to new facilities and major changes to existing facilities:

(1) For surface water and GUDI sources, the minimum treatment design standard for filtration technologies is a 99% removal of *Giardia* cysts, and a 99% removal of *Cryptosporidium* oocysts. The determination of the appropriate filtration technology to be used shall be based on the following:

(i) Conventional filtration designed and operated in accordance with standards established in the Department's *Public Water Supply Manual* can be expected to achieve the minimum treatment design standard and shall be considered the best treatment for most surface water sources in this Commonwealth because of the multiple barriers of protection that it provides.

(ii) Direct filtration, slow sand filtration and diatomaceous earth filtration may be permitted if studies, including pilot studies where appropriate, approved by the Department are conducted and demonstrate, through achievement of the turbidity performance standards specified in § 109.202(c)(1)(i) (relating to State MCLs, MRDLs and treatment technique requirements), that the minimum treatment design standard can be achieved consistently, reliably and practically under appropriate design and operating conditions.

(iii) Other filtration technologies may be permitted after onsite studies, including pilot plant studies where appropriate, using seeded indicator organisms in the raw water or other equivalent means as approved by the Department, that demonstrate that the technology can consistently achieve the minimum treatment design standard.

(2) For surface water and GUDI sources, the minimum treatment design standard for disinfection technologies utilized prior to the first user of the system is a total of 99.9% inactivation of *Giardia* cysts and a 99.99% inactivation of viruses, except noncommunity water systems may propose, and the Department may approve, an alternative to the *Giardia* design standard when 99.9% inactivation is not feasible. Total treatment system disinfection capability will be credited toward this design standard. The CT factors and measurement methods established by the EPA are the criteria to be used in determining compliance with this minimum treatment design standard.

Subchapter G. SYSTEM MANAGEMENT RESPONSIBILITIES

§ 109.701. Reporting and recordkeeping.

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

* * * * *

(2) *Monthly reporting requirements for performance monitoring.*

(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:

- (A) For turbidity performance monitoring:
 - (I) The number of days of filtration operation.
 - (II) The number of filtered water turbidity measurements taken each month.
 - (III) The number of filtered water turbidity measurements that are less than or equal to 0.5 NTU for

conventional, direct or other filtration technologies, or 1.0 NTU for slow sand or diatomaceous earth filtration technologies.

(IV) The date, time and values of any filtered water turbidity measurements exceeding 2.0 NTU.

(V) Instead of subclauses (III) and (IV), beginning January 1, 2002, for public water systems that serve 10,000 or more people and use conventional or direct filtration:

(-a-) The number of filtered water turbidity measurements that are less than or equal to 0.3 NTU.

(-b-) The date, time and values of any filtered water turbidity measurements exceeding 1 NTU.

(VI) Instead of subclauses (A)(III) and (IV), beginning January 1, 2005, for public water systems that serve fewer than 10,000 persons and use conventional or direct filtration:

(-a-) The number of filtered water turbidity measurements that are less than or equal to 0.3 NTU.

(-b-) The date, time and values of any filtered water turbidity measurements exceeding 1 NTU.

(VII) Instead of subclauses (III) and (IV), beginning January 1, 2002, for public water systems that serve 10,000 or more people and use other filtration technologies:

(-a-) The number of filtered water turbidity measurements that are less than or equal to 0.3 NTU or a more stringent turbidity performance level requirement that is based upon onsite studies and is specified by the Department.

(-b-) The date, time and values of any filtered water turbidity measurements exceeding 1 NTU or a more stringent turbidity performance level requirement that is based upon onsite studies and is specified by the Department.

(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.

* * * * *

(11) *Noncompliance report.* Except where a different reporting period is specified in this chapter, the water supplier shall report to the Department within 48 hours the failure to comply with any National Primary Drinking Water Regulation, including the failure to comply with any monitoring requirement set forth in this chapter.

