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**COMMENT AND RESPONSE DOCUMENT**  
**for the**  
**STAGE 2 DISINFECTANTS/DISINFECTION BYRPRODUCTS RULE (Stage 2 DBPR),**  
**LONG TERM 2 ENHANCED SURFACE WATER TREATMENT RULE (LT2ESWTR)**  
**and the GROUNDWATER RULE (GWR)**

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## List of Commentators

1. EPA Region III  
Drinking Water Branch (3WP21)  
1650 Arch Street  
Philadelphia, PA 19103-2029
  - A. **Stage 2 DBPR Commentators:**  
Anthony Meadows, PWSS Team Leader  
(215) 814-5442  
[Meadows.Anthony@epamail.epa.gov](mailto:Meadows.Anthony@epamail.epa.gov)  
  
(supplemented by comments submitted by  
Patti Kay Wisniewski  
[wisniewski.patti-kay@epa.gov](mailto:wisniewski.patti-kay@epa.gov))
  - B. **LT2ESWTR Commentator:**  
Nick Tymchenko, Environmental Engineer  
(215) 814-2022  
[Tymchenko.Nick@epamial.epa.gov](mailto:Tymchenko.Nick@epamial.epa.gov)
  - C. **GWR Commentator:**  
Anthony Meadows, PWSS Team Leader  
(215) 814-5442  
[Meadows.Anthony@epamail.epa.gov](mailto:Meadows.Anthony@epamail.epa.gov)
2. David A. Katz  
Deputy Water Commissioner for Environmental Policy  
City of Philadelphia  
1101 Market Street, 5<sup>th</sup> Floor  
Philadelphia, PA 19147  
[david.katz@phila.gov](mailto:david.katz@phila.gov)
3. Independent Regulatory Review Commission  
333 Market Street, 14<sup>th</sup> Floor  
Harrisburg, PA 17101
4. Gene Barr  
Vice President, Government and Public Affairs  
Pennsylvania Chamber of Business and Industry  
417 Walnut Street  
Harrisburg, PA 17101-1902
5. Robert Cavett  
Senior Environmental Engineer  
MERCK Manufacturing Division  
P.O. Box 4  
West Point, PA 19486-0004
6. Stephen C. Weyandt, P.E.  
Pennsylvania State University  
Office of Physical Plant  
[SCW15@nw.opp.psu.edu](mailto:SCW15@nw.opp.psu.edu)
7. Nancy A. Evans  
Senior Environmental Professional  
PPL Services Corp.  
(610) 774-4309  
[naevans@pplweb.com](mailto:naevans@pplweb.com)

## STAGE 2 DISINFECTANTS/DISINFECTION BYRPODUCTS RULE COMMENTS AND RESPONSES

### 1. Comment:

109.1 Definition of consecutive water system - Existing definition is less stringent than federal definition of consecutive system, because it does not include PWS that obtain some, not all, water from wholesaler. Please also note that 109.701 references consecutive system rather than consecutive water system. (1)

### Response:

Although Pennsylvania's definition of "consecutive water system" differs from EPA's definition of "consecutive system," Pennsylvania's regulations are more stringent. Pennsylvania's definition of "consecutive water system" was created as part of the Phase II/V rulemaking in 1992 so that systems purchasing only some of their water would still be required to monitor IOCs, VOCs, & SOCs (and now Radionuclides) at any entry point supplied by water from non-purchased sources. The difference between the federal definition of "consecutive system" and the Chapter 109 definition of "consecutive water system" was raised *and resolved* during the recent General Update rulemaking package. To change this definition would have detrimental consequences outside the scope of this rulemaking. Under Chapter 109 regulations, a system that purchases some of its water but also has its own sources is regulated as an independent public water system that must meet all the requirements of Chapter 109 regulations. These systems are included in the definition of a "combined distribution system" and would be part of the requirements of the Stage 2 DBPR. Additionally, consecutive water systems in Pennsylvania are required to conduct DBP monitoring under the existing Stage 1 DBPR. Therefore, Pennsylvania DEP's regulations are at least as stringent as the federal provisions.

### 2. Comment:

The following treatment technique requirements need to be added: 40 CFR 141.2 definitions of GAC10 and GAC20, 40 CFR 141.64(a)(2), 40 CFR 141.64(b)(1)(ii), 40 CFR 141.64(b)(2)(ii - ii). (1)

### *Supplemented comment:*

The 40 CFR Section 141.2 definitions of GAC10 and GAC20 when related to BAT brought to our attention an issue concerning the adoption by reference in Chapter 109 of BAT. While BAT is defined in Chapter 109, this term is not used in the chapter except for its use in the definition of "innovative technology." Because we have not been able to find BAT used elsewhere in Chapter 109, we are concerned that the adoption by reference of the term might not be effective. Since there are numerous technologies defined as BAT in 40 CFR Part 141, it is highly recommended that Chapter 109 explicitly adopt by reference those best available technologies as defined in the federal regulations. We recognize that this comment was more appropriate for the recently proposed Variance and Exemption revisions to Chapter 109. Therefore, if at all possible, we encourage Pennsylvania to capture this incorporation by reference as those regulations are finalized. The need for such a clear statement is applicable to many parameters and the corresponding BATs under the drinking water regulations, and not solely the Stage 2 Disinfectants/Disinfection By-products Rule. (1)

**Response:**

These definitions have been added to the final rulemaking. In addition, DEP will clarify the adoption by reference of best available technologies as defined in the federal regulations.

**3. Comment:**

109.301(8)(ii)(A) – Cross references to vacated sections 141.12 and 141.30 need to be removed. **(1)**

**Response:**

These cross references have been corrected.

**4. Comment:**

109.301(8)(vi) – The proposed regulation should be changed to cross reference to paragraphs (i -v) instead of (i – iv). **(1)**

**Response:**

These changes have been made as recommended.

**5. Comment:**

109.301(12)(i) – The proposed regulation does not clearly specify that Stage 1 MCL requirements are applicable only until the Stage 2 effective dates, as described by the last sentence of 141.64 (b)(1)(i). **(1)**

**Response:**

DEP incorporates the MCL's by reference under § 109.202. For more clarity, a subclause was added under § 109.301(12)(ii)(A)(III) to read: "All systems monitoring under this paragraph must comply with requirements of subparagraph (i) until the dates specified in this subparagraph."

**6. Comment:**

109.301(12)(i)(B)(I)(-c-) – The proposed regulation, when compared to 141.132(b)(1)(iii), should refer to disinfection byproduct precursors as listed in subparagraph (v) not subparagraph (ii) for Stage 2 DBP monitoring. **(1)**

**Response:**

These changes have been made as recommended.

**7. Comment:**

109.301(12)(ii)(B)(I) – The last sentence of the proposed regulation is confusing as to which monitoring plan that it refers. The federal regulation refers to the Stage 1 monitoring plan. **(1)**

**Response:**

The federal regulation refers to the Stage 1 monitoring plan *as it is updated by the Stage 2 provisions*. DEP is referring to the Stage 2 monitoring plan. The following italicized text was added to the subclause to clarify this:

“... shall monitor at the locations and dates identified in its *Stage 2 DBP Rule* monitoring plan following the schedule in ...”

**8. Comment:**

109.301(12)(ii)(B)(III) – The proposed state regulation does not include the Stage 2 DBP Rule correction of 141.621(a)(2) as proposed in the Nov. 14, 2008 Federal Register. The correction states that “ground water systems serving 500-9,999 people on annual monitoring must take dual sample sets at each monitoring location.” (1)

**Response:**

EPA published the correction after the DEP proposed Stage 2 DBPR was approved by the EQB. The correction has been incorporated in the final rulemaking in § 109.301(12)(ii)(B)(III).

