

# PROPOSED RULEMAKING

## ENVIRONMENTAL QUALITY BOARD

[25 PA. CODE CH. 109]

### Safe Drinking Water; Microbial and Disinfection Byproducts

The Environmental Quality Board (Board) proposes to amend Chapter 109 (relating to safe drinking water). The proposed rulemaking will either update or clarify several requirements concerning disinfectants, disinfection byproducts (DBPs) and surface water treatment. The proposed rulemaking will also add three requirements concerning DBP monitoring, increased monitoring criteria and surface water turbidity reporting. Lastly, the proposed rulemaking will correct minor typographical errors throughout Chapter 109.

The proposal was adopted by the Board at its meeting on May 21, 2003.

#### A. Effective Date

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

#### B. Contact Persons

For further information, contact Jeffrey A. Gordon, Chief, Division of Drinking Water Management, P. O. Box 8467, Rachel Carson State Office Building, Harrisburg, PA 17105-8467, (717) 772-4018; or Marylou Barton, Assistant Counsel, Bureau of Regulatory Counsel, P. O. Box 8464, Rachel Carson State Office Building, Harrisburg, PA 17105-8464, (717) 787-7060. Persons with a disability may use the AT&T Relay Service by calling (800) 654-5984 (TDD users) or (800) 654-5988 (voice users). This proposed rulemaking is available electronically through the Department of Environmental Protection's (Department) website (<http://www.dep.state.pa.us>).

#### C. Statutory Authority

The proposed rulemaking is being made under the authority of section 4 of the Pennsylvania Safe Drinking Water Act (35 P. S. § 721.4), which grants the Board the authority to adopt rules and regulations governing the provision of drinking water to the public, and sections 1917-A and 1920-A of The Administrative Code of 1929 (71 P. S. §§ 510-7 and 510-20).

#### D. Background and Purpose

The public health benefits of disinfection are significant and well recognized. However, these very disinfection practices pose health risks of their own. Although disinfectants such as chlorine, hypochlorites and chlorine dioxide are effective in controlling many harmful microorganisms, they react with organic and inorganic matter in the water to form DBPs, which pose health risks at certain levels.

The first DBPs discovered in public drinking water were halogenated methanes in 1974. In 1979, the United States Environmental Protection Agency (EPA) promulgated a Maximum Contaminant Level (MCL) to regulate these compounds. Since then, other DBPs have been identified and studied for their health effects. Many of these studies have shown DBPs to be carcinogenic or to cause reproductive or developmental effects in laboratory animals, or both. Studies have also shown that high

levels of the disinfectants themselves may cause health problems over long periods of time, including damage to both the blood and the kidneys.

In 1992, the EPA initiated a rulemaking process to address public health concerns associated with disinfectants and DBPs. During this rulemaking, the EPA was concerned that new regulations that would control disinfection practices and limit DBP formation would also compromise, perhaps even jeopardize, safeguards already in place for limiting risks from microbial pathogens. Accordingly, one of the major goals in this rulemaking process was to develop an approach that would reduce exposure to disinfectants and DBPs without undermining the control of microbial pathogens. The intent was to ensure that drinking water remained microbiologically safe at the limits set for disinfectants and DBPs. Thus, the EPA proposed a companion microbial rule to accompany the disinfectants and DBP rule.

On December 16, 1998, the EPA promulgated both the Federal Interim Enhanced Surface Water Treatment Rule (IESWTR) and the Federal Disinfectants and Disinfection Byproducts Rule (D/DBPR). These companion rules were intended to simultaneously address microbial pathogens, such as *Cryptosporidium parvum*, and harmful DBPs. In response to these Federal rulemakings, the Department's Safe Drinking Water Program promulgated amendments to Chapter 109 on July 21, 2001, that reflected the IESWTR and D/DBPR.

After the original publishing of the IESWTR and D/DBPR in December 1998, several issues arose at the Federal level regarding compliance dates, monitoring requirements, compliance determinations, reporting requirements, consecutive systems and typographical errors. In response to these issues, the EPA promulgated corrective amendments to the IESWTR and D/DBPR on January 16, 2001. However, since the Department was already in the final rulemaking phase for the IESWTR and D/DBPR at that time, several provisions of the January 16, 2001, Federal corrective amendments were not included in the final-form rulemaking. As a result, there are now several provisions in Chapter 109 that are unnecessarily more stringent than current Federal requirements. Some notable examples include more stringent monitoring requirements for small systems and inclusion of both consecutive and purchasing water systems for most of the D/DBPR requirements. There are also provisions in Chapter 109 that need to be either clarified or expanded upon. Lastly, there are three Federal provisions that the EPA wants added to Chapter 109 for the Department to obtain primary enforcement responsibility (primacy) of the IESWTR and D/DBPR. These three provisions concern turbidity reporting requirements for alternative filtration technologies, increased monitoring criteria for small groundwater systems and miscellaneous considerations for determining DBP sampling locations. The EPA considers these provisions to be minor, albeit necessary for primacy.

There is one provision in the proposed rulemaking that is more stringent than the Federal requirements. The proposed amendments to § 109.701(a)(9)(ii) (relating to reporting and recordkeeping) will require that chlorite monitoring results be reported monthly to the Department, as opposed to quarterly in the Federal rule. The Department feels that monthly reporting is appropriate since entry point chlorite samples are to be taken daily

and that compliance with the chlorite MCL is based upon monthly distribution sampling. Monthly reporting would also be more appropriate than quarterly reporting due to the acute health concerns associated with the parent chlorine dioxide disinfectant. The remainder of the proposed Microbial and Disinfection Byproducts (M/DBP) Corrective Amendments will be no more stringent than the Federal rules.

The Board proposes to incorporate the M/DBP Corrective Amendments into Chapter 109.