* * * * *

(i) *Accuracy of data.*

(1) Each water supplier shall be responsible for the accurate reporting of data required under subsection (j) to the Department.

(2) Each water supplier shall be responsible for providing accurate monitoring and sample information to the accredited laboratory that is responsible for reporting

data to the Department under § 109.810 (relating to environmental laboratory accreditation). Monitoring and sample information must include, but is not limited to, the monitoring frequency, monitoring period, sample location, and sample type.

(j) *Electronic reporting.* Within 90 days of written notification by the Department, a public water system shall submit electronically all of its monitoring data for the contaminants listed under § 109.304(c) (relating to analytical requirements).

(1) The Department will provide written notification to each public water system to begin submitting data electronically based on the following schedule:

(i) Systems serving more than 10,000 persons will be notified no sooner than November 23, 2009.

(ii) Systems serving more than 3,300 but less than 10,001 persons will be notified no sooner than May 23, 2010.

(iii) Systems serving more than 500 but less than 3,301 persons will be notified no sooner than November 23, 2010.

(iv) Systems serving less than 501 persons will be notified no sooner than May 23, 2011.

(v) New systems will be notified of the electronic reporting requirements at the time of issuance of the operation permit under § 109.504 (relating to public water system operation permits).

(2) The water supplier shall electronically submit all of its data using a secure computer application provided by the Department.

(3) The water supplier shall submit the required data electronically in accordance with the submission deadlines established in this section.

(4) In the event of a Department computer application failure, the Department will notify the water supplier of an alternate reporting method.

(5) In the event that a water supplier is unable to submit data electronically, due to circumstances beyond its control, the water supplier shall notify the Department prior to the applicable reporting deadline. If the Department determines that the circumstances were beyond the control of the water supplier, the Department will specify a temporary, alternate reporting method the water supplier shall use to meet the reporting deadline.

(6) A water supplier shall meet the requirements under this subsection, unless the water supplier assigns in writing the responsibility for reporting to an accredited laboratory or another approved party.

(k) *Monitoring plan to determine if a source is directly influenced by surface water.* Systems required to monitor under § 109.302(f) (relating to special monitoring requirements) shall develop and implement a monitoring plan. The system shall submit a copy of the monitoring plan to the Department for review and approval prior to the applicable compliance date. The plan must address the requirements under § 109.302(f).

§ 109.703. Facilities operation.

(a) Public water system facilities approved by written permit from the Department shall be operated in a manner consistent with the terms and conditions of the permit to achieve the level of treatment for which the facilities were designed.

(b) For surface water or GUDI sources, a public water supplier using filtration shall comply with the following requirements:

(1) By July 1, 1990, suppliers using conventional or direct filtration shall, after filter backwash, and before putting the backwashed filter back on line, filter-to-waste until the filter bed effluent turbidity is less than 0.5 NTU at the normal production flow rate.

(2) Beginning May 16, 1992, a supplier using slow sand filtration shall, following sanding, scraping or resanding of slow sand filters, filter-to-waste until one of the following occurs:

(i) The filter bed effluent turbidity is less than 1.0 NTU at the normal production flow rate.

(ii) A reduction in turbidity is achieved when the source water turbidity is less than 1.0 NTU.

(3) Beginning May 16, 1992, a supplier using diatomaceous earth filtration shall, following backwashing and recoating of diatomaceous earth filters, filter-to-waste until one of the following occurs:

(i) The filter bed effluent turbidity is less than 1.0 NTU at the normal production flow rate.

(ii) A reduction in turbidity is achieved when the source water turbidity is less than 1.0 NTU.

(4) For a conventional or direct filtration facility permitted prior to March 25, 1989, without filter-to-waste capability, the Department, upon the supplier's request, may allow the supplier to utilize other operating techniques which minimize the initial increased turbidity peak when a filter is initially placed back into service after backwashing. The technique, which may include filter settling periods, ramping open the effluent valve or use of a coagulant in the backwash water, shall be justified by a filter performance study approved by the Department.

