

Annex A

TITLE 25. ENVIRONMENTAL PROTECTION

PART I. DEPARTMENT OF ENVIRONMENTAL PROTECTION

Subpart C. PROTECTION OF NATURAL RESOURCES

ARTICLE II. WATER RESOURCES

CHAPTER 109. SAFE DRINKING WATER

Subchapter A. GENERAL PROVISIONS

§ 109.1. Definitions.

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

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

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

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

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

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

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

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

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

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

(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**.

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

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

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(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.

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(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).

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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% 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 clauses (A) and (B) for each month in which it is required to monitor for total coliforms.

[(iv)] (v) * * *

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(5) *Monitoring requirements for VOCs.* Community water systems and nontransient noncommunity water systems shall monitor for compliance with the MCLs for VOCs

established by the EPA under 40 CFR 141.61(a) (relating to MCLs for organic contaminants). The monitoring shall be conducted according to the requirements established by the EPA under 40 CFR 141.24(f) (relating to organic chemicals, sampling and analytical requirements), incorporated herein by reference, except as modified by this chapter. Initial or first year monitoring mentioned in this paragraph refers to VOC monitoring conducted on or after January 1, 1993.

(i) *Vinyl chloride*. Monitoring for compliance with the MCL for vinyl chloride is required ~~[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 ~~[-]~~ **AND SHALL CONSIST OF QUARTERLY SAMPLES. IF THE RESULTS OF THE FIRST ANALYSIS DO NOT DETECT VINYL CHLORIDE, MONITORING SHALL BE REDUCED TO ONE SAMPLE DURING EACH COMPLIANCE PERIOD. SURFACE WATER ENTRY POINTS SHALL MONITOR FOR VINYL CHLORIDE AS SPECIFIED BY THE DEPARTMENT.**

(ii) *Initial monitoring [schedule]*. ~~[The initial]~~ **Initial** 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).

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(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) Entry] New entry points **[at which a VOC is detected during new source monitoring]** shall be monitored quarterly, beginning the first **full** quarter the entry **[points begin] point begins** 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 monitoring] **Monitoring** 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 clause (A) provided it has determined that the system is reliably and consistently below the MCL. The Department will not make this determination unless a groundwater or GUDI system takes a minimum of 2 quarterly samples and a surface water system takes a minimum of 4 quarterly samples.**

(C) [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 shall 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.**

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

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

(I) Knowledge of previous use, including transport, storage or disposal, of a substance containing VOCs within the [vulnerability assessment area] WELLHEAD PROTECTION AREA ZONES I AND II AS DEFINED UNDER § 109.1 (RELATING TO DEFINITIONS).

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

(B) If a USE waiver is granted by the Department, required monitoring is reduced to one sample per entry point during each subsequent compliance period. Monitoring shall be conducted at 3-year intervals from the year of required initial monitoring.

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

(D) SUSCEPTIBILITY WAIVERS. SUSCEPTIBILITY WAIVERS UNDER 40 CFR 141.24(f)(8)(ii) WILL NOT BE AVAILABLE FOR THE VOC MONITORING REQUIREMENTS IN THIS PARAGRAPH.

(E) WAIVER REQUESTS AND RENEWALS SHALL BE SUBMITTED TO THE DEPARTMENT, ON FORMS PROVIDED BY THE DEPARTMENT, FOR REVIEW AND APPROVAL PRIOR TO THE END OF THE APPLICABLE MONITORING PERIOD. UNTIL THE WAIVER REQUEST OR RENEWAL IS APPROVED, THE PUBLIC WATER SYSTEM IS RESPONSIBLE FOR CONDUCTING ALL REQUIRED MONITORING.

(ix) *Invalidation of VOC samples.*

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

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

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

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

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

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

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

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

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

(i) *Initial monitoring [schedule].* Initial monitoring shall consist of **[four] 4** consecutive quarterly samples at each entry point beginning during the quarter beginning January 1, 1995, except for systems which are granted an initial monitoring waiver in accordance with subparagraph [(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 during the first calendar year quarter of the year after the entry point begins serving the public], beginning the first full quarter 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 monitoring] **Monitoring** 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 clause (A) provided it has determined that the system is reliably and consistently below the MCL. The Department will not make this determination unless a groundwater or GUDI system takes a minimum of 2 quarterly samples and a surface water system takes a minimum of 4 quarterly samples.**

(C) [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 shall 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). 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)] * * *

[(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.]