The draft proposed rulemaking was submitted to the Water Resources Advisory Committee (WRAC) for review and discussion on November 13, 2002. Comments were received from the WRAC on December 17, 2002. One member of the WRAC raised a question regarding the use of the word "shall" in the proposed rulemaking prescribing reduced monitoring, as in "... systems shall reduce monitoring to [reduced frequency] ..." and "... systems shall remain on reduced monitoring if [qualifying criteria] ..." The member was concerned that if a system qualified for reduced monitoring, but wished to remain on routine monitoring, then the system would be in violation of the regulations. Department staff discussed this issue and told the WRAC that this scenario would not constitute a violation of the regulations. The Department reaffirmed that voluntary additional monitoring is encouraged. It should be noted, however, that the results of additional monitoring would still be averaged with the results of the required monitoring for determining compliance. Although the WRAC member was satisfied with the Department's discussion and position on this issue, the Department nevertheless decided to remove the "shall" format in the reduced monitoring amendments and replace it with the format of the phrase "... the required monitoring is reduced to [reduced frequency] ..." This format is consistent with the format currently in § 109.301(5)—(7) (relating to general monitoring requirements) regarding volatile organic, synthetic organic and inorganic chemicals, respectively.

The draft proposed rulemaking was submitted to the Small Water Systems Technical Assistance Center Advisory Board (TAC) for review and discussion on November 14, 2002. Comments were received from the TAC on December 24, 2002. A proposed provision that would have been more stringent than Federal requirements would have required all turbidimeters to be calibrated at a minimum frequency of every 3 months and that the calibration be performed with EPA-approved calibration standards. The Department feels that this provision is necessary to ensure that proper quality assurance and control is practiced at surface water filtration facilities. The TAC, however, questioned the need to calibrate turbidimeters at a minimum 3-month frequency. A discussion on this issue ensued between various TAC members knowledgeable in filtration and turbidimeters. It was tentatively agreed between the TAC and the Department to change the 3-month minimum calibration frequency to a 1-year minimum calibration frequency for turbidimeters. However, the Department later decided to remove the proposed turbidimeter calibration requirements from the proposed rulemaking after further discussion with other Department staff who were not present at the TAC meeting. The Department feels that a 1-year minimum calibration frequency, although better than nothing, is ineffective for the purposes of providing adequate quality assurance/control for turbidity measurement. As a result, the requirements for turbidimeter

calibration will remain in § 109.301(1)(iv)(A), wherein the turbidimeter manufacturer prescribes the calibration procedure.

#### E. Summary of Regulatory Requirements

1. Section 109.202(g) (relating to State MCLs, MRDLs and treatment technique requirements) is amended to remove transient noncommunity water systems from the enhanced coagulation requirements. Transient noncommunity water systems are not required under Federal regulations to perform enhanced coagulation.

2. Section 109.301(3)(i)(C) and (8)(v) is amended to include groundwater sources that are under the direct influence of surface water (GUDI). The recent IESWTR separated the new definition of "GUDI" out from the original definition of "surface water." Consequently, both surface water and GUDI must now be mentioned in tandem throughout Chapter 109 with respect to filtration-related provisions.

3. Section 109.301(8)(vi) is amended to clarify that purchasing and consecutive water systems must comply with all applicable D/DBPR requirements. This section is amended to eliminate the references to the chlorite and bromate monitoring requirements in paragraph (12)(ii) and (iii) for purchasing and consecutive water systems.

4. Section 109.301(12) is amended to clarify that the monitoring requirements for both total trihalomethanes (TTHMs) and haloacetic acids (HAA5) apply to purchasing and consecutive water systems. This section is amended to clarify that systems monitoring for DBPs and DBP precursors shall use only data that is collected under Chapter 109 to qualify for reduced DBP and DBP precursor monitoring.

5. Section 109.301(12)(i)(A)(I)(-a-) is amended to state that the number of persons served, the different sources of water and the different treatment methods shall all be taken into account when determining the sample locations for TTHM and HAA5 monitoring. This amendment must be made for the Department to obtain primacy from the EPA for the D/DBPR.

6. Section 109.301(12)(i)(A)(I)(-c-) is amended to clarify that increased quarterly monitoring must begin in the quarter immediately following the calendar quarter in which the increased monitoring was triggered. This language is amended to require less stringent criteria for reducing from increased monitoring back to routine monitoring. The current language in Chapter 109 requires small surface water systems serving less than 500 persons that are on increased monitoring to achieve an annual TTHM average of 0.040 mg/L, an annual HAA5 average of 0.030 mg/L and a source water annual total organic carbon (TOC) average of 4.0 mg/L to return to routine monitoring. The Federal requirements are less stringent and only require an annual TTHM average of 0.060 mg/L and an annual HAA5 average of 0.045 mg/L. This language is amended to clarify that systems can return to routine monitoring from increased monitoring when these criteria are attained. Lastly, this language is amended to clarify that the "annual average" is, more accurately, a "running annual average."

7. Section 109.301(12)(i)(A)(II)(-b-) is amended to clarify that increased quarterly monitoring must begin in the quarter immediately following the calendar quarter in which the increased monitoring was triggered. This language is amended to require less stringent criteria for reducing from increased monitoring back to routine monitoring. The current language in Chapter 109 requires small groundwater systems serving less than 10,000

persons that are on increased monitoring to achieve an annual TTHM average of 0.040 mg/L and an annual HAA5 average of 0.030 mg/L for 2 consecutive years, or an annual TTHM average of 0.020 mg/L and an annual HAA5 average of 0.015 mg/L for 1 year, to return to routine monitoring. The Federal requirements are less stringent and only require an annual TTHM average of 0.060 mg/L and an annual HAA5 average of 0.045 mg/L. This language is amended to clarify that systems can return to routine monitoring from increased monitoring when these criteria are attained. Lastly, this language is amended to clarify that the "annual average" is, more accurately, a "running annual average."

