Title 25. Environmental Protection
Department of Environmental Protection
Chapter 109. Safe Drinking Water

Subchapter A. GENERAL PROVISIONS

§ 109.1. Definitions.

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

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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. **[For MCLs incorporated into this chapter by reference, the term refers to the numerical value and the means of determining compliance with that value and does not refer to the EPA applications to specific types of public water systems or sources.]**

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***Reliably and consistently below the MCL*- 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. For nitrate and nitrite, this means that each sample result is less than 50% of the MCL.**

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Subchapter C. MONITORING REQUIREMENTS

109.301 General monitoring requirements.

[The monitoring requirements established by the EPA under the National Primary Drinking Water Regulations, 40 CFR Part 141 (relating to national primary drinking water regulations), as of December 8, 1984, are incorporated by reference.] Public water suppliers shall monitor for compliance with MCLs**, [and]** MRDLs **and treatment technique requirements** in accordance with the requirements established **by the EPA [in] 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.

(C) Shall continuously monitor and record the residual disinfectant concentration of the water being supplied to the distribution system and record both the lowest value for each day and the number of periods each day when the value is less than .2 mg/L for more than 4 hours. If a public water system's continuous monitoring or recording equipment fails, the public water supplier may, upon notification of the Department under § 109.701(a)(3) (relating to reporting and recordkeeping), substitute grab sampling or manual recording every 4 hours in lieu of continuous monitoring. Grab sampling or manual recording may not be substituted for continuous monitoring or recording for longer than 5 days after the equipment fails.

(D) Shall measure and record the residual disinfectant concentration at representative points in the distribution system no less frequently than the frequency required for total coliform sampling for compliance with the MCL for microbiological contaminants.

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

System Size (People)	*Samples/Day*
‹500	1
500—1,000	2
1,001—2,500	3
2,501—3,300	4

If the Department reduces the monitoring, the supplier shall nevertheless collect and analyze another residual disinfectant measurement as soon as possible, but no longer than 4 hours from any measurement which is less than .2 mg/L.

(iii) For a public water supplier serving fewer than 500 people, the Department may reduce the filtered water turbidity monitoring to one grab sample per day, if the historical performance and operation of the system indicate effective turbidity removal is maintained under the range of conditions expected to occur in the system's source water.

(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**.

(C) A public water supplier serving 10,000 or more persons has a maximum of 5 working days following the failure of the equipment to repair or replace the equipment before a violation is incurred.

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

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

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

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

System Size (People)	*Samples/Week*
‹500	1
500—3,299	2
3,300—10,000	3
10,001—25,000	4
25,001 or more	5

(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 **[protocol approved] procedure specified** by the **[Department] 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.

(E) Shall measure the residual disinfectant concentration at representative points in the distribution system no less frequently than the frequency required for total coliform sampling for compliance with the MCL for microbiological contaminants.

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

System Size (People)	*Samples/Day*
‹500	1
500—1,000	2
1,001—2,500	3
2,501—3,300	4

If the Department reduces the monitoring, the supplier shall nevertheless collect and analyze another residual disinfectant measurement as soon as possible, but no longer than 4 hours from any measurement which is less than the residual disinfectant concentration approved under § 109.202(c)(1)(iii).

(iii) For a public water supplier serving fewer than 500 people, the Department may reduce the source water turbidity monitoring to one grab sample per day, if the historical performance and operation of the system indicate effective disinfection is maintained under the range of conditions expected to occur in the system's source water.

(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—form, manner and frequency of notice).

(i) *Frequency.* Public water systems shall collect samples at regular time intervals throughout the monitoring period as specified in the system distribution sample siting plan under § 109.303(a)(2) (relating to sampling requirements). Systems which use groundwater and serve 4,900 persons or fewer, may collect all required samples on a single day if they are from different sampling sites in the distribution system.

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(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 percent 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 must determine compliance with the MCL for total coliforms in clause (A) and (B) of this section for each month in which it is required to monitor for total coliforms.

[(iv)] (v) * * *

(4) *Exception*. For a water system which complies with the performance monitoring requirements under paragraph (2), the monitoring requirements for compliance with the turbidity MCL do not apply.

(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 other than total trihalomethanes, 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 only 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.

(ii) *Initial monitoring **[schedule].*** **[The] I**nitial monitoring shall consist of four 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).

(A) Systems serving more than 10,000 persons shall begin monitoring during the quarter beginning January 1, 1994.