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

(v) Confirmation samples. A confirmation sample shall be collected and analyzed for each SOC listed under 40 CFR 141.61(c) which is detected at a level in excess of its MCL during annual or less frequent compliance monitoring. The confirmation sample shall be collected within 2 weeks of the water supplier receiving notification from the accredited laboratory performing the analysis that an MCL has been exceeded. The average of the results of the original and the confirmation samples will be used to determine compliance. Confirmation monitoring shall be completed by the deadline specified for SOC compliance monitoring.

(vi) * * *

[(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.

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(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, **TRANSPORTED** or disposed of in this Commonwealth, or portions of this Commonwealth. A use waiver specific to a particular entry point requires that an SOC was not used, stored, manufactured, **TRANSPORTED** or disposed of in the vulnerability assessment area. If use waiver criteria cannot be met, a public water supplier may apply for a susceptibility waiver.

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(D) WAIVER REQUESTS AND RENEWALS SHALL BE SUBMITTED TO THE DEPARTMENT, ON FORMS PROVIDED BY THE DEPARTMENT, FOR REVIEW AND APPROVAL PRIOR TO THE END OF THE APPLICABLE MONITORING PERIOD. UNTIL THE WAIVER REQUEST OR RENEWAL IS APPROVED, THE PUBLIC WATER SYSTEM IS RESPONSIBLE FOR CONDUCTING ALL REQUIRED MONITORING.

~~(D)~~ **(E)** * * *

(viii) Invalidation of SOC samples.

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

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

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

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

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

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

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

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

(7) *Monitoring requirements for IOCs.* Community water systems and nontransient noncommunity water systems shall monitor for compliance with the MCLs for IOCs established by the EPA under 40 CFR 141.62 (relating to maximum contaminant levels (MCLs) for inorganic contaminants)[, **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.*

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

(E) CONFIRMATION SAMPLES. FOR ASBESTOS SAMPLE RESULTS IN EXCESS OF THE MCL DURING ANNUAL OR LESS FREQUENT COMPLIANCE MONITORING, THE WATER SUPPLIER SHALL TAKE A CONFIRMATION SAMPLE WITHIN 2 WEEKS OF NOTIFICATION BY THE ACCREDITED LABORATORY PERFORMING THE ANALYSIS. THE AVERAGE OF THE RESULTS OF THE ORIGINAL AND THE CONFIRMATION SAMPLE WILL BE USED TO DETERMINE COMPLIANCE. MONITORING SHALL BE COMPLETED BY THE DEADLINE SPECIFIED FOR ASBESTOS COMPLIANCE MONITORING.

(ii) *Monitoring requirements for nitrate and nitrite.* [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 monitoring for nitrate and nitrite during the first calendar quarter of the year after] be monitored quarterly, beginning the first full quarter the entry point begins serving the public. Quarterly monitoring shall continue until reduced monitoring is granted in accordance with clause (C)(II) or (D).

(II) New community and nontransient noncommunity groundwater [**and surface water**] or GUDI entry points [**at which nitrate or nitrite is detected at levels equal to or greater than 50% of the MCL during new source sampling shall begin initial quarterly monitoring the first quarter the entry point begins serving the public**] and new transient noncommunity entry points associated with new sources shall be monitored annually, beginning within 1 year of 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] MCLs.*

(I) For entry points at which initial monitoring results or subsequent monitoring indicate nitrate or nitrite levels equal to or greater than 50% of the MCL, [**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) After] For surface water entry points, after 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.*

* * * * *

(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] THAT IS RELIABLY AND CONSISTENTLY BELOW** the MCL is reduced to the frequencies stated in clause (A). This reduced monitoring option does not apply to entry points at which treatment has been installed for IOC removal. Compliance monitoring for IOCs for which treatment has been installed to comply with an MCL shall be conducted at least annually, and performance monitoring shall be conducted quarterly.

(III) A confirmation sample shall be collected and analyzed for each IOC listed under 40 CFR ~~[141.11(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 ~~for~~, changes in stream flows or characteristics, OR OTHER FACTORS AS DETERMINED BY THE DEPARTMENT ON A CASE-BY-CASE BASIS.

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

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

(IV) WAIVER REQUESTS AND RENEWALS SHALL BE SUBMITTED TO THE DEPARTMENT, ON FORMS PROVIDED BY THE DEPARTMENT, FOR REVIEW AND APPROVAL PRIOR TO THE END OF THE APPLICABLE MONITORING PERIOD. UNTIL THE WAIVER REQUEST OR RENEWAL IS APPROVED, THE PUBLIC WATER SYSTEM IS RESPONSIBLE FOR CONDUCTING ALL REQUIRED MONITORING.