8. Section 109.301(12)(i)(B) is amended to clarify that systems shall monitor for TTHMs and HAA5 for at least 1 year prior to qualifying for reduced monitoring. This section is amended to clarify that surface water systems that serve less than 500 persons do not have a reduced monitoring schedule. These systems can only reduce from an increased schedule back to a routine schedule. The criteria to allow this reduction is written into § 109.301(12)(i)(A)(I)(c-).

9. Section 109.301(12)(i)(B)(I) is amended to clarify that surface water systems that serve less than 500 persons do not have a reduced monitoring schedule. This section is amended to clarify that the "annual" averages are, more accurately, "running annual" averages. This section is amended to clarify that systems that attain reduced monitoring criteria shall reduce their monitoring to the prescribed schedule. This section is amended to clarify that systems on reduced monitoring that do not trigger routine or increased monitoring criteria shall continue reduced monitoring.

10. Section 109.301(12)(i)(B)(I)(a-) and (-b-) and (II) is amended to clarify that water systems that attain reduced monitoring criteria shall reduce their monitoring to the prescribed schedule.

11. Section 109.301(12)(i)(B)(I)(c-) is removed. The specific criteria that prescribes a resumption of routine monitoring from increased monitoring was added to § 109.301(12)(i)(A)(I)(c-).

12. Section 109.301(12)(i)(B)(II)(a-) is amended to clarify that the "annual average" is, more accurately, a "running annual average." This language is amended to clarify that systems that attain reduced monitoring criteria shall reduce their monitoring to the prescribed schedule. This language is amended to clarify that systems on reduced monitoring that do not trigger routine or increased monitoring criteria shall continue reduced monitoring.

13. Section 109.301(12)(i)(B)(II)(b-) is amended to require increased quarterly monitoring when a TTHM or HAA5 MCL is exceeded. The current language requires small groundwater systems serving less than 10,000 persons that are on reduced monitoring to resume routine monitoring in the event of a TTHM or HAA5 MCL exceedance. The Federal requirements state that these systems must begin increased quarterly monitoring when a TTHM or HAA5 MCL is exceeded. This amendment must be made for the Department to obtain primacy from the EPA for the D/DBPR. This language is amended to prescribe a resumption of routine monitoring from reduced monitoring upon exceeding certain criteria and to clarify that systems that attain reduced monitoring criteria shall reduce their monitoring to the prescribed schedule. In addition, this language is amended to clarify that systems on reduced monitoring that do not trigger routine

or increased monitoring criteria shall continue reduced monitoring. Further, the language is amended to clarify that the "month of warmest water temperature" is not to be construed as being the month of warmest water temperature within the 3-year reduced monitoring cycle. Lastly, this language is amended to clarify that a triennial sample, or set of samples, is not a true "annual" sample.

14. Section 109.301(12)(ii) is amended to remove purchasing and consecutive water systems from the chlorite monitoring requirements. Purchasing and consecutive systems are not required under Federal regulations to perform chlorite monitoring if they do not treat with chlorine dioxide.

15. Section 109.301(12)(ii)(B) is amended to clarify that systems that attain reduced monitoring criteria shall reduce their monitoring to the prescribed schedule. This section is amended to clarify that systems on reduced monitoring that do not trigger routine or additional monitoring criteria shall continue reduced monitoring.

16. Section 109.301(12)(iii) is amended to remove purchasing and consecutive water systems from the bromate monitoring requirements. Purchasing and consecutive systems are not required under Federal regulations to perform bromate monitoring if they do not treat with ozone.

17. Section 109.301(12)(iii)(B) is amended to clarify that systems that attain reduced monitoring criteria shall reduce their monitoring to the prescribed schedule. This section is amended to clarify that systems on reduced monitoring that do not trigger routine monitoring criteria shall continue reduced monitoring.

18. Section 109.301(12)(iv)(B) is amended to clarify that systems that attain reduced TOC monitoring criteria shall reduce their TOC and alkalinity monitoring to the prescribed schedule.

19. Section 109.301(13) is amended to remove purchasing and consecutive water systems from the chlorine dioxide monitoring requirements. Purchasing and consecutive systems are not required under Federal regulations to perform chlorine dioxide monitoring if they do not treat with chlorine dioxide. This section is amended to clarify the chlorine and chloramines requirements for purchasing and consecutive systems. Lastly, this section is amended to clarify the chlorine dioxide monitoring requirements.

20. Section 109.301(13)(ii)(A) is amended to remove incorrect language. Acute chlorine dioxide violations, as prescribed in the Federal regulations, are not triggered by routine daily entry point monitoring alone. For an acute chlorine dioxide violation to be triggered, an additional distribution sample must exceed the maximum residual disinfectant level. The current language in § 109.301(13)(ii)(A) prescribes that routine daily entry point monitoring only be used for compliance determination, thus precluding any acute violations.

21. Section 109.303(c) (relating to sampling requirements) was moved to § 109.304(c) (relating to analytical requirements). Section 109.304 is a more appropriate section for this language.

22. Section 109.303(d)—(g) was renumbered due to the deletion of § 109.303(c). In addition, subsection (e), formerly subsection (f), is amended to update references to Federal regulations which have been updated and recodified since the last writing of this section. Specifically, the new compositing requirements for lead and copper source

water sampling are now found in 40 CFR 141.88(a)(1)(iv) (relating to monitoring requirements for lead and copper in source water).

23. Section 109.304(c) contains amended language that was moved from § 109.303(c). The language that was in § 109.303(c) is amended to include both daily chlorite and magnesium hardness as parameters that may be analyzed by certified operators. The language is amended to clarify that personnel under the supervision of certified operators may also analyze as allowed under § 109.303(c). Lastly, the amended language of § 109.303(c) was moved to § 109.304(c), which is a more appropriate section for this language.

24. Section 109.503(a)(1)(iii)(B)(I) (relating to public water system construction permits) is amended to correct a typographical error. The reference to § 109.301(6)(i) regarding vinyl chloride sampling should be to § 109.301(5)(i). This section is amended to update the reference to § 109.303(d).