(B) Systems serving 3,301 persons to 10,000 persons shall begin monitoring during the quarter beginning January 1, 1995.

(C) Systems serving 500 to 3,300 persons shall begin monitoring during the quarter beginning January 1, 1993.

(D) Systems serving fewer than 500 persons shall begin monitoring during the quarter beginning January 1, 1994.

(E) For systems serving 3,300 or fewer people which monitor at least one quarter prior to October 1, 1993, and do not detect VOCs at an entry point during the first quarterly sample, the required initial monitoring is reduced to one sample at that entry point. For systems serving 500 to 3,300 people to qualify for this reduced monitoring, the initial monitoring shall have been conducted during the quarter beginning January 1, 1993.

(F) For systems serving more than 3,300 people, which were in existence prior to January 1, 1993, initial monitoring for compliance with the MCLs for VOCs established by the EPA under 40 CFR 141.61(a) is reduced to one sample for each entry point which meets the following conditions:

(I) VOC monitoring required by the Department between January 1, 1988, and December 31, 1992, has been conducted and no VOCs regulated under 40 CFR 141.61(a) were detected.

(II) The first quarter monitoring required by this paragraph has been conducted during the first quarter of the system's scheduled monitoring year under this paragraph, with no detection of a VOC.

(G) **[Initial monitoring of]** **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**[:]**.

[(I)] **New e**ntry points **[at which a VOC is detected during new source monitoring]** shall be monitored quarterly**,** beginning the first **full** quarter the entry point**[s]** begin**s** serving the public. **[Quarterly monitoring shall continue until reduced monitoring is granted in accordance with subparagraph (iii)(D).]**

[(II) Entry points at which no VOC is detected during new source monitoring shall begin initial quarterly monitoring during the first calendar quarter of the year after the entry point begins serving the public. If no VOC is detected during the first quarter of monitoring, first year monitoring is reduced to one sample at that entry point.]

(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) **[For entry points at which a VOC is detected at a level equal to or greater than its MCL during the first year of quarterly monitoring, the]** **M**onitoring shall be repeated quarterly beginning the quarter following **the** detection **[at a level equal to or greater than the MCL]**, 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 **[clause (D)]** **this subparagraph**.

(B) **[For entry points at which a VOC is detected, and reduced monitoring is granted in accordance with clause (D), and a VOC is thereafter detected at a level greater than the MCL, the monitoring shall be repeated quarterly beginning the quarter following detection at a level for the 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 clause (D)]** **The Department may decrease the quarterly monitoring requirement specified in (iii)(A) of this subparagraph provided it has determined that the system is reliably and consistently below the MCL. In no case shall the Department 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) **[For entry points at which no VOC is detected during the first year of monitoring but a VOC is detected thereafter, the monitoring shall be repeated quarterly beginning the quarter following detection at a level for the VOCs for which the EPA has established MCLs under 40 CFR 141.61(a), except for vinyl chloride as provided in subparagraph (i), or until reduced monitoring is granted in accordance with clause (D)]** **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 must monitor during the quarter that previously yielded the highest analytical result, or as specified by the Department**.

[(D) After analyses of four consecutive quarterly samples at an entry point, including initial quarterly samples, demonstrate that the VOC levels in each quarterly sample are less than the MCLs, the required monitoring is reduced to one sample per year at the entry point for the VOCs for which the EPA has established MCLs under 40 CFR 141.61(a), except for vinyl chloride as provided in subparagraph (i)

(E) 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 certified 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.]

(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) **[or (G)(II)]**, 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.**

[(v)] (vii) *Reduced monitoring.* When reduced monitoring is provided under subparagraph (iii)**[(D),]** or **[subparagraph (iv)(A) or (B)] (iv),** the system shall monitor the entry point during the calendar year quarter **[of] that previously yielded the** highest **[anticipated VOC levels] 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.

[(vi)] (viii) *Waivers.* **[Waivers under 40 CFR 141.24(f) will not be available for the VOC monitoring requirements in this paragraph.] Systems with entry points which have three**

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 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 vulnerability assessment area.

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

(B) If a 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 waiver is effective for one compliance period and may be renewed in each subsequent compliance period.

(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 **[schedule]***. Initial monitoring shall consist of four 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 **[(v)]** **(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.