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

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

(iv) *Invalidation of IOC samples.*

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

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

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

(A) For systems monitoring more than once per year, compliance with the MCL for antimony, arsenic, asbestos, barium, beryllium, cadmium, chromium, cyanide, fluoride, mercury, nickel, selenium or thallium is determined by a running annual average of all samples taken at each entry point. If the average at any entry point is greater than the MCL, then the system is out of compliance. If any one sample would cause the annual average to be exceeded, then the system is out of compliance immediately.

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

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

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

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

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

* * * * *

(ii) Community consecutive water suppliers shall[:

(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) Monitor] 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)].

* * * * *

(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.*

* * * * *

(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.

* * * * *

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

* * * * *

(-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 **the** EPA under 40 CFR 141.25 and 141.26 (relating to analytical methods for radioactivity; and monitoring frequency and compliance requirements for radionuclides in community water systems) which are incorporated by reference, except as modified by this chapter. Initial or first-year monitoring mentioned in this paragraph refers to monitoring conducted on or after January 1, 2005.

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

(A) *Initial monitoring schedule.* The initial monitoring shall consist of 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.

* * * * *

(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).

* * * * *

(VI) For entry points at which the **average of the initial** monitoring **[result] results** 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.

* * * * *

(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.

* * * * *

(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.

* * * * *

§ 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 (63 P. S. §§ 1001--1015.1).

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

Subchapter D. PUBLIC NOTIFICATION

§ 109.410. Tier 3 public notice--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:

* * * * *

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

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

[(3)] **(4)** * * *

* * * * *

Subchapter E. PERMIT REQUIREMENTS

§ 109.503. Public water system construction permits.

(a) *Permit application requirements.* An application for a public water system construction permit shall be submitted in writing on forms provided by the Department and shall be accompanied by plans, specifications, engineer's report, water quality analyses and other data, information or documentation reasonably necessary to enable the Department to determine compliance with the act and this chapter. The Department will make available to the applicant the Public Water Supply Manual, available from the Bureau of Water **[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] accredited** under this chapter.

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

* * * * *

(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] must** include:

* * * * *

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

* * * * *

(VI) SOCs.

(-a-) [Alachlor, atrazine, chlordane, dibromo- chloro-propane (DBCP), ethylene dibromide (EDB), heptachlor, heptachlor epoxide, lindane, metho- xychlor, toxaphene, endrin, hexachlorobenzene, hexachlorocyclopentadiene, polychlorinated by- phenyls (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 SOCs except for dioxin] Except for SOCs that have been granted a statewide waiver, SOCs 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-) * * *

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

* * * * *

(VIII) [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) * * *

[(XI)] (X) * * *

[(XII)] (XI) * * *

[(XIII)] (XII) * * *

* * * * *

§ 109.504. Public water system operation permits.

* * * * *

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

* * * * *

(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).

* * * * *

(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:

* * * * *

(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]**.

* * * * *

Subchapter F. DESIGN AND CONSTRUCTION STANDARDS

§ 109.605. Minimum treatment design standards.

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

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

* * * * *

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

Subchapter G. SYSTEM MANAGEMENT RESPONSIBILITIES

§ 109.701. Reporting and recordkeeping.

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

* * * * *

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

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

(A) For turbidity performance monitoring:

* * * * *

(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:

* * * * *

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

* * * * *

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

(I) The date, time and lowest value each day THE RESIDUAL DISINFECTANT CONCENTRATION REMAINS EQUAL TO OR GREATER THAN THE REQUIRED MINIMUM.

(II) The INITIAL date, ~~[duration and number of periods each day when]~~ TIME AND VALUE FOR EACH OCCURRENCE THAT the RESIDUAL DISINFECTANT concentration is less than ~~[.2 mg/L for more than 4 hours]~~ THE REQUIRED MINIMUM, AND THE SUBSEQUENT DATE, TIME AND VALUE THAT THE RESIDUAL DISINFECTANT CONCENTRATION IS EQUAL TO OR GREATER THAN THE REQUIRED MINIMUM.

(III) THE DATE THE ENTRY POINT IS NOT IN OPERATION.