25. Section 109.506(c) (relating to emergency permits) is amended to correct a typographical error. The reference to § 109.603(b) (relating to source quality and quantity) regarding water outages and shortages should be to § 109.603(d).

26. Section 109.701(a)(1) is amended to correct and clarify when monitoring results are to be reported to the Department. Specifically, the new D/DBPR parameters of bromate, TOC, alkalinity and SUVA (specific ultraviolet absorption at 254 nm) are to be monitored monthly, yet have their monitoring results reported quarterly. The current language in § 109.701(a)(1) requires that these monthly monitoring results be reported within 10 days following the month in which the monitoring was conducted, thus precluding the quarterly reporting requirement.

27. Section 109.701(a)(2)(i)(A)(V) is amended to correct the nomenclature for referencing parallel subclauses under the same clause.

28. Section 109.701(a)(2)(i)(A)(V)(-b-) is amended to remove excessive words. Specifically, the references made to conventional filtration systems, direct filtration systems and § 109.202(c)(1)(i)(A)(III) are redundant and unnecessary.

29. Section 109.701(a)(2)(i)(A)(VI) is added to prescribe the turbidity performance reporting requirements for systems serving more than 10,000 persons and using filtration technologies other than conventional, direct, slow sand and diatomaceous earth. This amendment must be made for the Department to obtain primacy from the EPA for the IESWTR.

30. Section 109.701(a)(2)(i)(B)(III) and (IV) is removed because they are not Federal requirements and are unnecessary.

31. Section 109.701(a)(2)(iii) is amended to correct a typographical error in a cross-reference.

32. Section 109.701(a)(9)(ii)(A) is amended to prescribe monthly reporting of chlorite monitoring results. The current language in § 109.701(a)(9)(ii) prescribes quarterly reporting and is consistent with Federal requirements. The Department believes that a more stringent requirement is necessary in this instance. Monthly reporting is more appropriate than quarterly reporting because entry point chlorite monitoring is to be conducted daily, compliance with the chlorite MCL is based upon the monthly distribution sampling and the health concerns associated with chlorine dioxide are acute in nature.

33. Section 109.701(a)(9)(ii)(B) and (C) is amended to prescribe monthly reporting of chlorite monitoring results.

34. Section 109.710(b)(1) (relating to disinfectant residual in the distribution system) is amended to correct a typographical error in a cross-reference.

35. Section 109.810(a) (relating to reporting and notification requirements) is amended to correct and clarify when certified laboratories are to report monitoring results to the Department. Specifically, the new D/DBPR parameters of bromate, TOC and SUVA are to be monitored monthly, yet have their monitoring results reported quarterly. The current language in § 109.810(a) requires that these monthly monitoring results be reported within 10 days following the month in which the monitoring was conducted, thus precluding the quarterly reporting requirement.

36. Section 109.1003(a)(1)(viii) (relating to monitoring requirements) is amended to clarify that retail and bulk water hauling systems must monitor for TTHMs and HAA5 if they purchase any of their water from a system that treats with a chemical disinfectant or oxidant. This section is amended to clarify that bottled water systems must monitor for TTHMs and HAA5 if they purchase any of their water from a system that treats with a chlorine-based disinfectant or oxidant.

37. Section 109.1003(a)(1)(viii)(A) is amended to keep the TTHM/HAA5 monitoring criteria for bottled, retail and bulk water hauling systems consistent with the TTHM/HAA5 monitoring criteria in § 109.301(12)(i). This section is amended to clarify that systems that are on increased monitoring shall return to routine monitoring when the applicable criteria are attained.

38. Section 109.1003(a)(1)(viii)(B) is amended to clarify that only groundwater systems can reduce TTHM/HAA5 monitoring from routine monitoring. This section is amended to clarify that systems shall monitor for TTHMs and HAA5 for at least 1 year prior to qualifying for reduced monitoring.

39. Section 109.1003(a)(1)(viii)(B)(I) is amended to replace the monitoring criteria for surface water and GUDI systems with the reduced monitoring criteria for groundwater systems. The criteria for reducing surface water and GUDI systems from increased monitoring back to routine monitoring was included in the amendment to § 109.1003(a)(1)(viii)(A) and is consistent with the amendment to § 109.301(12)(i)(A)(I)(-c-).

40. Section 109.1003(a)(1)(viii)(B)(II) is amended to replace the reduced monitoring criteria for groundwater systems with the criteria that maintains continued reduced monitoring. This section is amended to clarify that systems shall remain on reduced monitoring if these criteria are attained. Lastly, this section is amended to prescribe increased monitoring if either a TTHM or HAA5 MCL is exceeded.

41. Section 109.1003(a)(1)(ix) and (x) is amended to remove purchasing and consecutive water systems from the chlorite and bromate monitoring requirements, respectively.

42. Section 109.1003(a)(1)(x)(B) is amended to clarify that systems that attain reduced bromate monitoring criteria shall reduce their monitoring to the prescribed schedule.

43. Section 109.1103(h)(4) (relating to monitoring requirements) is amended to update a reference to Federal regulations which have been updated and recodified since the last writing of this section. Specifically, the new

requirements for lead and copper source water sampling are now found in 40 CFR 141.88(a)(1).

#### F. *Benefits, Costs and Compliance*

##### *Benefits*

The proposed rulemaking will affect approximately 2,565 public water systems in this Commonwealth and will be consistent with Federal requirements. Approximately 2,141 of these systems are groundwater systems serving less than 10,000 people that will potentially benefit from less stringent monitoring criteria. Eighty five surface water systems serving less than 500 people also have the potential to benefit from less stringent monitoring criteria. Twenty one systems using chlorine dioxide will benefit from clearer, more understandable chlorite reporting. Eight transient noncommunity water systems will benefit from the elimination of the enhanced coagulation treatment technique requirement. Several purchasing and consecutive water systems may benefit from the elimination of the monitoring requirements for chlorite, bromate and chlorine dioxide. All systems that are affected by either the D/DBPR or the IESWTR will benefit from the numerous clarifications of the proposed rulemaking. If the Department obtains primacy for both the D/DBPR and the IESWTR, then all systems that are affected by these rules will benefit from the local Department field presence, as well as from the many Department compliance-, technical- and financial-assistance programs that are already in place. Every system in the State, regardless of D/DBPR or IESWTR applicability, will benefit from the correction of the typographical errors and incorrect cross-references that exist throughout Chapter 109.