**9. Comment:**

The proposed regulation 109.301(12)(ii)(D)(IV) seems as if it should be included in paragraph C not D as it relates to reduced monitoring. (1)

**Response:**

Subclause § 109.301(12)(ii)(D)(IV) was reformatted for clarity and moved to § 109.301(12)(ii)(C)(VII).

**10. Comment:**

The federal regulations include specific references to Stage 1 and Stage 2 analytical methods and minimum reporting levels in 141.131 which could be incorporated by reference into 109.304(a) by referencing all analytical methods as listed in 40 CFR 141. (1)

**Response:**

§ 109.304(a) already incorporates EPA-approved analytical methods.

**11. Comment:**

109.701(a)(9) – The proposed regulation is not clear as to specifically whether RAA or LRAA are to be reported. The proposed regulation also does not differentiate how the RAA and RAA reporting process will change after the Stage 2 effective date. (1)

**Response:**

Under 40 CFR 141.629(a)(3), States have the option to perform calculations and determine compliance for water systems and whether the system is eligible for reduced monitoring. DEP has chosen to calculate LRAA values and determine compliance for water systems in Pennsylvania. Therefore, systems are only required to report the results of analyses conducted, not the RAA and

LRAA calculations. As a result, the text in § 109.701(a)(9) will be deleted from the final rulemaking. RAA and LRAA calculations will be available in DEP's data system, PADWIS.

**12. Comment:**

The proposed regulation does not include the source water TOC reporting requirements of 141.629(a)(2) similar to the other disinfection byproduct reporting requirements in 109.701(a)(9). (1)

**Response:**

Under 40 CFR 141.134(d), States have the option to perform calculations and determine compliance for water systems and whether the system is eligible for reduced monitoring. DEP has chosen to calculate DBP precursor removal requirements as well as the RAA values and determine compliance for water systems in Pennsylvania. Therefore, systems are only required to report the results of analyses conducted, not the compliance calculations. As a result, the text in § 109.701(a)(9) and § 109.701(a)(10) will be deleted from the final rulemaking. Again, RAA calculations will be available in PADWIS.

**13. Comment:**

109.701(g)(2)(ii)(A) – The proposed regulation should not refer to “this subpart” but should refer to 109.301(12)(ii)(A). (1)

**Response:**

The change has been made as follows: “The monitoring plan must contain the elements in subclauses (I)-(III) and be completed no later than the date systems conduct their initial monitoring under § 109.301(12)(ii)(A)”.

**14. Comment:**

141.622(a)(2) has a statement “If you have more subpart L (Stage 1) monitoring locations than required for subpart V (Stage 2) compliance monitoring in § 141.605(b).” The corresponding statement in the proposed version of 109.701(g)(2)(ii)(B) is confusing because it does not describe or cross reference the monitoring locations as Stage 1 and 2. (1)

**Response:**

The change has been made as recommended. Text has been added to clarify the Stage 1 DBPR locations from the Stage 2 DBPR locations.

**15. Comment:**

109.701(g)(2)(iii)(C)(II) – The proposed regulation cross reference about schedule needs to be changed from subclause (I) to paragraph (B). (1)

**Response:**

The change has been made as follows: “The request to limit the scope of the evaluation does not extend the schedule in clause (B) for submitting the written report”.

**16. Comment:**

141.131(b)(2)(iii) requires specific quantitative results required for performance evaluations. These requirements are not included in the drinking water chapter 109 or performance test regulations 252.501. (1)

**Response:**

Currently, DEP's Bureau of Laboratories (BoL) enforces proficiency testing requirements through PA's Lab Accreditation Program. Proficiency testing requirements are specified in BoL's policy, entitled: *Proficiency Testing (PT) Guidance for Laboratories*. The policy is available on BoL's website at [http://www.depweb.state.pa.us/labs/lib/labs/g006\\_pt\\_guidance\\_for\\_laboratories\\_rev\\_1.pdf](http://www.depweb.state.pa.us/labs/lib/labs/g006_pt_guidance_for_laboratories_rev_1.pdf). The policy incorporates the requirements under 40 CFR Part 141. BoL is in the process of revising their Chapter 252 regulations. For clarity, DEP will add the incorporation by reference to BoL's proposed rulemaking.

**17. Comment:**

A few changes to citations in the regulatory crosswalk were identified. (1)

**Response:**

Thank you for the comment. The crosswalk is not part of the proposed rulemaking and does not affect the regulatory language. It was provided to assist EPA with their review of the proposed rulemaking. Any necessary edits will be made before the final crosswalk is submitted to EPA.

**18. Comment:**

In the proposed rule preamble, the description of Operational Evaluation Level should define OEL as the sum of the two previous quarters' results plus two times the current quarter result. (1)

**Response:**

Thank you for the comment. The explanation for the operational evaluation level has been edited.

**19. Comment:**

In the preamble introduction on page 7055, "Disinfection byproduct" and "disinfectant byproduct" are used interchangeably. It would be preferable to be consistent with terminology. "Disinfection byproduct" has been the conventional term to-date. (2)

**Response:**

Thank you for the comment. The acronym DBP, defined as "disinfection byproduct" is used in the Order for the final rulemaking.

**20. Comment:**

On page 7055, under D. Background and Purpose, some statements should be corrected. Health effects from DBPs have not been established conclusively. Federal regulations are designed to reduce potential risks from DBPs. Language about health effects in the State rule should not extend

certainty to such risks. The second sentence in the first paragraph of this section (...DBPs, which pose health risks at certain levels.) should be modified accordingly (...DBPs, which **may** pose health risks at certain levels.)

On page 7056, a sentence in the sixth paragraph of this section needs correction (... accomplish an overall reduction in health risks due to both pathogens and D/DBPs.). The tenth paragraph in this section has a typographical error (chloromine.) (2)

**Response:**

Thank you for the comments. The language in the Order for the final rulemaking has been edited.

**21. Comment:**

On page 7058, the explanation under item 15 for operational evaluation level calculation is incorrect (see fourth paragraph of explanation.) It should read "... plus **two times** the current quarter's TTHM or HAA5 result." (2)

Also on page 7058, the amendments will affect CWSs and NTNCWSs (not NTHCWSs). How were State-level benefits and compliance costs derived? Are these analyses public record? Where can PWD get a copy? (2)

**Response:**

Thank you for the comment. The explanation for the operational evaluation level has been edited.

State level benefits were derived using EPA analysis of national costs. The derivation of state costs are explained in the Regulatory Analysis Form which is published in the IRRC website for public records. <http://www.irrc.state.pa.us/Regulations/RegInfo.cfm?IRRCNo=2736>

**22. Comment:**

On page 7066, under (iii) Operational Evaluation Levels, (B), the subclause requirement that written OEL reports must be made available to the public upon request has the potential to present security concerns given the additional subclause (g)(2)(iii)(C) requirement that the evaluation must specifically include examination of storage tank operations, excess storage capacity, distribution system flushing, etc. Some of the relevant operational information may be considered sensitive by water utilities. PWD suggests that "if the water system has security concerns about supplying information about specific operations, then the OEL shall contain general information and specific operational details shall be provided to the Department under separate submittal, marked confidential due to security concern, and referenced to the appropriate section of the OEL. The confidential document shall not be shared with the public". (2)

**Response:**

DEP agrees that some of the information resulting from an operational evaluation may be considered sensitive. Although both federal and state regulations require that the operational evaluation consist of specific elements, the report need only certify that the evaluation was conducted as required and summarize the results of the evaluation. Details of an evaluation may be kept on file and reviewed by DEP staff as needed during an inspection.