(5) Except for public water systems covered under § 109.301(1)(iv) (relating to general monitoring requirements), a system with conventional or direct filtration facilities permitted prior to March 25, 1989, without individual filter bed turbidity monitoring capabilities shall conduct an annual filter bed evaluation program, acceptable to the Department, which includes an evaluation of filter media, valves, surface sweep and sampling of filter turbidities over one entire filter run; and shall submit to the Department, with the Annual Water Supply Report, a study that demonstrates that the water supplier's filter-to-waste or alternate approved operating procedures are meeting the operating conditions under paragraph (1) or (4).

§ 109.704. Operator certification.

(a) Community and nontransient noncommunity water systems shall have personnel certified under the Water and Wastewater Systems Operators' Certification Act (63 P. S. §§ 1001—1015.1) to operate and maintain a public water system.

(b) Transient noncommunity water systems shall have competent personnel qualified to operate and maintain the system's facilities.

Subchapter H. ENVIRONMENTAL LABORATORY ACCREDITATION

§ 109.810. Reporting and notification requirements.

(a) Beginning November 13, 2009, a laboratory accredited under Chapter 252 (relating to environmental laboratory accreditation) shall electronically report to the De-

partment on behalf of the public water supplier and in accordance with the reporting requirements under § 109.701(a) (relating to reporting and recordkeeping), the results of test measurements or analyses performed by the laboratory under this chapter using a secure computer application provided by the Department. In the event of a Department computer application failure, the Department will notify the laboratory of an alternate reporting method. In the event that a laboratory is unable to submit data electronically, due to circumstances beyond its control, the laboratory shall notify the Department prior to the applicable reporting deadline. If the Department determines that the circumstances were beyond the control of the laboratory, the Department will specify a temporary, alternate reporting method the laboratory shall use to meet the reporting deadline.

(1) Unless a different reporting period is specified in this chapter, these results shall be reported within either the first 10 days following the month in which the result is determined or the first 10 days following the end of the required monitoring period as stipulated by the Department, whichever is shorter.

(2) Beginning November 23, 2009, an accredited laboratory and the public water supplier shall be given until the 10th of the following month to review and update submitted data using a secure computer application provided by the Department. Omissions and data errors remaining after the review period shall be considered reporting violations of the public water supplier.

(b) A laboratory accredited under Chapter 252 shall whenever the results of test measurements or analyses performed by the laboratory under this chapter indicate an MCL, MRDL or a treatment technique performance requirement under § 109.202 (relating to State MCLs, MRDLs and treatment technique requirements) is exceeded, or an action level under § 109.1102(a) (relating to lead and copper) is exceeded, or a sample result requires the collection of check or confirmation samples under § 109.301 (relating to general monitoring requirements):

(1) Notify the public water supplier by telephone within 1 hour of the laboratory's determination. If the supplier cannot be reached within that time, notify the Department by telephone within 2 hours of the determination. If it is necessary for the laboratory to contact the Department after the Department's routine business hours, the laboratory shall contact the appropriate Department regional office's after-hours emergency response telephone number and provide information regarding the occurrence, the name of a contact person and the telephone number where that individual may be reached in the event further information is needed. If the Department's appropriate emergency number cannot be reached, the laboratory shall notify the appropriate Department regional office by telephone within 1 hour of the beginning of the next business day. Each accredited laboratory shall be responsible for the following:

(i) Obtaining and then maintaining the Department's current after-hours emergency response telephone numbers for each applicable regional office.

(ii) Establishing or updating a standard operating procedure by November 8, 2002, and at least annually thereafter to provide the information needed to report the occurrences to the Department. The information regarding the public water system must include, but is not limited to, the PWSID number of the system, the system's name, the contaminant involved in the occurrence, the level of the contaminant found, where the sample was

collected, the dates and times that the sample was collected and analyzed, the name and identification number of the certified laboratory, the name and telephone number of a contact person at the laboratory and what steps the laboratory took to contact the public water system before calling the Department.