##### *Compliance Costs*

The proposed rulemaking will not result in additional compliance costs beyond what is already being borne by the regulated community for the D/DBPR and the IESWTR.

##### *Compliance Assistance Plan*

The Safe Drinking Water Program utilizes the Pennsylvania Infrastructure Investment Authority to offer financial assistance to eligible public water systems. This assistance is in the form of a low-interest loan, with some augmenting grant funds for hardship cases. Eligibility is based upon factors such as public health impact, compliance necessity and project/operational affordability.

The Safe Drinking Water Program has established a network of regional and central office training staff that is responsive to identifiable training needs. The target audience in need of training may be either program staff or the regulated community, or both.

In addition to this network of training staff, the Bureau of Water Supply Management has a division dedicated to providing both training and outreach support services to public water system operators. The Department website also contains the Drinking Water & Wastewater Operator Information Center at [www.dep.state.pa.us/dep/deputate/waterops/](http://www.dep.state.pa.us/dep/deputate/waterops/), which provides a bulletin board of timely, useful information for treatment plant operators.

##### *Paperwork Requirements*

The proposed rulemaking will cause no additional paperwork (for example, reporting forms, recordkeeping, application forms, letters, public notices, and the like) for public water systems in this Commonwealth.

The proposed chlorite reporting requirements, which will increase chlorite reporting from quarterly to monthly,

will nevertheless cause no additional paperwork since the actual number of required reporting forms will not change over a given period of time. The proposed monthly reporting will simply increase the frequency of submitting these forms. That is, affected water systems will be submitting three forms per month rather than nine forms per quarter.

It should be noted that the Department has been actively endorsing electronic data reporting instead of conventional paper form reporting to water systems throughout this Commonwealth. If employed, electronic data reporting would greatly reduce a water system's current paperwork requirements.

##### G. *Sunset Review*

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

##### H. *Regulatory Review*

Under section 5(a) of the Regulatory Review Act (71 P. S. § 745.5(a)), on July 22, 2003, the Department submitted a copy of this proposed rulemaking to the Independent Regulatory Review Commission (IRRC) and the Chairpersons of the Senate and House Environmental Resources and Energy Committees. In addition to submitting the proposed rulemaking, the Department has provided IRRC and the Committees with a copy of a detailed Regulatory Analysis Form prepared by the Department. A copy of this material is available to the public upon request.

Under section 5(g) of the Regulatory Review Act, if IRRC has objections to any portion of the proposed rulemaking, it will notify the Department within 30 days of the close of the public comment period. The notification shall specify the regulatory review criteria that have not been met by the portion of the proposed rulemaking to which an objection is made. The Regulatory Review Act specifies detailed procedures for review, prior to final publication of the rulemaking, by the Department, the General Assembly and the Governor of objections raised.

##### I. *Public Comments*

*Written Comments*—Interested persons are invited to submit comments, suggestions or objections regarding the proposed rulemaking to the Environmental Quality Board, P. O. Box 8477, Harrisburg, PA 17105-8477 (express mail: Rachel Carson State Office Building, 15th Floor, 400 Market Street, Harrisburg, PA 17105-2301). Comments submitted by facsimile will not be accepted. Comments, suggestions or objections must be received by the Board by September 2, 2003. Interested persons may also submit a summary of their comments to the Board. The summary may not exceed one page in length and must also be received by September 2, 2003. The one-page summary will be provided to each member of the Board in the agenda packet distributed prior to the meeting at which the final regulations will be considered.

*Electronic Comments*—Comments may be submitted electronically to the Board at [RegComments@state.pa.us](mailto:RegComments@state.pa.us) and must also be received by the Board by September 2, 2003. A subject heading of the proposal and a return name and address must be included in each transmission. If an acknowledgement of electronic comments is not received by the sender within 2 working days, the comments should be retransmitted to ensure receipt.

KATHLEEN A. MCGINTY,  
Chairperson

**Fiscal Note:** 7-383. No fiscal impact; (8) recommends adoption.

**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 B. MCLS, MRDLs OR TREATMENT TECHNIQUE REQUIREMENTS**

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

\* \* \* \* \*

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

**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 in accordance with the requirements established in the 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:

\* \* \* \* \*

(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.

\* \* \* \* \*

(C) A public water system that uses either a surface water or a GUDI source and does not practice filtration in compliance with Subchapter B (relating to MCLs, MRDLs or treatment technique requirements) shall collect at least one total coliform sample at the entry point, or an equivalent location as determined by the Department, to the distribution system within 24 hours of each day that the turbidity level in the source water, measured as specified in paragraph (2)(i)(B), exceeds 1.0 NTU. The Department may extend this 24-hour collection limit to a maximum of 72 hours if the system adequately demonstrates a logistical problem outside the system's control in having the sample analyzed within 30 hours of collection. A logistical problem outside the system's control may include a source water turbidity result exceeding 1.0 NTU over a holiday or weekend in which the services of a Department certified laboratory are not available within the prescribed sample holding time. These sample results shall be included in determining compliance with the MCL for total coliforms established under § 109.202(a)(2).

\* \* \* \* \*

(8) *Monitoring requirements for public water systems that 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 [ provide ] obtain finished water [ that contains a chemical disinfectant or oxidant ] 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).