### 23. Comment

General - Possible conflict with existing regulation; Protection of the public health, safety and welfare; Economic impact.

In the Preamble, the EQB states: The draft proposed amendments were submitted for review to the Small Water Systems Technical Assistance Center Advisory Board (TAC) for review and discussion on November 15, 2007. The TAC Board noted that the revisions are required for the Department to receive primacy and are not more stringent than the Federal rule. The TAC Board approved the proposed revisions in a letter dated December 12, 2007.

Additionally, the EQB approved this proposed regulation on August 19, 2008.

However, the Environmental Protection Agency (EPA) filed comments on this regulation and a clarification of its comments, both dated January 20, 2009. The EPA cited what it characterized as concerns related to six “major changes,” ten “minor changes” and “other changes” to the existing regulation. In light of the EPA concerns, the final-form regulation should include an explanation of how these EPA concerns were addressed and a summary of the communications the EQB had with the EPA to make sure Pennsylvania will maintain primacy with the implementation of the final-form regulation. (3)

#### Response

All EPA comments have been addressed as noted in the responses to Comments 1 – 18.

### 24. Comment:

Section 109.701. Reporting and recordkeeping. - Protection of the public health, safety and welfare; Clarity.

There are three discrepancies in this section between the regulatory package submitted by the EQB on November 24, 2008, and the publication in the December 20, 2008 edition of the *PA Bulletin*. First, Subparagraph (a)(8)(ii) is missing a bracket, and therefore, it is unclear what language the EQB proposes to delete. Second, Paragraph (a)(9) in the *PA Bulletin* has a missing bracket, as it appears that the EQB intended to delete (9) in its entirety and renumber (10) to (9). Finally, in Paragraph (a)(10) in the *PA Bulletin*, the word “precursors” should not be shown in bold type.

These discrepancies may have caused confusion and impacted public comment. Ideally, a correction would have been published in the *PA Bulletin* before the close of the public comment period. Since the opportunity for that correction has passed, the EQB should make efforts to ensure that the regulated community is both aware of the discrepancies and has had the opportunity to address any concerns before the final-form regulation is submitted. (3)

#### Response:

The DEP was advised that there is no need to print a Correction Notice to rectify the errors, as they are not significant (given the complexity of the regulations) and they can easily be addressed in the final rulemaking. These changes have been included in the Annex for the final rulemaking to fix inadvertent publication errors.

**25. Comment:**

The City of Philadelphia commented that the requirement to make written reports of operational evaluation levels available to the public under clauses 109.701(g)(2)(iii)(B) and (C) could present security concerns. These reports are required to include “an examination of system treatment and distribution operational practices, including storage tank operations....changes in sources....” *See* § 109.701(g)(2)(iii)(C). The EQB should explain how it considered security concerns in relation to this requirement and how the requirement will not make information available to the public that could be used for nefarious purposes. (3)

**Response:**

Please see the response to comment #22.

## LONG TERM 2 ENHANCED SURFACE WATER TREATMENT RULE COMMENTS AND RESPONSES

### 26. Comment

Based on our review of the proposed rulemaking, EPA believes that the proposed regulation is no less stringent than the Federal Long-Term 2 Enhanced Surface Water Treatment Rule. While EPA provides these initial comments to be helpful and provide clarity, EPA continues to retain its authority for primacy program approval related to the proposed rule and looks forward to Pennsylvania's formal submission of a request for revision of the Commonwealth's primacy program in accordance with 40 CFR Section 142.12. **(1)**

#### **Response:**

DEP appreciates the commentator's support.

### 27. Comment:

The following two statements are referenced by page number.

“The higher the *Cryptosporidium* oocyst concentration of the source water, the higher the bin classification” (page 7035 under D. Background and Purpose)

“Beginning January 1, 2002, public water suppliers serving 10,000 or more people shall provide at least 99% removal of *Cryptosporidium* oocysts” (page 7042 under 109.202(1))

If Pennsylvania's Department of Environmental Protection wishes to develop clearer and concise wording to help direct the better application of the LT2, then everywhere “*Cryptosporidium* oocysts” occurs it should read “viable and human-infective *Cryptosporidium* oocysts.” This language would be a much more accurate statement as to what is being controlled by the LT2. It is known today that watersheds contain non-viable as well as non-human infective oocysts and these are not the intent for LT2 control. For example, if a **watershed control program** found sources of oocysts that were non-human infective and was able to reduce the influx of human-infective oocysts, then that would be an effective control. The control of non-human infective oocysts would provide no true health benefit. Microbial source tracking and *Cryptosporidium* genotyping are techniques being used to enhance watershed controls and their uses are advancing quickly. PCR technology is widely available today for water utility laboratories. This regulation should encourage the further development of such tools by leaving open their application to demonstrate effective source controls. The recommended adjustment in wording above would facilitate this purpose. **(2)**

#### **Response:**

Thank you for your comment. DEP must incorporate treatment techniques and analytical methods that are at least as stringent as the federal LT2ESWTR. Only the EPA administrator can approve analytical methods for determining *Cryptosporidium* oocyst concentrations.

EPA recognized the limitations in the best available technology for identifying *Cryptosporidium* oocysts. The text below is an excerpt from EPA's published methods for *Cryptosporidium* analysis.

## Method 1622 *Cryptosporidium* and Method 1623 *Cryptosporidium* and *Giardia* in Water by Filtration/IMS/FA

### 1.0 Scope and Application

**1.2** This method is designed to meet the survey and monitoring requirements of the U.S. Environmental Protection Agency (EPA). It is based on laboratory testing of recommendations by a panel of experts convened by EPA. The panel was charged with recommending an improved protocol for recovery and detection of protozoa that could be tested and implemented with minimal additional research.

**1.3** This method identifies the genera, *Cryptosporidium* or *Giardia*, but not the species. The method cannot determine the host species of origin, nor can it determine the viability or infectivity of detected oocysts and cysts.

For a complete explanation, please reference EPA's guidance manuals (both dated December 2005) using the links provided:

Method 1622 EPA-815-R-05-001: [EPA Method 1622 \(December 2005\) \(PDF\)](#)

Method 1623 EPA-815-R-05-002: [EPA Method 1623 \(December 2005\) \(PDF\)](#)

This issue was also addressed in *J. (2)(c) Summary of Major comments, relating to Cryptosporidium Methods*. Page 724 of the federal LT2ESWTR Preamble states,

“Public comment on the August 11, 2003 proposed LT2ESWTR supported approval of the revised versions of Methods 1622 and 1623, which today's rule establishes for source water *Cryptosporidium* monitoring. EPA also received comment regarding the lack of viability and infectivity information with these methods and requirements for analyzing QC samples. Several commentators were concerned that Methods 1622 and 1623 do not indicate whether a *Cryptosporidium* oocyst is viable and infectious. While EPA recognizes that these methods do not provide information on *Cryptosporidium* infectivity, EPA's analysis indicates that they can perform effectively for identifying those PWSs that should provide additional *Cryptosporidium* treatment (USEPA 2005a). This analysis is based on the actual performance of these methods in the ICRSS. Further, EPA and the M-DBP Advisory Committee, which recommended Methods 1622 and 1623, accounted for this lack of information on infectivity when designing the *Cryptosporidium* treatment bins in today's rule. EPA has not identified any feasible methods for quantifying *Cryptosporidium* infectivity in a national monitoring program.”

EPA conducts a 6-year review of all regulations to determine whether changes are needed to improve the effectiveness of the rules. These changes often include new analytical methods. DEP supports your ongoing research efforts to determine the viability and source of *Cryptosporidium* oocysts, and would encourage you to submit your data to EPA to better inform their review process.