(2) Notify the appropriate Department district office in writing within 24 hours of the determination. For the purpose of determining compliance with this requirement, the postmark, if the notice is mailed, or the date the notice is received by the Department, whichever is earlier, will be used. Upon approval by the Department, the notice may be made electronically to the Department as long as the information is received within the 24-hour deadline.

(c) A laboratory accredited under Chapter 252 shall meet the requirements under subsections (a) and (b), regarding the results of test measurements or analyses performed by the laboratory under this chapter, unless the laboratory assigns in writing the responsibility for reporting and notification to another accredited laboratory.

(d) A laboratory accredited under Chapter 252 shall be responsible for the accurate reporting of data required under this section to the Department.

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

§ 109.1003. Monitoring requirements.

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(d) *A bulkwater hauling system to 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 comply with the monitoring requirements for community water systems in accordance with § 109.301.

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

Subchapter K. LEAD AND COPPER

§ 109.1102. Action levels and treatment technique requirements.

(a) *Action levels for lead and copper.*

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(4) The 90th percentile lead and copper levels shall be computed as follows:

(i) The results of all lead or copper samples taken during a monitoring period shall be placed in ascending order from the sample with the lowest concentration to the sample with the highest concentration. Each sampling result shall be assigned a number, ascending by single integers beginning with the number 1 for the sample with the lowest contaminant level. The number assigned to the sample with the highest contaminant level shall be equal to the total number of samples taken.

(ii) The number of samples taken during the monitoring period shall be multiplied by 0.9.

(iii) The contaminant concentration in the numbered sample yielded by the calculation in subparagraph (ii) is the 90th percentile contaminant level.

(iv) For water systems that collect five samples per monitoring period, the 90th percentile is computed by taking the average of the highest and second highest concentrations.

(v) Interpolation shall be used to compute the 90th percentile when the numbered sample indicated in subparagraph (iii) is not a whole number.

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§ 109.1103. Monitoring requirements.

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(e) *Reduced monitoring.*

(1) *Reduced lead and copper tap monitoring.* A system conducting reduced lead and copper tap monitoring shall collect one sample from the number of sample sites listed in the following column.

<i>System size (# of people served)</i>	<i># of Sample Sites (reduced monitoring)</i>
>100,000 . . .	50
10,001 to 100,000 . . .	30
3,301 to 10,000 . . .	20
501 to 3,300 . . .	10
500 or fewer . . .	5

* * * * *

(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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§ 109.1105. Permit requirements.

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(b) *Construction permits and permit amendments.* The water supplier shall submit an application for a public water system construction permit for a newly-created system or an amended construction permit for a currently-permitted system for corrosion control treatment facilities by the applicable deadline established in § 109.1102(b)(2) (relating to action levels and treatment technique requirements), unless the system complies with paragraph (1) or (2) or otherwise qualifies for a minor permit amendment under § 109.503(b) (relating to public water system construction permits). The permit application must comply with § 109.503 and contain the applicable information specified therein. The application must include recommended water quality parameter performance requirements for optimal corrosion control treatment as specified in § 109.1102(b)(5) and other data, information or documentation necessary to enable the Department to consider the application for a permit for construction of the facilities.

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(2) *Nontransient noncommunity water system permits.* The nontransient noncommunity water supplier is not required to obtain a construction permit or permit amendment under subsection (b) if the system satisfies the following specifications and conditions:

* * * * *

(v) The water supplier files a brief description of the proposed treatment, including recommended water quality parameter performance requirements for optimal corrosion control treatment as specified in § 109.1102(b)(5), on forms acceptable to the Department. Descriptions of modifications shall be submitted and approved by the Department prior to construction.