\* \* \* \* \*

(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 [ , or provide finished water that contains a chemical disinfectant or oxidant, ] shall monitor for disinfection byproducts. 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 **[ may ] 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.*

(I) Systems that use either surface water or GUDI sources shall monitor as follows:

(-a-) Systems serving at least 10,000 persons shall take at least four samples per quarter per treatment plant. At least 25% of all samples collected each quarter shall be collected at locations representing maximum residence time. The remaining samples shall be taken at locations that are representative of **[ the entire distribution system and that are representative of ]** at least average residence time **and that are representative of the entire distribution system, taking into account the number of persons served, the different sources of water, and the different treatment methods.**

\* \* \* \* \*

(-c-) Systems serving fewer than 500 persons shall take at least one sample per year per treatment plant during the month of warmest water temperature. The sample shall be taken at a location that represents a maximum residence time. If the sample, or average of all samples, exceeds either a TTHM or HAA5 MCL, then the system shall take at least one sample per quarter per treatment plant **beginning in the quarter immediately following the quarter in which the system exceeds either the TTHM or HAA5 MCL.** The sample shall be taken at a location that represents a maximum residence time. **[ The system may reduce the sampling frequency ]** **If, after at least 1 year of monitoring, the TTHM running annual average is no greater than 0.060 mg/L and the HAA5 running annual average is no greater than 0.045 mg/L, the required monitoring is reduced back to one sample per year per treatment plant [ in accordance with the reduced monitoring criteria of clause (B) ].**

\* \* \* \* \*

(II) Systems that use groundwater sources shall monitor as follows:

\* \* \* \* \*

(-b-) Systems serving fewer than 10,000 persons shall take at least one sample per year per treatment plant during the month of warmest water temperature. Multiple wells drawing water from a single aquifer may be

considered as a single treatment plant. The sample shall be taken at a location that represents a maximum residence time. If the sample, or average of all samples, exceeds either a TTHM or HAA5 MCL, **then** the system shall take at least one sample per quarter per treatment plant **beginning in the quarter immediately following the quarter in which the system exceeds either the TTHM or HAA5 MCL.** The sample shall be taken at a location that represents a maximum residence time. **[ The system may reduce the sampling frequency ]** **If, after at least 1 year of monitoring, the TTHM running annual average is no greater than 0.060 mg/L and the HAA5 running annual average is no greater than 0.045 mg/L, the required monitoring is reduced back to one sample per year per treatment plant [ in accordance with the reduced monitoring criteria of clause (B) ].**

\* \* \* \* \*

(B) *Reduced monitoring.* Systems **[ that have monitored ] shall monitor** for TTHMs and HAA5 for at least 1 year **[ may reduce ] prior to qualifying for reduced monitoring [ according to this clause ].** Systems **serv- ing 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) **[ Systems ]** For systems serving at least 500 persons that use either surface water or GUDI sources and that have a source water **[ annual ]** TOC running annual average that is no greater than 4.0 mg/L **[ and an annual ],** a TTHM running annual average that is no greater than 0.040 mg/L and an **[ annual ]** HAA5 running annual average that is no greater than 0.030 mg/L **[ may reduce ],** the required monitoring is **reduced** according to items (-a)-**[ -(c)- ]** and (-b)- Systems **[ that qualify for reduced monitoring may remain on reduced monitoring provided that ]** **serv- ing at least 10,000 persons shall resume routine monitoring as prescribed in clause (A) if the [ annual ] TTHM running annual average [ is no greater than ] exceeds 0.060 mg/L [ and ] or the [ annual ] HAA5 running annual average [ is no greater than ] exceeds 0.045 mg/L. [ Systems that exceed these levels shall resume routine monitoring as pre- scribed 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. ]** 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-) **[ Systems ]** For systems serving at least 10,000 persons **[ may reduce ],** 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-) **[ Systems ]** For systems serving from 500 to 9,999 persons **[ may reduce ]**, 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.

**[ (-c) Systems serving fewer than 500 persons and that are on increased monitoring as prescribed by clause (A) may reduce monitoring 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) **[ Systems ]** For systems that use groundwater sources **[ may reduce ]**, the required monitoring is reduced according to the following:

(-a-) **[ Systems ]** For systems serving at least 10,000 persons **[ may reduce ]** 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 **[ if the annual TTHM average is no greater than 0.040 mg/L and the annual HAA5 average is no greater than 0.030 mg/L ]**. The sample shall be taken during the month of warmest water temperature and at a location that represents a maximum residence time. **[ Systems that qualify for reduced monitoring may remain on reduced monitoring provided that ]** If the annual TTHM average **[ is no greater than ]** exceeds 0.060 mg/L **[ and ]** or the annual HAA5 average **[ is no greater than ]** exceeds 0.045 mg/L **[. Systems that exceed these levels ]**, 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-) **[ Systems ]** For systems serving fewer than 10,000 persons **[ may reduce ]** 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 per treatment plant **[ if the annual TTHM average is no greater than 0.040 mg/L and the annual HAA5 average is no greater than 0.030 mg/L for 2 consecutive years or the annual TTHM average is no greater than 0.020 mg/L and the annual HAA5 average is no greater than 0.015 mg/L for 1 year ]**. The sample shall be taken at a location that represents a maximum residence time during the month of warmest water temperature **[ within the ]**. The 3-year cycle **[ beginning ]** shall begin on January 1 following the quarter in which the system qualifies for reduced monitoring. **[ The sample shall be taken at a location that represents a maximum residence time. Systems that qualify for reduced monitoring may remain on reduced monitoring provided that ]** If the **[ annual ]** TTHM average **[ is no greater than 0.080 ]** exceeds 0.060 mg/L **[ and ]** or the **[ annual ]** HAA5 average **[ is no greater than 0.060 ]** exceeds 0.045 mg/L **[. Sys-**

**tems that exceed these levels ]**, 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 [ 0.080 mg/L for TTHMs or 0.060 mg/L for HAA5 ] the TTHM or HAA5 MCL.**

(ii) *Chlorite.* Community water systems and nontransient noncommunity water systems that use chlorine dioxide for disinfection or oxidation **[ , or provide finished water that contains chlorine dioxide, ]** shall monitor for chlorite.