[(A)] New entry points associated with new sources which are vulnerable to SOC contamination, as determined in accordance with subparagraph **[(v)]** **(vii)**, and which begin operation after March 31, 1995, **[and do not detect an SOC during new source sampling]** shall **[begin initial]** **be monitored** quarterly**,** **[monitoring]** **beginning the first full quarter the entry point begins serving the public** **[during the first calendar year quarter of the year after the entry point begins serving the public].**

[(B) New entry points associated with new sources which are vulnerable to SOC contamination as determined in accordance with subparagraph (v), at which an SOC is detected during new source sampling shall begin initial quarterly monitoring the first quarter the entry point begins serving the public. Quarterly monitoring shall continue until reduced monitoring is granted in accordance with subparagraph (ii)(E)].

(ii) *Repeat monitoring for SOCs that are detected.* **[For entry points which were monitored for SOCs during the initial quarterly monitoring period or during the required quarterly monitoring immediately after being determined vulnerable to contamination by an SOC, repeat monitoring shall be conducted as follows] If an SOC is detected (as defined by EPA under 40 CFR Part 141.24(h)(18) (relating to organic chemicals, sampling and analytical requirements) or by the Department), then:**

(A) **[For entry points at which an SOC is detected at a level equal to or greater than its MCL, the] M**onitoring for the detected SOC shall be **[continued] conducted** quarterly, **beginning the quarter following the detection,** until reduced monitoring is granted in accordance with **[clause (E)] this subparagraph**.

(B) **[For entry points at which an SOC is detected during the first year of quarterly monitoring, and reduced monitoring is granted in accordance with clause (E), and the SOC is thereafter detected at a level greater than its MCL, the monitoring for the detected SOC shall be repeated quarterly, until reduced monitoring is granted in accordance with clause (E)] The Department may decrease the quarterly monitoring requirement specified in subparagraph (ii)(A) of this section provided it has determined that the system is reliably and consistently below the MCL. In no case shall the Department 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) **[For entry points at which an SOC is not detected during the first year of quarterly monitoring, but an SOC is detected initially thereafter at a level less than the MCL, monitoring shall be repeated annually for the detected SOC] 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 must monitor**

during the quarter that previously yielded the highest analytical result, or as specified by the Department.

(D) **[For entry points at which an SOC is not detected during the first year of quarterly monitoring, but the SOC is detected thereafter at a level equal to or greater than the MCL, monitoring for that SOC shall be repeated quarterly, until reduced monitoring is granted in accordance with clause (E)]** **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) of this section. A waiver is effective for one compliance period and may be renewed in each subsequent compliance period.**

[(E) After analyses of four consecutive quarterly samples at an entry point, including initial quarterly samples, demonstrate that the SOC level in each quarterly sample is less than the MCL, the required monitoring for each SOC detected below the MCL is reduced to one sample per year at the entry point.]

[(F)] **(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.

[(G) 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 certified 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.]

(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 two 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.**

[(iv)] **(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 two 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.

[(v)] **(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 **[an areawide] 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.* **[An areawide] A** use waiver will be granted by the Department for contaminants which the Department has determined have not been used, stored, manufactured 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 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.

(C) *Susceptibility waivers.* A susceptibility waiver for specific contaminants may be granted based on the following criteria, and only applies to groundwater entry points:

(I) Previous analytical results.

(II) Environmental persistence and transport of the contaminant.

(III) Proximity of the drinking water source to point or nonpoint source contamination.

(IV) Elevated nitrate levels as an indicator of the potential for pesticide contamination.

(V) Extent of source water protection or approved wellhead protection program.

(D) *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) A 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)**[, and for arsenic established by the EPA under 40 CFR 141.11 (relating to maximum contaminant levels for inorganic contaminants)]**. Transient noncommunity water suppliers shall monitor for compliance with the MCLs for nitrate and nitrite. The monitoring shall be conducted according to the requirements established by the EPA under 40 CFR 141.23 (relating to inorganic chemical sampling and analytical requirements). The requirements are incorporated by reference except as modified by this chapter.

(i) *Monitoring requirements for asbestos.*

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

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

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

(D) *Repeat monitoring for systems that detect asbestos.* 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 four consecutive quarterly samples **with results reliably and consistently below [less than]** 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.