### 28. Comment:

On page 7037, 109.1202 refers to the continuing use of *E. coli* to determine vulnerability to *Cryptosporidium* oocysts. Again under page 7044, 109.1202 the direction is given to larger systems to monitor for *Cryptosporidium* oocysts, turbidity and *E. coli*.

A paper presented (and found in the proceedings) at the recent AWWA Water Quality Technology Conference by E. Nieminski et al., (Is Monitoring for *E. coli* a Good Surrogate for *Cryptosporidium* occurrence in water?) found from analyzing actual data, as would be collected under the LT2, that there was a poor correlation between *E. coli* and *Cryptosporidium* oocysts. The authors state that,

“The analyses indicate that elevated concentration of *E. coli* would not be indicative of the presence of *Cryptosporidium* in surface water.” Both turbidity and *E. coli* were found to be poor surrogates. Note that the authors include utility staff, *Cryptosporidium* experts and Utah State representatives which eliminates the potential for bias.

While we recognize the difficulty with small systems monitoring for *Cryptosporidium* oocysts, we also recognize the need to be up-to-date, and technically and scientifically sound and accurate in the published regulations. The EPA’s hope that there would be a correlation has not been shown in recent studies. (2)

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The Philadelphia Water Department submitted comments noting research indicating "a poor correlation between *E. coli* and *Cryptosporidium* oocysts." The research raises concerns relating to the options provided by this proposed regulation for monitoring *Cryptosporidium* levels in small public water systems. We recognize that this option is provided by the federal regulations, and it gives smaller systems a less expensive alternative for monitoring *Cryptosporidium*. However, if it is not an effective tool for screening for possible threats from *Cryptosporidium*, this raises questions concerning the need for and costs of tests that do not necessarily produce reliable results. Doubts over reliability also raise public health concerns. We recommend that the Board and Department of Environmental Protection work closely with the U.S. Environmental Protection Agency in reviewing all the scientific data and bases for using *E. coli* tests as screening tool for *Cryptosporidium*. (3)

**Response:**

As indicated in Comment #27 above, DEP must incorporate the federal treatment techniques and EPA-approved methods for required drinking water monitoring. DEP can be no less stringent than the federal LT2ESWTR.

EPA recognizes the limitations of using *E. coli* as an indicator of, or surrogate for, *Cryptosporidium*. However, EPA believes that low levels of *E. coli* may also indicate low levels of *Cryptosporidium*. Pg 668 of the federal LT2ESWTR Preamble states:

“Indicator Monitoring

Due to the relatively high cost of analyzing samples for *Cryptosporidium*, the Advisory Committee and EPA investigated indicators that are less costly to analyze to determine if any could be used in place of *Cryptosporidium* monitoring. No indicators were identified that correlated strongly with *Cryptosporidium* and could fully substitute for *Cryptosporidium* monitoring for determining treatment bin classifications. **However, this investigation did identify an indicator, *E. coli*, that can be used to identify some of the water sources that are unlikely to exceed a *Cryptosporidium* level of 0.075 oocysts/L—the level at which filtered PWSs must provide additional treatment under the LT2ESWTR.**

Data from the ICR and ICRSS were used in the investigation of indicators. With these data, *E. coli* performed the best in identifying sources with low *Cryptosporidium* levels. In addition, analyzing plants separately based on source water type was necessary due to a different relationship between *E. coli* and *Cryptosporidium* in reservoir/lake sources compared to flowing stream sources.”

DEP addresses incorporating alternatives in § 109.1202(a)(5) and discussed the additional language in the preamble for Pennsylvania’s LT2ESWTR.

§ 109.1202(a)(5) For filtered systems serving fewer than 10,000 people, the Department may approve monitoring for an indicator other than *E. coli* under paragraph (a)(3). The Department also may approve an alternative to the *E. coli* concentration in subparagraph (a)(4)(i), (ii) or (iv)

to trigger *Cryptosporidium* monitoring. The Department added the following language “*This approval by the Department would be based on EPA-supported research indicating the validity of an alternative to E. coli.*”

The italicized language is necessary because the decision to approve an alternative to *E. coli* should be based on substantial national research.

References:

Part 1 of federal LT2 ESWTR Preamble

**29. Comment:**

The definition of “plant intake” on page 7041 under 109.1 Definitions needs more review. The definition limits “intake” to the “head of a conduit.” PWD has one intake on the Delaware River that is not the head of a conduit. The definition could be modified to “head of a conduit entering a water treatment or the location where a source water enters a physical structure that is part of a treatment plant”. (2)

**Response:**

Thank you for the comment. DEP realizes there are subtle differences in the design of intake structures. Those differences would be too numerous to capture in a concise definition. Pennsylvania’s proposed LT2ESWTR will allow for the differences of intake structures through the review and approval of the sampling plans. The definition is from the federal LT2ESWTR. Pennsylvania’s definition can be no less stringent.

**30. Comment:**

The definition for “Significant Deficiency” on page 7042 under 109.1 Definitions also needs more review. The definition states, “A defect in design, operation or maintenance, or a failure or malfunction of the sources, treatment, storage or distribution system that the Department determines to be causing, or has the potential for causing the introduction of contamination into the water delivered to consumers.”

A more appropriate definition might be: “A significant defect in design, or a significant failure in operation or maintenance within the treatment, storage or distribution systems of a water supply that the Department determines to be causing, or has the potential for causing, the introduction of contamination of public health concern into the water delivered to consumers.”

Source water (sources) should not fall within significant deficiency. If the source becomes contaminated, and the treatment plant cannot treat that source water to current standards, then the defect is in the design of treatment to handle the contamination. A water source cannot malfunction. Also, contamination should be that which would be of public health concern that applies to the ESWTR or the LT2ESWTR. (2)

**Response:**

Thank you for the comment. The definition of significant deficiency was developed from EPA requirements promulgated under LT2ESWTR. Page 728 of the LT2ESWTR preamble, subsection *L. Requirements for Sanitary Surveys Conducted by EPA* describes significant deficiencies, including a failure or malfunction of the sources as follows:

*L. Requirements for Sanitary Surveys Conducted by EPA*

1. Today's Rule

Today's final rule establishes requirements for PWSs to respond to significant deficiencies identified in sanitary surveys that EPA conducts. These requirements give EPA authority equivalent to that exercised by States under existing regulations to ensure that PWSs address significant deficiencies.

- For sanitary surveys conducted by EPA under SDWA section 1445 or other authority, PWSs must respond in writing to significant deficiencies outlined in sanitary survey reports no later than 45 days after receipt of the report, indicating how and on what schedule the PWS will address significant deficiencies noted in the survey.
- PWSs must correct significant deficiencies identified in sanitary survey reports according to the schedule approved by EPA, or if there is no approved schedule, according to the schedule the PWS reported if such deficiencies are within the control of the PWS.
- A sanitary survey, as conducted by EPA, is an onsite review of the water source (identifying sources of contamination by using results of source water assessments where available), facilities, equipment, operation, maintenance, and monitoring compliance of a PWS to evaluate the adequacy of the PWS, its sources and operations, and the distribution of safe drinking water. **A significant deficiency includes a defect in design, operation, or maintenance, or a failure or malfunction of the sources, treatment, storage, or distribution system that EPA determines to be causing, or has the potential for causing the introduction of contamination into the water delivered to consumers.**

As established under the existing primacy agreement, PA DEP must conduct sanitary surveys for public water systems. The Interim Enhanced Surface Water Treatment Rule (IESWTR) required that sanitary surveys include significant deficiencies. The PA DEP proposed definition is not just limited to the LT2ESWTR. The definition also has broad applicability covering all rules requiring a sanitary survey, such as the GWR and the IESWTR. PA DEP can be no less stringent than the federal rule in determining a significant deficiency. More details about significant deficiencies will be provided in guidance.