\* \* \* \* \*

(B) *Reduced monitoring.* Chlorite monitoring in the distribution system required by clause (A)(II) **[ may be ]** is reduced to one three-sample set per quarter after 1 year of monitoring where no individual chlorite sample taken in the distribution system under clause (A)(II) has exceeded the chlorite MCL and the system has not been required to conduct additional monitoring under clause (A)(III). **[ The system may remain on the reduced monitoring schedule until either ]** If any of the three individual chlorite samples taken quarterly in the distribution system exceeds the chlorite MCL or the system is required to conduct additional monitoring under clause (A)(III), **[ at which time ]** the system shall revert to routine monitoring as prescribed by clause (A).

(iii) *Bromate.* Community water systems and nontransient noncommunity water systems that use ozone for disinfection or oxidation **[ , or provide finished water that contains ozone, ]** shall monitor for bromate.

\* \* \* \* \*

(B) *Reduced monitoring.* **[ Systems required to analyze for bromate may reduce ]** For systems that have an average source water bromide concentration that is less than 0.05 mg/L based upon representative monthly bromide measurements for 1 year, the required monitoring is reduced from monthly to quarterly **[ provided that the system demonstrates that the average source water bromide concentration is less than 0.05 mg/L based upon representative monthly bromide measurements for 1 year ]**. Systems on reduced monitoring shall continue to take monthly samples for source water bromide. **[ Systems may remain on reduced bromate monitoring until ]** If the running annual average source water bromide concentration, computed quarterly, **[ is equal to ]** equals or **[ greater than ]** exceeds 0.05 mg/L based upon representative monthly measurements, **[ at which time ]** the system shall revert to routine monitoring as prescribed by clause (A).

(iv) *Disinfection byproduct precursors.* Systems that use either surface water or GUDI sources and that use conventional filtration shall monitor for disinfection byproduct precursors.

\* \* \* \* \*

(B) *Reduced monitoring.* **[ Systems ]** For systems with an average postsedimentation TOC of less than 2.0 mg/L for 2-consecutive years, or less than 1.0 mg/L for 1 year, **[ may reduce ]** the required monitoring for



source water alkalinity, source water TOC and postsedimentation TOC is reduced from monthly to quarterly for each applicable treatment plant. The system shall revert to routine monitoring as prescribed by clause (A) in the month following the quarter when the annual average postsedimentation TOC is not less than 2.0 mg/L.

\* \* \* \* \*

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

\* \* \* \* \*

(ii) *Chlorine dioxide.*

(A) *Routine monitoring.* Systems shall take one sample per day at the entrance to the distribution system. For any daily sample that exceeds the MRDL, the system shall conduct additional monitoring as specified in clause (B) in addition to the sample required at the entrance to the distribution system. [ Compliance shall be based on consecutive daily samples collected by the system under this clause. ]

\* \* \* \* \*

§ 109.303. *Sampling 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 by the Department, except that measurements for turbidity, fluoridation operation, residual disinfectant concentration, temperature, pH, alkalinity, orthophosphates, silica, calcium and conduc-

tivity may be performed by a person meeting the requirements of § 109.704 (relating to operator certification).

(d) \* \* \*

[ (e) ] (d) \* \* \*

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

\* \* \* \* \*

[ (g) ] (f) \* \* \*

§ 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 by the Department, except that measurements for turbidity, fluoridation operation, residual disinfectant concentration, temperature, pH, alkalinity, orthophosphates, silica, calcium, conductivity, daily chlorine, and magnesium hardness may be performed by, or under the supervision of, a person meeting the requirements of § 109.704 (relating to operator certification).

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, 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:

\* \* \* \* \*

(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:

\* \* \* \* \*

(B) An evaluation of the quality of the raw water from each new source. This subparagraph 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 [ (6) ](5)(i) (relating to general monitoring requirements) are detected. Samples for VOCs shall be collected in accordance with the provisions of § 109.303 [ (e) ](d) (relating to sampling requirements).

\* \* \* \* \*

§ 109.506. Emergency permits.

\* \* \* \* \*

(c) Water suppliers having to comply with § 109.603 [ (b) ](d) (relating to source quality and quantity) because of chronic water quantity problems shall apply for an amendment to their construction permit in accordance with § 109.503(b) (relating to public water system construction permits) to incorporate additional sources.

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 [ shorter ] different reporting period is specified in this [ section ] 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:

\* \* \* \* \*

(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:

\* \* \* \* \*

(V) In lieu of [ clause (A) ] 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:

\* \* \* \* \*

(-b-) The date, time and values of any filtered water turbidity measurements [ that exceed ] exceeding 1 NTU [ for systems using conventional or direct filtration or that exceed the maximum level set

under § 109.202(c)(1)(i)(A)(III) (relating to State MCLs, MRDLs and treatment technique requirements) ].

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

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

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

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

\* \* \* \* \*

[ (III) The date, time and highest value each day the concentration is greater than the residual disinfectant concentration required under § 109.202(c)(1)(ii).

(IV) If the concentration does not rise above that required under § 109.202(c)(1)(ii), the date, time and highest value measured that month. ]

\* \* \* \* \*

(iii) The test results from performance monitoring required under § 109.301 [ (7) ](8)(v) of the residual disinfectant concentration of the water in the distribution system shall include the date, time and value of each sample.

\* \* \* \* \*

(9) Reporting requirements for disinfection byproducts.

\* \* \* \* \*

(ii) Systems monitoring for chlorite under § 109.301(12) shall report the following:

(A) The number of samples taken [ each month for ] during the last [ 3 months ] month.

(B) The date, location and result of each entry point and distribution sample taken during the last [ quarter ] month.

(C) The arithmetic average of each three-sample set of distribution samples taken [ in each ] during the last month [ in the reporting period ].

\* \* \* \* \*

§ 109.710. Disinfectant residual in the distribution system.