(ii) *Monitoring requirements for nitrate and nitrite.* **[The following compliance monitoring for nitrite is not required at entry points receiving water which has been disinfected with free chlorine, chlorine dioxide or ozone:]**

(A) *Initial monitoring schedule.* A public water system shall begin **[new]** 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 **[which begin serving the public after the first calendar quarter of a year and did not detect levels of nitrate or nitrite equal to or greater than 50% of the MCL during new source sampling] associated with new sources** shall **[begin initial] be monitored quarterly, [monitoring for nitrate and nitrite] beginning the first full quarter the entry point begins serving the public [during the first calendar quarter of the year after 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 **[and surface water] or GUDI** entry points **and new transient noncommunity entry points [at which nitrate or nitrite is detected at levels equal to or greater than 50% of the MCL during new source sampling] associated with new sources** shall **[begin initial] be monitored [quarterly] annually, [monitoring] beginning within one year of serving the public [the first quarter the entry point begins serving the public]. [New community and nontransient noncommunity groundwater entry points at which nitrate and nitrite are not detected at**

levels equal to or greater than 50% of the MCL, and all transient noncommunity 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 systems with nitrate or nitrite levels equal to or greater than 50% of the MCL*s.

(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, **[community and nontransient noncommunity]** 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 entry points at which initial monitoring results or subsequent monitoring indicate nitrate or nitrite levels greater than the MCL, transient noncommunity 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 (IV).]**

[(III)] **For surface water entry points, a**fter four consecutive quarterly samples at an entry point for a **[community or nontransient noncommunity]** **water** system indicate nitrate and nitrite levels in each sample are less than 50% of the MCLs, the required compliance monitoring is reduced to one sample per year at the entry point. Annual monitoring shall be conducted during the **[calendar]** quarter **[in]** which **[the consecutive quarterly monitoring indicated that the]** **previously resulted in the** highest **[levels of contamination were present]** **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 four 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 one 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) After four consecutive quarterly samples at an entry point for a transient noncommunity system indicate nitrate and nitrite levels in each sample are less than the MCLs, the required compliance monitoring is reduced to one sample per year at the entry point. Annual monitoring shall be conducted during the calendar quarter in which the consecutive quarterly monitoring indicated that the highest levels of contamination were present, unless the Department determines that a different monitoring quarter should be used in accordance with paragraph (10).]

[(V)] **(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.

[(VI)] **(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 **[in] which [the water supplier anticipates the highest levels of contamination]** **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.*

(I) For entry points at which initial monitoring results or subsequent monitoring indicates an IOC level in excess of the MCL, monitoring shall be repeated quarterly beginning the quarter following detection at that level for each IOC in excess of an MCL, until reduced monitoring is granted in accordance with subclause (II).

(II) After analyses of four consecutive quarterly samples at an entry point where treatment has not been installed to comply with an IOC MCL indicate that contaminant levels are **[less than] reliably and consistently below** the MCLs, the required monitoring for each IOC less than 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 141.11(b) or 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 **[certified]** **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* ***[IOC]*** ***antimony, arsenic, barium, beryllium, cadmium, chromium, fluoride, mercury, nickel, selenium and thallium*** *monitoring.* Except when treatment has been installed to remove the IOC, after three 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 **[is]** **may be** waived and the required monitoring for the IOC **[is]** **may be** reduced to one 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 or changes in stream flows or characteristics.

(II) A decision by the Department to grant a waiver shall be made in writing and shall 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 shall review and, where 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.

(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.**

[(E)] (F) * * *

(iv) *Invalidation of IOC samples.*

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

(B) A 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 (III)(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.*

(i) Consecutive water suppliers shall monitor for compliance with the MCL for microbiological contaminants at the frequency established by the EPA and incorporated by reference into this chapter.

(ii) Community consecutive water suppliers shall**[:]**

[(A) Monitor for compliance with the MCL for TTHMs established under 40 CFR 141.12 (relating to maximum contaminant levels for total trihalomethanes) in accordance with 40 CFR 141.30 (relating to total trimalomethanes sampling, analytical and other requirements) if the system does one of the following:

(I) Serves more than 10,000 persons.

(II) Obtains finished water from another public water system serving more than 10,000 persons.]

[(B)] [M]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 **[are] 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)**[(B)]**.

(iv) For a public water system which is not a consecutive water system, the exemption in subparagraph (iii) applies to entry points which obtain finished water from another public water system.

(v) A public water supplier that obtains finished water from another permitted public water system using either surface water or GUDI sources shall, beginning May 16, 1992, measure the residual disinfectant concentration at representative points in the distribution system at least as

frequently as the frequency required for total coliform sampling for compliance with the MCL for microbiological contaminants.