* * * * *

(11) Noncompliance report. EXCEPT WHERE A DIFFERENT REPORTING PERIOD IS SPECIFIED IN THIS CHAPTER, the water supplier shall report to the Department within 48 hours THE failure to comply with ANY NATIONAL PRIMARY DRINKING WATER REGULATION, INCLUDING THE FAILURE TO COMPLY WITH ANY MONITORING REQUIREMENT SET FORTH IN [Subchapter C (relating to monitoring requirements)] THIS CHAPTER.

* * * * *

(i) Accuracy of data.

(1) Each water supplier shall be responsible for the accurate reporting of data required under SUBSECTION (j) OF 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].

(2) EACH WATER SUPPLIER SHALL BE RESPONSIBLE FOR PROVIDING ACCURATE MONITORING AND SAMPLE INFORMATION TO THE ACCREDITED LABORATORY THAT IS RESPONSIBLE FOR REPORTING DATA TO THE DEPARTMENT UNDER § 109.810 (RELATING TO ENVIRONMENTAL LABORATORY ACCREDITATION). MONITORING AND

SAMPLE INFORMATION SHALL INCLUDE, BUT IS NOT LIMITED TO, THE MONITORING FREQUENCY, MONITORING PERIOD, SAMPLE LOCATION, AND SAMPLE TYPE.

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

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

(i) Systems serving more than 10,000 persons will be notified no sooner than _____ (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 will 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 will 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 will 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 will be notified of the electronic reporting requirements at the time of issuance of the operation permit under § 109.504 (relating to public water system operation permits).

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

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

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

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

(6) A water supplier shall meet the requirements under this subsection, unless the water supplier assigns in writing the responsibility for reporting to an accredited laboratory OR ANOTHER APPROVED PARTY.

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

§ 109.703. Facilities operation.

* * * * *

(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) **The] 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**] **1015.1**) **[and qualified by experience and education]** to operate and maintain a public water system.

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

[(c) Beginning July 21, 2004, nontransient 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).]

**Subchapter H. ENVIRONMENTAL LABORATORY [CERTIFICATION]
ACCREDITATION**

§ 109.810. Reporting and notification requirements.

(a) [A] **Beginning** *(Editor's Note: The blank refers to a date 6 months after the effective date of adoption of this proposed rulemaking.)*, a laboratory accredited under Chapter 252 (relating to environmental laboratory accreditation) shall **[submit] electronically 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 its control, the laboratory shall notify the Department prior to the applicable reporting deadline. If the Department determines that the circumstances were beyond the control of the laboratory, the Department will specify a temporary, alternate reporting method the laboratory shall use to meet the reporting deadline.**

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

(2) **Beginning** *(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 AN ACTION LEVEL UNDER § 109.1102(a) (RELATING TO LEAD AND COPPER) IS EXCEEDED,** or a sample result requires the collection of check **or confirmation** samples under § 109.301 (relating to general monitoring requirements):

(1) Notify the public water supplier by telephone within 1 hour of the laboratory's determination. If the supplier cannot be reached within that time, notify the Department

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

* * * * *

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

(d) A LABORATORY ACCREDITED UNDER CHAPTER 252 SHALL BE RESPONSIBLE FOR THE ACCURATE REPORTING OF DATA REQUIRED UNDER THIS SECTION TO THE DEPARTMENT.

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

§ 109.1003. Monitoring requirements.

* * * * *

(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.

Subchapter K. LEAD AND COPPER

§ 109.1102. Action levels and treatment technique requirements.

(a) Action levels for lead and copper.

* * * * *

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

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

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

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

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

(v) INTERPOLATION SHALL BE USED TO COMPUTE THE 90TH PERCENTILE WHEN THE NUMBERED SAMPLE INDICATED IN SUBPARAGRAPH (iii) IS NOT A WHOLE NUMBER.

* * * * *

§ 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.]**

* * * * *

(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.]**

* * * * *

§ 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] must** comply with § 109.503 and contain the applicable information specified therein. The application **[shall] must** include recommended water quality parameter performance requirements for optimal corrosion control treatment as specified in § 109.1102(b)(5) and other data, information or documentation necessary to enable the Department to consider the application for a permit for construction of the facilities.

* * * * *

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

* * * * *

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

§ 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:

* * * * *

(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.

* * * * *

(I) **The sample location.**

(J) The 90th percentile result.

[(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:

* * * * *

(I) **The sample location.**

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

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

* * * * *

(I) **The sample location.**

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

* * * * *

(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).]