References:

Part 2 of federal LT2ESWTR Preamble

Guidance Manual for Conducting Sanitary Surveys of Public Water Systems; Surface Water and Ground Water Under the Direct Influence (GWUDI). USEPA, 1999. EPA 815-R-99-016.

(<http://www.epa.gov/safewater/mdbp/pdf/sansurv/sansurv.pdf>)

**31. Comment:**

The proposed rulemaking states that systems are to "Begin the second round of source water monitoring no later than the month beginning April 1, 2015" (page 7045). The rulemaking does not state how soon a water system may begin the second round of monitoring. PWD has already submitted its first round and bin determinations, and can begin second round monitoring well in advance of 2015. PWD would like this regulation to provide an acceptable early start date for this monitoring. Suggested language might be (Begin the second round of source water monitoring between .....and .....and no later than the month beginning April 1, 2015." (2)

**Response:**

Thank you for the comment. The intent is for a six year term of separation between first and second rounds of monitoring. EPA’s intent was to begin the second round of monitoring six years after the initial bin classification was made. Additionally, the preamble suggests monitoring and sampling responsibilities based on the potential of regulatory update driven by analytical method or risk assessment change.

Please reference the following sections of the federal LT2ESWTR Preamble below which states:

*Pg 667 - “Second round of monitoring.*

PWSs must begin a second round of source water monitoring beginning six years after initial bin classification (see compliance dates in section IV.G). If EPA does not modify LT2ESWTR requirements by issuing a new regulation prior to the second round of monitoring, PWSs must carry out this monitoring according to the requirements that apply to the initial round of source water monitoring. PWSs will then be reclassified in LT2ESWTR treatment bins based on the second-round monitoring result. However, if EPA changes the LT2ESWTR treatment bin structure to reflect a new analytical method or new risk information, PWSs will undergo a risk characterization in accordance with the revised rule.”

*Pg 671 - “Second round of monitoring.*

A more rigorous reassessment of the source water occurs through a second round of monitoring that begins six years after initial bin classification. If EPA does not develop and finalize modifications to the LT2ESWTR prior to the date when PWSs must begin the second round of monitoring, then this second round must conform to the same requirements that applied to the initial round of monitoring.”

DEP agrees for the need to clarify how soon a system may begin the second round of monitoring. Since PA DEP can be no less stringent than the federal LT2ESWTR; we will clarify § 109.1202(c) to read, “Begin the second round of source water monitoring at least 6 years after submitting the initial bin classification but no later than the month beginning...” (schedule 1-4 deadline date for bin submission).

**32. Comment:**

Finally, for Bin classification, the DEP should allow for calculations of Bins using the fullest of data sets available, rather than a data set over a specific period of time (24 months). It is important that water systems collect a certain minimum number of spaced samples. But there should be no limit to water systems that have an extensive data set that more accurately reflects the occurrences in their watersheds. Smaller data sets can be misleading with regards to long term occurrence. PWD strongly recommends that this regulation enforce the 24 months minimum standard but consider allowing more than 24 months of data, as long as minimum samples per month are achieved. (2)

**Response:**

Thank you for your comment. The monitoring period of 24 months is consistent with EPA language in the federal LT2ESWTR. DEP cannot be less stringent than federal requirements so we cannot extend the sample period beyond the 24-months specified in the regulations. DEP will enforce the 24-month minimum standard. Those systems that operate year-round and fail to monitor for the full 24-month period will receive monitoring violations. However, DEP encourages systems to collect more than the minimum 24 samples during the sample period. The LT2ESWTR allows for



additional samples that are collected within the 24-month sample period to be used in the bin classification calculation.

From page 668 of the federal LT2ESWTR Preamble:

“Today’s rule does not allow bin classification based on fewer samples (except in the case of PWSs operating only part of the year) as this would involve unacceptably high false positive or false negative rates and would, therefore, be an inappropriate basis to determine *Cryptosporidium* treatment requirements. EPA believes, though, that PWSs should have the choice to collect more than 24 samples to further improve the accuracy of bin classification, and today’s rule allows this. In regard to the time frame for LT2ESWTR monitoring, the Agency considered the trade-off between monitoring over a long period to better capture temporal fluctuations and the desire to prescribe additional treatment quickly to PWSs with higher *Cryptosporidium* levels. Today’s rule requires large PWSs to evaluate their source water *Cryptosporidium* levels using two years of monitoring. This will account for some degree of yearly variability, without significantly delaying additional public health protection where needed.”

### 33. Comment:

On page 7048 of the proposed rulemaking, under (h) *Increased Watershed Contamination*, the language is very general and does not provide any criteria for determining how PADEP will conduct a source water assessment, evaluate source water long term changes, and determine if increased watershed contamination has occurred. This very general language is of great concern because it implies that PADEP could impose new microbiological sampling and analysis requirements and possibly require higher level treatment requirements prior to the next round of *Cryptosporidium* sampling in 2015 without real criteria for making that determination. PWD recommends that, at the least, the language might be changed to state that “If the Department scientifically determines during a sanitary survey or source water assessment that a permanent and significant increase in contamination has occurred in a watershed, the Department will consult with the water system, and if necessary, require additional source water monitoring or implementation of additional toolbox credits.” (2)

### Response:

EPA’s *The Long Term 2 Enhanced Surface Water Treatment Rule (LT2ESWTR) Implementation Guidance*, EPA 816-R-07-006, August 2007, **Section 4.4.2 Assessment of Significant Changes in Watershed and Source Water** indicates that all states are required to submit criteria of how to determine and address in detail. References cited are the EPA *Guidance for Conducting Sanitary Surveys of Public Water Systems; Surface Water and Ground Water Under the Direct Influence (GWUDI)*, EPA 815-R-99-016, April 1999, (<http://www.epa.gov/safewater/mdbp/pdf/sansurv/sansurv.pdf>). That guidance provides the criteria in **Section 3.1 Source (Protection, Physical Components, and Condition)**; how to determine the potential for increased watershed contamination.

PA is in the process of developing guidance detailing the criteria.

### 34. Comment:

The proposed rulemaking states that water systems may request toolbox credits over or above the bin requirements established by the *Cryptosporidium* oocyst monitoring. In other words, water systems might apply for extra credits because the system can achieve those credits. When a toolbox credit is considered a requirement and the water system submits toolbox credits to comply with that

requirement, if the water system does not comply during a monthly reporting period, a violation of the treatment technique has occurred. However, if extra credits have been submitted and approved, and the water system does not comply with one toolbox credit but complies overall with the credits needed to meet the bin classification, then a treatment technique violation has not occurred.

For example, a water system is in Bin 2 and is required to get 1 log of additional credit. The system applied for and receives 1.5 logs of credit for combined filter effluent, individual filter effluent, and source water protection. For a given month, the system does not meet the criteria for individual filter effluent. Does the PADEP issue a notice of violation for the treatment technique requirement even though 1 log credit is maintained? Since PADEP notice of violations are available to the public and may require direct public notification, this is an important issue to address. PWD recommends that PADEP provide some language in the proposed rulemaking which addresses this concern. (2)

**Response:**

The LT2ESWTR only states the *minimum* additional log treatment that is required.

- (g) *Failure to meet treatment credit.* Failure by a system in any month to achieve treatment credit by meeting criteria in § 109.1204(b), (c) and (n)--(q) for microbial toolbox options that is **at least equal to the level of treatment required in subsection (e)** is a violation of the treatment technique requirement.