(vi) Community water systems and nontransient noncommunity water systems that obtain finished water from another permitted public water system shall comply with the monitoring requirements for disinfection byproducts and disinfectant residuals in paragraphs (12)(i)—(iii) and (13).

(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.*

(A) *Routine monitoring.*

* * * * *

(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.

(I) For systems serving at least 500 persons that use either surface water or GUDI sources and that have a source water TOC running annual average that is no greater than 4.0 mg/L, 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 according to items

(-a-) and (-b-). Systems serving at least 10,000 persons shall resume routine monitoring as prescribed in clause (A) if the TTHM running annual average exceeds 0.060 mg/L or the HAA5 running annual average exceeds 0.045 mg/L. Systems serving from 500 to 9,999 persons shall resume routine monitoring as prescribed in clause (A) if the annual TTHM average exceeds 0.060 mg/L or the annual HAA5 average exceeds 0.045 mg/L. Systems serving at least 500 persons that must resume routine monitoring shall resume routine monitoring in the quarter immediately following the quarter in which the system exceeded the specified TTHM or HAA5 criteria.

(-a-) For systems serving at least 10,000 persons, the required monitoring is reduced to one sample per quarter per treatment plant. The sample shall be taken at a location that represents a maximum residence time.

(-b-) For systems serving from 500 to 9,999 persons, 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.

(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 **[cycle]** **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 **[cycle]** **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.

* * * * *

(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 EPA under 40 CFR 141.25 and 141.26 (relating to analytical methods for radioactivity; 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 four 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 **[3,301]** **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 **[begin]** **conduct** initial quarterly monitoring **[during]** **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 two quarterly samples for that radionuclide at that entry point are waived.

(VI) For entry points at which the **average of the initial** monitoring result**s** for a radionuclide **[at an entry point]** 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.

* * * * *

§ 109.303. Sampling requirements.

(a) The samples taken to determine a public water system's compliance with MCLs or MRDLs or to determine compliance with monitoring requirements shall be taken at the locations identified in § § 109.301 and 109.302 (relating to general monitoring requirements; and special monitoring requirements), or as follows:

(1) Samples for determining compliance with the turbidity MCL shall be taken at each entry point associated with a surface water source that the Department has determined shall be filtered.

(2) Samples for determining compliance with the total coliform MCL shall be taken at regular intervals throughout the monitoring period at sites which are representative of water throughout the distribution system according to an approved written sample siting plan as specified under § 109.701(a)(5) (relating to reporting and recordkeeping).

(3) Samples for determining compliance with the fluoride MCL shall be taken at each entry point.

(4) Samples for determining compliance with MCLs for organic contaminants listed by the EPA under 40 CFR 141.61 (relating to maximum contaminant levels for organic contaminants) and inorganic contaminants listed by the EPA under 40 CFR 141.62 (relating to maximum contaminant levels (MCLs) for inorganic contaminants) and with the special monitoring requirements for unregulated contaminants under § 109.302(f) shall be taken at each entry point to the distribution system after an application of treatment during periods of normal operating conditions. If a system draws water from more than one source and the sources are combined prior to distribution, the system shall sample at the entry point where the water is representative of combined sources being used during normal operating conditions.

(5) Asbestos sampling points shall be at the distribution tap where asbestos contamination is expected to be the greatest based on the presence of asbestos cement pipe and lack of optimum corrosion control treatment, and at the entry point for each source which the Department has reason to believe may contain asbestos, except that a collected distribution sample which is representative of a source may be substituted for a required entry point sample.

(b) The samples taken to determine a public water system's compliance with treatment technique and performance monitoring requirements shall be taken at a point that is as close as practicable to each treatment technique process and that is not influenced by subsequent treatment processes or appurtenances.

(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 **[a certified]** **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 **[certified]** **accredited** by the Department to conduct VOC or vinyl chloride analysis.

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

(1) Samples from groundwater entry points may not be composited with samples from surface water entry points.

(2) Samples used in compositing shall be collected in duplicate.

(3) If a contaminant listed under 40 CFR 141.61(a) or (c) is detected at an entry point, samples from that entry point may not be composited for subsequent or repeat monitoring requirements.

(4) Samples obtained from an entry point which contains water treated by a community water supplier or a nontransient noncommunity water supplier to specifically meet an MCL for an organic contaminant listed under 40 CFR 141.61(a) or (c) or an MCL for an inorganic contaminant listed under 40 CFR 141.62 may not be composited with other entry point samples.