(c) *Operation permits.* Except for nontransient noncommunity water systems complying with subsection (b)(2), the water supplier shall obtain an operation permit or amended operation permit following completion of construction and prior to initiation of operation of corrosion control treatment facilities. The permit will be issued in accordance with § 109.504 (relating to public water system operation permits). The Department will not issue an operation permit under this subchapter unless the water system complies with the operation and maintenance plan requirements under § 109.1107(b) (relating to system management responsibilities) and the operator certification requirements under § 109.1107(c). The water supplier for a community water system or nontransient noncommunity water system shall submit a request for Department designation of optimal corrosion control treatment performance requirements in accordance with § 109.1102(b)(2) and the Department will issue an amended operation permit designating the performance requirements as specified in § 109.1102(b)(5).

§ 109.1107. System management responsibilities.

(a) *Reporting and recordkeeping.* Systems shall comply with the following requirements and otherwise comply with § 109.701 (relating to reporting and recordkeeping):

(1) *Sample site location plan.* The system shall prepare a sample site location plan in accordance with § 109.1103(g) (relating to monitoring requirements), maintain the plan on record and submit the plan to the Department prior to conducting initial lead and copper tap monitoring or upon request. The water supplier shall update the following information in the plan within the first 10 days following the end of each applicable monitoring period:

(i) Selection of different lead and copper tap sample sites from sites sampled during previous monitoring periods and corresponding site selection justification required under § 109.1103(g)(2)(v).

(ii) Changes in water quality parameter distribution or entry point site selection or source water entry point site selection from sites sampled during previous monitoring periods.

(iii) An update of the sample procedure certification required under § 109.1103(g)(4).

(2) *Reporting of monitoring results.* The water supplier shall assure that the results of analyses conducted in accordance with § 109.1103 are reported to the Department within the first 10 days following the end of each applicable monitoring period as stipulated by § 109.1103. Additional monitoring results beyond that required under § 109.1103 shall be kept on record by the water supplier and presented or submitted to the Department upon request.

(i) *Lead and copper tap monitoring results.* The following minimum information is required when reporting lead and copper tap monitoring results to the Department.

(A) The name, address and public water system identification number (PWSID) of the public water system from which the samples are taken.

(B) The contaminant ID.

(C) The parameter name.

(D) The sample period.

(E) The sample type.

(F) The number of samples required and the number of samples taken.

(G) The analytical methods used.

(H) The results of analyses conducted in accordance with this subchapter for lead and copper tap monitoring.

(I) The sample location.

(J) The 90th percentile result.

(K) Whether an action level has been exceeded.

(L) The name, address and identification number of the certified laboratory performing the analysis.

(ii) *Water quality parameter monitoring results.* The following minimum information is required when reporting water quality parameter results to the Department:

(A) The name, address and PWSID of the public water system from which the samples are taken.

(B) The contaminant ID.

(C) The parameter name.

(D) The sample period.

(E) The sample type.

(F) The number of samples required and the number of samples taken.

(G) The analytical methods used.

(H) The results of analyses conducted in accordance with § 109.1103 for water quality parameters.

(I) The sample location.

(J) Whether an excursion has occurred on more than any 9 days during a 6-month monitoring period for any Department specified water quality parameter.

(iii) *Source water monitoring results.* The following minimum information is required when reporting source water monitoring results to the Department:

(A) The name, address and PWSID of the public water system from which the samples are taken.

(B) The contaminant ID.

(C) The parameter name.

(D) The sample period.

(E) The sample type.

(F) The number of samples required and the number of samples taken.

(G) The analytical methods used.

(H) The results of analyses conducted in accordance with this subchapter for source water monitoring.

(I) The sample location.

(J) The name, address and identification number of the certified laboratory performing the analysis.

* * * * *

(c) *Operator certification.* Community water systems and nontransient noncommunity water systems which are required to construct or modify corrosion control treatment facilities in compliance with this subchapter shall comply with the requirements under § 109.704 (relating to operator certification).

(d) *Lead serviceline replacement.*

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