Pennsylvania will allow for any amount of additional log credit beyond the minimum required that a system chooses to implement. PA DEP will only be ensuring that the minimum additional log credit needed for a system's bin requirement is met. As long as the minimum additional log treatment requirements for the system's filtration type (conventional, direct, slow sand or DE and alternative) are met each month, the system is in compliance with the treatment technique. PA DEP will clarify this in guidance.

**35. Comment:**

The Philadelphia Water Department (PWD) has developed, conducted, and improved a source water protection program for over a decade which targets *Cryptosporidium* control as well as the control of other sources of potential contamination to our watersheds. This program has resulted in the reduction of microbiological contaminants entering our source waters, dramatically increased public awareness about source water protection, improved the use of best management practices in all source watersheds, fostered continuing partnerships with water, wastewater, and industry in the watershed, led to detection of watershed contamination problems, established and maintains an early warning system for the Schuylkill and Delaware Rivers, and fosters research to identify, track, understand, and mitigate microbiological contamination within our watersheds.

The Philadelphia Water Department recommends the Pennsylvania Department of Environmental Protection give water suppliers primary credit for the Watershed Control Program toolbox item instead of the additional credit proposed. PWD's recommendation is consistent with the scientific basis of the Long Term 2 Enhanced Surface Water Treatment Rule (LT2), the basis of PADEP's Source Water Protection Program, and the multiple barrier concept in water treatment and supply.

The LT2 is based on endemic risk (1 in 10,000 average annual risk of infection) and not epidemic risk. The existing ESWTR addressed epidemic risk in the filtration requirements. The binning process of the LT2 is set up to determine the log removal requirements based on an average *Cryptosporidium* concentration over time. Although this average concentration includes episodic conditions, spills, accidents, and wet weather events in the risk estimate, the intent of the LT2 is to

address endemic risk. All of PADEP's arguments against primary credit are based on epidemic concerns which are not the basis of the LT2ESWTR.

As stated by the PADEP's staff and the Source Water Protection Program, a source water protection program results in heightened awareness, better communication, and quicker response to upstream events and spills as well as long term planning for the reduction of baseline risk. Unfortunately, the PADEP'S proposed rule takes away the incentive that water utilities need to gain support for Watershed Control Programs. This decision could have a long term impact. Water utilities who are not implementing a program have no incentive to implement one and are at greater risk of both endemic and epidemic conditions. Water utilities that have a program have incentive to downsize or eliminate it.

Removing incentives for watershed control programs places these programs at risk. PWD has been, through its watershed control program, pursuing reductions in source water contamination regionally and has been investing in microbial source tracking and *Cryptosporidium* genotyping. PWD has been promoting best management practices such as riparian buffers and has developed a watershed-wide network focused on reducing sources of pathogens. It is well recognized within the drinking water community that these efforts will produce long term reductions in both average and peak occurrences of waterborne pathogens.

Therefore, PWD suggests that the PADEP reconsider its proposed rule on the basis that primary credit for a Watershed Control Program is supported by good engineering and scientific principles, existing long term PADEP programs, and industry practices to reduce endemic *Cryptosporidium* illness and risk. (2)

### **Response:**

DEP applauds and supports Philadelphia Water Department's efforts in implementing a watershed control program. However, DEP has some concerns with approving a watershed control plan toolbox credit as a stand-alone credit option. As stated in the preamble to the proposed rulemaking Pennsylvania's LT2ESWTR:

*“§ 109.1204 (b) Watershed control program. Systems receive 0.5-log *Cryptosporidium* treatment credit for implementing a watershed control program that meets the requirements. This credit may not be used to maintain the additional log removal credits specified in § 109.1203 (relating to bin classification and treatment technique requirements). This credit may only be applied in addition to the toolbox options used to meet the minimum log removal and may apply in lieu of a toolbox option for which credit has been temporarily revoked.*

The above italicized text is more stringent than federal language. It is necessary to avoid imposition of treatment technique violations upon water systems due to events which they have no control over. The watershed control program option is different than other toolbox options in that it relates to efforts undertaken outside of the filter plant operations to reduce *Cryptosporidium* loading entering the filter plant. Additionally, this option focuses on source water protection, as opposed to in-plant treatment and monthly reporting. The Department anticipates that in a scenario where a spill or other contamination of the source water was to occur upstream of the filter plant intake, the watershed control program credit could be revoked. If systems rely on this credit to maintain the minimum *Cryptosporidium* log removal credit, a treatment technique violation would be incurred by the water system through no action of their own. The italicized language encourages source water protection and allows systems to pursue this valuable toolbox option, while preventing situations where systems rely on this option to maintain a monthly treatment technique, thereby avoiding the previously mentioned scenario. The Department anticipates that systems will wish to pursue

additional log removal treatment beyond the minimum required by their bin classification (Bin 2 and greater). It would be wise for systems to do this in order to provide a margin of safety regarding the removal of *Cryptosporidium*.”

## GROUNDWATER RULE COMMENTS AND RESPONSES

### 36. Comment:

Section 109.1303(a) should be modified to be consistent with the EPA Groundwater Rule. The revised requirement should state that sampling of water sources is required for a valid total coliform-positive result within 24 hours of determining that the total coliform-positive is not conclusively related to a distribution system deficiency. **(4, 5, 6)**

### Response:

The Department agrees that systems should not be required to analyze triggered source water samples under § 109.1303 when the original total coliform distribution sample is invalidated or when the Department determines that the total coliform-positive was the result of a distribution deficiency.

Under existing regulation, the Department allows for the original total coliform-positive sample to be invalidated when the laboratory which performed the analysis establishes that improper analysis caused the total coliform-positive result [§ 109.301(3)(iii)(A)(I)], when the total coliform-positive result is limited to a single service connection as demonstrated by specific check sampling results [§ 109.301(3)(iii)(A)(II)], or when the Department determines that the positive result does not reflect water quality in the distribution system [§ 109.301(3)(iii)(A)(III)]. These are consistent with EPA's total coliform invalidation requirements under 40 CFR 141.21(c)(1).

The Department intends to add language to § 109.1303 (see below) that will allow the Department to waive triggered source water monitoring when the Department determines, at its discretion, that the original total coliform-positive resulted from a distribution deficiency.

The Department does not agree, however, that the clock for the 24 hour deadline for collecting source water samples begins *after* the system has ruled out sample invalidation or a problem related to the distribution system. The federal rule states in 40 CFR 141.402(a)(2): "A groundwater system must collect, within 24 hours of notification of the total coliform-positive sample, at least one sample from each groundwater source in use at the time the total coliform-positive sample was collected." The clock for the 24 hour deadline, therefore, begins upon notification of the original total coliform-positive result. The federal GWR does not allow for an extension of the triggered source sampling deadline in order to investigate the possibility that the TCR-positive sample was caused by the distribution system. EPA allows only for an extension when a system cannot collect the source water sample due to logistics beyond its control. The Department has confirmed this interpretation of the federal requirements through consultation with EPA. The PA GWR cannot be less stringent than the federal requirements.

The 24-hour deadline provides only a small window of time for the Department to confirm that the original total coliform-positive sample resulted from a distribution problem. For this reason, the Department anticipates that triggered monitoring waivers granted under such circumstances will be rare.