(f) A compliance sample required under § 109.301(9) shall be taken at a free flowing tap in the house, building or facility where the POE device is located or at a monitoring point approved by the Department on the effluent side of the POE device.

(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 **[containment]** **contaminant** levels for radionuclides) may be composited from a single entry point if the analysis is done within a 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.

(1) If the analytical result from the composited sample is greater than one-half the MCL, the Department may direct the system to take additional quarterly samples before allowing the system to sample under a reduced monitoring schedule.

(2) Samples obtained from an entry point that contains water treated to specifically meet an MCL for a radionuclide contaminant listed under 40 CFR 141.66(b), (c) or (e) may not be composited.

(h) Samples taken to determine compliance with beta particle and photon radioactivity under 40 CFR 141.66(d) may be composited as follows:

(1) Monitoring for gross beta-particle activity may be based on the analysis of a composite of 3 monthly samples.

(2) Monitoring for strontium-90 and tritium may be based on the analysis of a composite of 4 consecutive quarterly samples.

§ 109.304. Analytical requirements.

* * * * *

(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 **[certified]** **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.

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

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Subchapter D. PUBLIC NOTIFICATION

§ 109.410. Tier 3 public notice—form, manner and frequency of notice.

(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—form, manner and frequency 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 record maintenance requirements for systems recycling their waste stream).**

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

[(3)] **(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

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§ 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 **[Supply and Community Health]** **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 certified under this chapter.

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

(i) *Permit application signatures.* A Department permit application signed as follows:

(A) In the case of corporations, by a principal executive officer of at least the level of vice president, or an authorized representative, if the representative is responsible for the overall operation of the facility.

(B) In the case of a partnership, by a general partner.

(C) In the case of a sole proprietorship, by the proprietor.

(D) In the case of a municipal, State or other public facility, by either a principal executive officer, ranking elected official or other authorized employee.

(ii) *Plans, specifications and engineer's report.* Plans, specifications and engineer's reports shall comply with the following:

(A) The drawings, specifications and engineer's report shall be prepared by or under the supervision of a professional engineer registered to practice in this Commonwealth or in the state in which the public water system is located.

(B) The front cover or flyleaf of each set of drawings, of each copy of the engineer's report, and of each copy of specifications shall bear the signature and imprint of the seal of the registered engineer. Drawings shall bear an imprint or a legible facsimile of the seal.

(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 shall include:

(A) A comprehensive sanitary survey of the physical surroundings of each new source of raw water and its proximity to potential sources of contamination. For surface water, this information shall include a description of the watershed topography and land uses within the watershed. For systems using wells, springs or infiltration galleries, this information shall include a hydrogeological report prepared and signed by a professional geologist who has complied with the requirements of the Engineer, Land Surveyor and Geologist Registration Law (63 P. S. § § 148—158.2) describing the geology of the area including the source aquifers, overlying formations, hydrogeologic boundaries, aquifer porosity estimates, water table contour or potentiometric surface maps depicting prepumping conditions and other information deemed necessary to evaluate the hydraulic characteristics of the aquifer and demonstrate the suitability of the proposed source. At the discretion of the Department, these requirements may be altered for a proposed well, wellfield, spring or infiltration gallery that will be pumping less than or yielding less than 100,000 gallons per day.

(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 shall include analysis of the following:

(I) **[For groundwater sources,]** 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-) **[Alachlor, atrazine, chlordane, dibromochloro-propane (DBCP), ethylene dibromide (EDB), heptachlor, heptachlor epoxide, lindane, methoxychlor, toxaphene, endrin, hexachlorobenzene, hexachlorocyclopentadiene, polychlorinated byphenyls (PCBs) and simazine unless the Department determines in writing that monitoring for one or more of the substances specified in this item is not necessary.]**

[(-b-) Other] **Except for SOCs that have been granted a statewide waiver,** SOCs **[except for dioxin]** for which MCLs have been established by the EPA under the National Primary Drinking Water Regulations in 40 CFR 141.61(c) **[except for those SOCs for which the source is not considered vulnerable based on a vulnerability assessment conducted by the public water supplier and approved by the Department unless the Department determines in writing that monitoring for one or more of the SOCs is not necessary]**.

[(-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.

(VII) Gross Alpha (α), radium-226, radium-228, uranium and Gross Beta (ß).

(VIII) **[For surface water sources, total trihalomethanes.]**

[(IX)] 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).