\* \* \* \* \*

(b) A public water system that uses surface water or GUDI sources or obtains finished water from another permitted public water system using surface water or GUDI sources shall comply with the following requirements:

(1) As a minimum, a detectable residual disinfectant concentration of 0.02 mg/L measured as total chlorine, combined chlorine or chlorine dioxide shall be maintained

throughout the distribution system as demonstrated by monitoring conducted under § 109.301(1) and (2) or [ (7) ](8)(v) (relating to general monitoring requirements).

\* \* \* \* \*

#### Subchapter H. LABORATORY CERTIFICATION

##### § 109.810. Reporting and notification requirements.

(a) A laboratory certified under this subchapter shall submit to the Department, on forms provided by the Department, the results of test measurements or analyses performed by the laboratory under this chapter. **[ These ] 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.

\* \* \* \* \*

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

##### § 109.1003. Monitoring requirements.

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

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

\* \* \* \* \*

(viii) Beginning January 1, 2004, monitor annually for TTHMs and HAA5 if the system uses a chemical disinfectant or oxidant, or **[ uses a source that has been treated with ] obtains finished water from another public water system that uses a chemical disinfectant or oxidant to treat the finished water.** Bottled water systems are not required to monitor for TTHMs and HAA5 if the system does not use a chlorine-based disinfectant or oxidant and does not **[ use a source that has been treated with ] obtain finished water from another public water system that uses a chlorine-based disinfectant or oxidant to treat the finished water.**

(A) *Routine monitoring.* Systems shall take at least one sample per year per entry point during the month of warmest water temperature. If the sample, or average of all samples, exceeds either a TTHM or HAA5 MCL, the system shall take at least one sample per quarter per entry point. The system **[ may reduce ] shall return to the sampling frequency [ back to ] of one sample per year per entry point [ in accordance with the reduced monitoring criteria of clause (B) ] if, after at least 1 year of monitoring, the TTHM running annual average is no greater than 0.060 mg/L and the HAA5 running annual average is no greater than 0.045 mg/L.**

(B) *Reduced monitoring.* Systems that **[ have monitored ] use groundwater sources shall monitor** for TTHMs and HAA5 for at least 1 year **[ may reduce monitoring according to this clause ] prior to qualifying for reduced monitoring.** **[ Systems that use either a surface water or GUDI source 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) **[ Systems that are on increased monitoring as prescribed by clause (A) and that use either a surface water or GUDI source and that have a source water annual TOC that is no greater than 4.0 mg/L and 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 may reduce monitoring to one sample per year per entry point. The sample shall be taken during the month of warmest water temperature. Systems that qualify for reduced monitoring may remain on reduced monitoring provided that the annual TTHM average is no greater than 0.060 mg/L and the annual HAA5 average is no greater than 0.045 mg/L. Systems that exceed these levels 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.**

(II) Systems that use groundwater sources may reduce monitoring to one sample per 3-year cycle per entry point if the annual TTHM average is no greater than 0.040 mg/L and the annual HAA5 average is no greater than 0.030 mg/L for 2-consecutive years or the annual TTHM average is no greater than 0.020 mg/L and the annual HAA5 average is no greater than 0.015 mg/L for 1 year. The sample shall be taken during the month of warmest water temperature within the 3-year cycle beginning on January 1 following the quarter in which the system qualifies for reduced monitoring. Systems that qualify for reduced monitoring may remain on reduced monitoring provided that the annual TTHM average is no greater than 0.080 mg/L and the annual HAA5 average is no greater than 0.060 mg/L. Systems that exceed these levels shall resume routine monitoring as prescribed in clause (A) in the quarter immediately following the quarter in which the system exceeds 0.080 mg/L for TTHMs or 0.060 mg/L for HAA5. ]

Systems that use groundwater sources shall reduce monitoring to 1 sample per 3-year cycle per entry point if the annual TTHM average is no greater than 0.040 mg/L and the annual HAA5 average is no greater than 0.030 mg/L for 2 consecutive years or the annual TTHM average is no greater than 0.020 mg/L and the annual HAA5 average is no greater than 0.015 mg/L for 1 year. The sample shall be taken during the month of warmest water temperature. The 3-year cycle shall begin on January 1 following the quarter in which the system qualifies for reduced monitoring.

(II) Systems that use groundwater sources that qualify for reduced monitoring shall remain on reduced monitoring if the TTHM average is no greater than 0.060 mg/L and the HAA5 average is no

greater than 0.045 mg/L. Systems that exceed these levels 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 1 sample per quarter per entry point beginning in the quarter immediately following the quarter in which the system exceeds the TTHM or HAA5 MCL.

(ix) Beginning January 1, 2004, monitor daily for chlorite if the system uses chlorine dioxide for disinfection or oxidation[, or uses a source that has been treated with chlorine dioxide]. Systems shall take at least one daily sample at the entry point. If a daily sample exceeds the chlorite MCL, the system shall take [ 3 ] three additional samples within 24 hours from the same lot, batch, machine, carrier vehicle or point of delivery. The chlorite MCL is based on the average of the required daily sample plus any additional samples.

(x) Beginning January 1, 2004, monitor monthly for bromate if the system uses ozone for disinfection or oxidation[, or uses a source that has been treated with ozone].

\* \* \* \* \*

(B) *Reduced monitoring.* Systems [ may ] shall reduce monitoring for bromate from monthly to quarterly if the [ system demonstrates that the ] average source water

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

\* \* \* \* \*

**Subchapter K. LEAD AND COPPER**

**§ 109.1103. Monitoring requirements.**

\* \* \* \* \*

(h) *Sample collection methods.*

\* \* \* \* \*

(4) *Source water samples.* Lead and copper source water samples shall be collected in accordance with the requirements regarding sample location, number of samples and collection methods specified in 40 CFR 141.[ 23 ]88(a)(1) (relating to [ inorganic chemical sampling and analytical ] monitoring requirements for lead and copper in source water).

\* \* \* \* \*

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