To address this comment, the Department intends to add the following language to § 109.1303 to read:

**“(f) Prior to expiration of the 24 hour deadline under subsection (a) of this section, source water monitoring requirements are not required when:**

**(1) The Department determines and notifies the public water system that a total coliform-positive routine sample collected under § 109.301(3)(i) is caused by a distribution system deficiency, or**

**(2) The total coliform-positive result has been invalidated by the Department under 109.301(3)(iii) (relating to invalidation of total coliform samples).”**

**37. Comment:**

PA DEP should develop a technical guidance document for evaluating total coliform-positive results for public water suppliers with groundwater sources to determine or refute direct relationship to the distribution system, and establishing a communicating decision criteria for source sampling under § 109.1303(a). A workgroup of technical representatives from PA water suppliers with groundwater sources could be utilized to help identify key criteria for the document. **(4, 5)**

**Response:**

The Department agrees that a comprehensive GWR guidance document is needed, including detailed instructions on how to comply with the triggered monitoring requirements. The Department’s guidance writers will seek input from industry experts during drafting and all interested parties will have the opportunity to comment on the document during the publication process.

**38. Comment:**

109.1307 requires Tier 1 public notice when a breakdown in treatment occurs for more than 4 hours, whereas the 40 CFR 141.404(a)(C) and (D) mandate Tier 2 public notice. We recommend that the Department’s rule matches the federal requirements and that these incidences do not require a Tier 1 public notice. Treatment systems are prone to malfunction and until the technology improves, it can be expected that numerous ones could occur. Numerous Tier 1 notices can result in customers becoming complacent to the intent of the notices. **(6)**

**Response:**

The Department agrees that too many Tier 1 notices may desensitize customers and reduce the notices’ intended effect. That is why the Department requires Tier 1 PN **ONLY** for those violations or situations with significant potential to have serious adverse effects on human health as a result of short-term exposure. For example, failure to comply with the treatment technique or MCL for pathogenic bacteria, viruses and protozoan cysts requires the issuance of Tier 1 PN, usually in the form of a “Boil Water Advisory”. Pathogenic organisms can make people sick within hours or days. Similarly, a breakdown in key water treatment processes (where the primary purpose of the treatment is to inactivate these same pathogenic organisms) should also require the issuance of Tier 1 PN in order to protect public health. The fact that a breakdown in treatment may have resulted from recurring system malfunctions does not relieve the system of its obligation to keep its customers informed of potential health threats. Systems with difficulty maintaining the required level of treatment should investigate updating their equipment or treatment protocols in order to correct underlying problems.

The Tier 1 PN requirement for a breakdown in 4-log treatment is more stringent than the federal requirement. However, it is consistent with existing requirements in Chapter 109. Specifically, § 109.408(a)(7) requires Tier 1 PN in the event of an “emergency situation as defined by § 109.701(a)(3)(iii) that adversely affects the quality or quantity of the finished water.” A failure or significant interruption in key water treatment processes is listed as one of these situations in

§ 109.701(a)(3)(iii)(B). A breakdown in 4-log treatment in a system required to maintain it represents such a failure and Tier 1 PN would be required by existing regulation even if not explicitly included in § 109.1307(a). The PN requirement is included in § 109.1307(a) for clarity.

**39. Comment:**

Minor Clarifications to the Variance and Exemption Requirements in Chapter 109. Based on our review at this time, EPA believes that the proposed regulations are no less stringent than the federal Variance & Exceptions Rule. (1)

**Response:**

The Department appreciates the commentator's support.

**40. Comment:**

CCR Provisions of the Ground Water Rule. EPA believes that Chapter 109 does not require amendments to capture the CCR provisions related to the Ground Water Rule, as these provisions of the federal GWR have been adopted by reference. EPA encourages Pennsylvania to include mention of these CCR requirements in the preamble to the final rule in order to better inform the regulated community. (1)

**Response:**

The Department agrees and thanks EPA for its comment.

**41. Comment:**

Ground Water Rule Provisions. Based on our review at this time, EPA believes that the proposed regulations are no less stringent than the federal Ground Water Rule. (1)

**Response:**

The Department thanks EPA for its comment.

**42. Comment:**

Groundwater systems demonstrating 4-log treatment using chemical disinfection and serving 3,300 or fewer people are required to, among other things, take a daily grab sample during the hour of peak flow. If any daily grab sample measurement falls below the minimum residual disinfectant concentration, the system shall take follow-up samples every 4 hours until the residual disinfectant concentration is restored to the minimum level.

- (a) Small noncommunity water systems (less than 500 people served) will find this requirement onerous since it effectively requires that a certified operator be on-site at all times. The resources required to meet this part of the rule will be burdensome to most small systems such as office buildings, schools, churches, etc. At a time when systems are already struggling to comply with limited resources, this requirement seems unduly strict.
- (b) The requirement for continuous sampling is no less onerous as grab sampling is required if the continuous monitor fails. In addition, the rule is silent on requirements for sampling during calibration or maintenance of the monitor.

(c) 4-log treatment is not a reasonable remedy for small systems. (7)

**Response:**

In general, the GWR is intended to target those noncommunity water systems with confirmed source water fecal contamination documented during triggered monitoring, assessment source water monitoring or other Department oversight. These systems draw from sources that pose a known health threat. The systems will have the option of abandoning the source or providing 4-log treatment. While the Department agrees that some small systems will bear financial and logistical burdens to comply with this rule, the benefit that noncommunity water systems achieve through the prevention of waterborne disease outbreaks far exceeds the cost. In addition to ensuring public health protection, noncommunity water systems realize additional benefits from the proactive measures in this rule, such as avoiding a loss of productivity due to illness, avoiding lost revenue, and avoiding closures due to unsafe water. All of the requirements described above are consistent with the federal GWR. The Department cannot propose regulations that are less stringent than the federal requirements.

**43. Comment:**

Triggered source water monitoring is required when a positive total coliform result is collected. If it is positive for a fecal indicator, the State will require the system to take corrective action or take five additional samples.

Triggered source water monitoring at many small systems is not a simple task. Further, the suggestion that all GWSs should have a sample tap at each source that enables sampling is a costly upgrade for many small systems. Without this tap, it will be difficult to obtain a sample within 24 hours as required. (7)

**Response:**

See the response to Comment #42. The proactive requirements in this rule provide benefits that far outweigh the costs. GWSs should install a sample tap at each source now, in order to avoid potential monitoring violations in the future. While the Department agrees that some small systems will bear financial and logistical burdens to comply with this rule, all of the requirements mentioned by the commentator are components of the federal GWR. The Department cannot propose regulations that are less stringent than the federal requirements.

**44. Comment:**

States have two years to adopt the rule. The rule requires each state to define significant deficiencies for each of the eight sanitary survey elements. Further, the states have until December 31, 2014 to conduct sanitary surveys of noncommunity water systems. However, the requirement to conduct triggered monitoring goes into effect December 1, 2009.

Only those systems with significant deficiencies or documented fecal contamination are required to provide corrective actions. How will the State determine corrective actions (when a positive fecal coliform result is obtained during triggered monitoring) when they have not developed their own rule? If a positive fecal coliform result is obtained before the State rule is finalized, on what basis will the State proceed with corrective actions? How will they determine significant deficiencies when they have not developed the definitions? This rule requires triggered monitoring to be done without a State rule to govern the next steps. (7)



**Response:**

The Department has published proposed revisions to Chapter 109 Safe Drinking Water Regulations to account for the federal GWR. Systems will not be required to comply with the triggered monitoring requirements until December 1, 2009. Barring delays to final publication, Pennsylvania's GWR will be in place before any systems are required to comply with triggered monitoring requirements. In the event that the GWR is delayed, EPA would be responsible for enforcing the federal GWR requirements.