[(X)] **(IX)** Alkalinity.

[(XI)] **(X)** Hardness.

[(XII)] **(XI)** Temperature.

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

(C) An evaluation of the quantity of the raw water from each new source. Flow data shall be submitted for springs, infiltration galleries or surface water sources. Aquifer test data, including drawdown and recovery data and the derivation of hydraulic conductivity, transmissivity and storage coefficient of the aquifer, shall be submitted for wells. At the discretion of the Department, these requirements may be altered for wells or wellfields pumping less than 100,000 gallons per day. The Department may require that other information be submitted to evaluate the safe yield of the source. The safe yield is the amount of water that can be withdrawn from an aquifer without causing an undesired result, such as adverse dewatering of an aquifer, induced potential health threats or impacts upon stream uses.

(D) A Department approved delineation of the Zone I wellhead protection area for community water system wells, springs or infiltration galleries.

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§ 109.504. Public water system operation permits.

(a) To obtain a 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 **[personnel required under]** **they are in compliance with** § 109.704 (relating to operator certification) **[have been retained]**.

* * * * *

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 **[may]** **shall** be **[filed]** **submitted and approved by the Department** prior to construction **[if the water supplier desires technical assistance, but shall be filed within 30 days of initiation of operation of the system or modification]**.

(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 shall 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 shall include the information required under § 109.503(a)(1)(iii)(B).

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Subchapter F. DESIGN AND CONSTRUCTION STANDARDS

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§ 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 *Crytosporidium* oocycsts **[and a 99% removal of viruses]**. 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.

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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:

(1) *General reporting requirements.* Unless a different reporting period is specified in this chapter, the water supplier shall assure that the results of test measurements or analyses required by this chapter are reported to the Department within either the first 10 days following the month in which the result is received or the first 10 days following the end of the required monitoring period as stipulated by the Department, whichever is shorter. The test results shall include the following at a minimum:

(i) The name, address and public water system identification number (PWSID) of the public water system from which the sample was taken.

(ii) The name, address and identification number of the laboratory performing the analysis unless the analysis is not required to be performed by a certified laboratory.

(iii) The results of analytical methods, including negative results.

(iv) Contaminants.

(v) Analytical methods used.

(vi) The date of sample.

(vii) The date of analysis.

(viii) Sample location.

(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 shall 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 .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 clause (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 **[exceding]** **exceeding** 1 NTU.

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(11) *Noncompliance report.* The water supplier shall report to the Department within 48 hours failure to comply with Subchapter C (relating to monitoring requirements).

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(i) *Accuracy of data.* Each water supplier shall be responsible for the accurate reporting of data required under this section to the Department for all test measurements or analyses required by this chapter, including the data submitted by an accredited environmental laboratory on behalf of the water supplier.

(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 shall 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 shall be notified no sooner than _____ (Editor's Note: The blank refers to a date 6 months after the effective date of adoption of this proposed rulemaking).

(ii) Systems serving more than 3,300 but less than 10,001 persons shall be notified no sooner than _____ (Editor's Note: The blank refers to a date 12 months after the effective date of adoption of this proposed rulemaking).

(iii) Systems serving more than 500 but less than 3,301 persons shall be notified no sooner than _____ (Editor's Note: The blank refers to a date 18 months after the effective date of adoption of this proposed rulemaking).

(iv) Systems serving less than 501 persons shall be notified no sooner than _____ (Editor's Note: The blank refers to a date 24 months after the effective date of adoption of this proposed rulemaking).

(v) New systems shall 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 their 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.

(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 shall 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 **[one of the following occurs:**

(i) T]the filter bed effluent turbidity is less than .5 NTU at the normal production flow rate.

[(ii) When source water turbidity is less than 1.0 NTU, a 50% reduction in turbidity is achieved.]

* * * * *

§ 109.704. Operator certification.

(a) Community **and nontransient noncommunity** water systems shall have personnel certified under the **[Sewage Treatment Plant and Waterworks] Water and Wastewater Systems** Operators' Certification Act (63 P.S. §§ 1001-1015**.1**) **[and qualified by experience and education]** to operate and maintain a public water system.

(b) **Transient [N]n**oncommunity water systems shall have competent personnel qualified to operate and maintain the system's facilities.