**45. Comment:**

*General. - Fiscal impact; Feasibility; Reasonableness; Clarity.*

*Compliance costs*

We recognize the public benefit and the mandate to meet the Federal Groundwater Rule explained in the Regulatory Analysis Form (RAF) responses to questions 10 and 11. RAF question 13 states that approximately seven million Pennsylvanians served by 9,100 public water supplies will be affected by this regulation. Directly related to the implementation of these benefits are the costs to comply with the requirements. The Board's responses to RAF question 17 state that the Environmental Protection Agency "estimates corrective actions systems must take in response to any significant deficiencies... may be the most costly expenses a system can incur." The Preamble briefly explains a Compliance Assistance Plan involving PENNVEST.

The Board should further explain how the affected systems can meet the costs of the new requirements, whether the resources of PENNVEST are sufficient to meet the financial needs for all systems affected by the regulation and whether any other financial assistance is available for systems that do not qualify for financial assistance from the PENNVEST Program.

*Significant deficiency*

Many sections of this proposed regulation contain the phrase "significant deficiencies" or some derivative of that phrase. The regulation should specifically state, reference or define what constitutes a "significant deficiency." (3)

**Response:**

The Department would like to point out that the most reliable way to meet the costs associated with responding to significant deficiencies is to prevent the deficiencies from occurring in the first place. Many significant deficiencies can be avoided through proper operation and maintenance of water facilities. A definition for *significant deficiency* was included in the LT2ESWTR proposed rulemaking published in the December 20, 2008 *Pennsylvania Bulletin*. A significant deficiency would be classified as what has been traditionally called an "imminent threat or priority violation." Regardless of GWR requirements, the Department historically would require a public water system to correct a deficiency which may cause or has the potential to cause the introduction of contaminants into the water served to consumers.

Currently, PENNVEST is the only resource for financial assistance provided by the Commonwealth.

**46. Comment:**

Section 109.705. *Sanitary surveys.* – *Clarity:* In Paragraph (b)(1), a system can qualify for surveys every five years by accomplishing an “outstanding performance record.” The regulation should specify what a system must do to accomplish an “outstanding performance record.” (3)

**Response:**

Outstanding performance is presented as an option under the Special primacy requirements found in the federal GWR in § 142.16(o)(2)(iii). This subparagraph [§ 142.16(o)(2)(iii)] states:

*“The State may conduct sanitary surveys once every five years for community water systems if the system either provides at least 4-log treatment of viruses (using inactivation, removal, or a State-approved combination of 4-log inactivation and removal) before or at the first customer for all its ground water sources, or if it has an outstanding performance record, as determined by the State and documented in previous sanitary surveys and has no history of total coliform MCL or monitoring violations under § 141.21 of this chapter since the last sanitary survey. In its primacy application, the State must describe how it will determine whether a community water system has an outstanding performance record.”*

Ensuring sanitary surveys are completed per the federal requirements is a responsibility borne by the Department and not public water systems. Upon discussing “outstanding performance” criteria with additional Department staff, the decision has been made to delete any reference to outstanding performance and the possibility for an extended, alternative frequency of scheduled sanitary surveys. The Department feels that the current sanitary survey (full inspection) frequencies ensure a strong presence in the field, and provide more opportunity for technical assistance and outreach.

**47. Comment:**

Section 109.908. *Compliance schedules.* – *Clarity:* Under Subsection (e), in what format will the Department document its findings? (3)

**Response:**

Generally, the Department prefers to negotiate compliance agreements to address non-compliance and ensure Safe Drinking Water Act requirements are met. However, in the event that a variance or exemption is requested, the Department will use forms provided by EPA to document its decision to grant or deny the variance or exemption. Where a variance or exemption has been approved, the Department will formalize the details of the approval (i.e. - the compliance schedule, special conditions for supplying bottled water) in an enforceable document, such as a permit, compliance agreement or order.

**48. Comment:**

Section § 109.1302. *Treatment technique requirements.* - *Reasonableness; Clarity.* Paragraph (a)(2) provides a specific treatment standard of at least 0.4 mg/L, but also allows “its equivalent as approved by the Department, or other minimum, residual specified by the Department.” As written, the regulation does not, provide a clear standard. The regulation allows the Department the discretion to specify some other standard that could be higher or lower, and would be done without public or legislative review under the regulatory review process. It could also allow unequal treatment of the regulated community. The regulation should provide a clear standard, and if flexibility is needed, an open, public process to determine an alternative minimum standard. (3)

**Response:**

The Department agrees that § 109.1302(a)(2) should be revised for clarity. The above referenced statement will be revised to state “its equivalent as approved by the Department, or other minimum residual approved by the Department as demonstrated under § 109.1306 (relating to information describing 4-log treatment and compliance monitoring) to provide 4-log treatment of viruses.”

The revised language recognizes that some public water systems may need to maintain a free chlorine residual other than 0.40 mg/L to provide 4-log inactivation of viruses. The language also recognizes that disinfectants or treatment strategies other than chlorination may be used to inactivate viruses from a system’s source water.

**49. Comment:**

Section 109.1303. *Triggered monitoring requirements for groundwater sources: Consistency with federal regulations; Economic impact; Reasonableness.* In the Preamble, the Board explains the implementation of the federal Groundwater Rule in Section 109.1303. Commentators believe that Subsection (a) improperly excludes portions of the federal rule, particularly an exemption available in the federal rule. We request further explanation of how the regulation is consistent with the federal rule. A similar concern applies to Section 109.1307(a)(1)(ii). **(3)**

**Response:**

Please see the response to Comment #36.

Additionally, as stated in the Preamble, the Department will not allow a system serving fewer than 1000 people to collect a Total Coliform Rule (TCR) repeat sample at the source(s) to satisfy both the sampling requirements of the Groundwater Rule and the TCR. Source water samples cannot be used to make determinations of water quality within the distribution system. All repeat samples required under existing TCR regulations and as required under triggered source water monitoring must be collected with no substitutions permissible.

Please see the response to Comment #38. Also, as stated in the Preamble, § 109.1307(a)(1)(ii) is not consistent with the federal GWR, but in fact is consistent with existing public notification requirements under § 109.408.

**50. Comment:**

Section 109.1307. *System management responsibilities. – Clarity, Reasonableness, Consistency with federal regulations.*

*Tier 1 notice*

A commentator believes that the requirement for Tier 1 notice in Subsection (a) is inconsistent with the Code of Federal Regulations which only requires a Tier 2 notice. The Board should explain how it determined Tier 1 notice is necessary.

*Documentation*

Numerous provisions in Subsection (b) require documentation to be maintained for various timeframes. We have three concerns. First, what specific “documentation” is required? For example, under Paragraph (2), would the actual notice be required in the records, or just documentation that a notice to the public occurred? Second, how did the Board determine how long the records must be kept? Finally, can electronic records be used to meet this requirement? **(3)**

**Response:**

Please see the responses to Comment #38 and #49 regarding Tier 1 public notification under § 109.1307 (a)(1)(ii).

The Department must incorporate recordkeeping requirements that are no less stringent than the federal GWR. The Department's timeframes are consistent with the recordkeeping requirements established in the Code of Federal Regulations under § 141.405(b).

Existing Chapter 109 provisions under Subchapter G specify the reporting and recordkeeping requirements for analytical results and public notices. The requirements include provisions for form and content. For example, water suppliers are required to submit a copy of all public notices, and a certification form, indicating how and when the notice was delivered to consumers. Analytical results may be submitted via paper or in an electronic format. (Note: The Department is nearing completion of a rulemaking that will mandate electronic reporting of all analytical data to improve data quality. Once final, electronic reporting will be phased-in over a two-year period.) Specifics regarding the documentation of corrective actions, as required under § 109.1307, will be included in forthcoming guidance further explaining and clarifying the requirements of the Groundwater Rule.