[(c) Beginning July 21, 2004, nontransinet noncommunity water systems that provide water that contains a chemical disinfectant shall be operated by qualified personnel certified under the Sewage Treatment Plant and Waterworks Operators' Certification Act (63 P.S. §§ 1001-1015). The minimum certification to operate these facilities shall be a certificate to operate plants with disinfection only, under § 303.2 (relating to waterworks operators certificates).]

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Subchapter H. Environmental LABORATORY [CERTIFICATION] Accreditation

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§ 109.810. Reporting and notification requirements.

(a) **Beginning (Editor's Note: The blank refers to a date 6 months after the effective date of adoption of this proposed rulemaking), a [A]** laboratory accredited under Chapter 252 (relating to laboratory accreditation) shall **electronically [submit] report** to the Department **[, on forms provided by the Department,] 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 their 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 (Editor's Note: The blank refers to a date 6 months after the effective date of adoption of this proposed rulemaking), 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 **[violated] 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 **[certified]** **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 shall 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 subsection (a) and (b) of this section, relating to 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.

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

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109.1003. Monitoring requirements.

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(d) 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 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.

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109.1005. Permit requirements.

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(Editor's Note: Remove the indent from the following subsection. This is a subsection, not a subparagraph.)

(i) *Permit fees.*

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Subchapter K. LEAD AND COPPER

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§ 109.1102. Action levels and treatment technique requirements.

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

(1) The lead action level is 0.015 mg/L.

(2) The copper action level is 1.3 mg/L.

(3) An action level is exceeded when the concentration of a contaminant in more than 10% of tap water samples collected during a monitoring period conducted in accordance with § 109.1103 (relating to monitoring requirements) is greater than the action level.

(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 (a)(4)(ii) is the 90th percentile contaminant level.

(iv) For water systems that collect 5 samples per monitoring period, the 90th percentile is computed by taking the average of the highest and second highest concentrations.

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§ 109.1103. Monitoring requirements.

* * * * *

(e) *Reduced monitoring.*

(1) *Reduced lead and copper tap monitoring.* A **[community water]** system conducting reduced lead and copper tap monitoring shall collect one sample from the number of sample sites listed in the following column. **[A nontransient noncommunity water system may reduce the number of sample sites to five, regardless of population served.]**

System size (# of people served)	*# of Sample Sites (reduced monitoring)*
› 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). **[If the system is required to prepare a corrosion control treatment feasibility study in accordance with § 109.1102(b)(3)(i), the system shall include the sample site location plan as part of the study.]**

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§ 109.1105. Permit requirements.

* * * * *

(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 shall comply with § 109.503 and contain the applicable information specified therein. The application shall 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.

(1) *Community water system minor permit amendments.* The community water supplier may submit a written request for an amended construction permit to the Department if the system satisfies the conditions under subparagraphs (i)—(iv). A request for an amended construction permit under this paragraph shall describe the proposed change in sufficient detail to allow the Department to adequately evaluate the proposal.

* * * * *

(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:

(i) The system is a small water system.

(ii) The sources of supply for the system are not surface water sources.

(iii) Except for corrosion control treatment, the sources require treatment no greater than disinfection to provide water of a quality that meets the MCLs and treatment technique requirements established under Subchapter B.

(iv) The proposed corrosion control treatment is limited to alkalinity or pH adjustment, or both.

(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 **[may]** **shall** be **[filed]** **submitted and approved by the Department** prior to construction **[if the water supplier desires technical assistance, but shall be filed within 30 days of initiation of operation of the modification]**.

(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 **[and training]** 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).

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§ 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 **[present or]** submit the plan **[upon request]** 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.**

[(I)] **(J)** * * *

[(J)] **(K)** * * *

[(K)] **(L)** * * *

(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**.

[(I)] **(J)** * * *

(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**.

[(I)] **(J)** * * *

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(c) *Operator certification **[and training]***. 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 **[following]** requirements **[:]** **under § 109.704 (relating to operator certification).**

[(1) Prior to initiation of operation of the corrosion control treatment facilities, have personnel who have successfully completed Department-sponsored training relating to corrosion control treatment for lead and copper. The Department will expressly designate which training courses meet the requirements of this subsection.

(2) Within 3 years of initiation of operation of the corrosion control treatment facilities, have personnel certified under the Sewage Treatment Plant and Waterworks Operators' Certification Act (63 P. S. § § 1001—1015). The minimum certification to operate corrosion control treatment facilities shall be a certificate to operate plants not utilizing filtration, but with chemical treatment, according to § 303.2 (relating to waterworks operators certificates).]

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