

# Regulatory Analysis Form

(Completed by Promulgating Agency)

**INDEPENDENT REGULATORY  
REVIEW COMMISSION**

(All Comments submitted on this regulation will appear on IRRC's website)

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(1) Agency  
Department of Environmental Protection

(2) Agency Number:  
Identification Number: 7-494

IRRC Number: 3119

(3) PA Code Cite: 25 Pa. Code, Chapter 109

(4) Short Title:  
Revised Total Coliform Rule (RTCR)

(5) Agency Contacts (List Telephone Number and Email Address):  
Primary Contact: Laura Edinger, 783-8727, ledinger@pa.gov  
Secondary Contact: Jessica Shirley, 783-8727, jessshirley@pa.gov

(6) Type of Rulemaking (check applicable box):

- Proposed Regulation
- Final Regulation
- Final Omitted Regulation

- Emergency Certification Regulation;
- Certification by the Governor
- Certification by the Attorney General

(7) Briefly explain the regulation in clear and nontechnical language. (100 words or less)

The purpose of the RTCR is to protect public health by ensuring the integrity of drinking water distribution systems and monitoring for the presence of microbial contamination. EPA anticipates greater public health protection under the RTCR, as it requires public water systems (PWS) that are vulnerable to microbial contamination to perform assessments to identify sanitary defects and subsequently take action to correct them.

(8) State the statutory authority for the regulation. Include specific statutory citation.

Section 4(a) of the Pennsylvania Safe Drinking Water Act, 35 P.S. § 721.4(a), and section 1920-A of the Administrative Code of 1929, 71 P.S. § 510-20(b).

(9) Is the regulation mandated by any federal or state law or court order, or federal regulation? Are there any relevant state or federal court decisions? If yes, cite the specific law, case or regulation as well as, any deadlines for action.

Yes.

Section 1413 of the Federal Safe Drinking Water Act, 42 U.S.C. § 300g-2a, requires that, in order for the

state to retain primary enforcement authority (primacy), the state must adopt drinking water regulations that are “no less stringent than” the national primary drinking water regulations not later than 2 years after the date on which the regulations are promulgated by the United States Environmental Protection Agency (EPA), or must ask EPA for an extension of up to 2 years. The federal drinking water primacy regulations at 40 CFR § 142.12(a) also require the state to adopt all new and revised national primary drinking water regulations contained in 40 CFR Part 141 in order to retain primary enforcement responsibility. Furthermore, Section 4(a) of the Pennsylvania Safe Drinking Water Act, 35 P.S. § 721.4(a), requires the Environmental Quality Board to adopt maximum contaminant levels and treatment technique requirements no less stringent than those promulgated under the Federal act for all contaminants regulated under the national primary and secondary drinking water regulations. Also Section 5(a) of the state act, 35 P.S. § 721.5(a), requires the Department to adopt and implement a public water supply program which includes those program elements necessary to assume state primary enforcement responsibility under the Federal act.

EPA promulgated the Federal RTCR on February 13, 2013. EPA granted Pennsylvania an extension to adopt regulations through February 13, 2017. Therefore, Pennsylvania must adopt regulations implementing the Federal RTCR rules by February 13, 2017. Failure to adopt regulations prior to February 13, 2017 may result in Pennsylvania losing primacy.

(10) State why the regulation is needed. Explain the compelling public interest that justifies the regulation. Describe who will benefit from the regulation. Quantify the benefits as completely as possible and approximate the number of people who will benefit.

According to the preamble to the federal rule, the RTCR aims for greater public health protection than the 1989 Total Coliform Rule (TCR) in a cost-effective manner by: (1) Maintaining the objectives of the 1989 TCR (i.e., to evaluate the effectiveness of treatment, to determine the integrity of the distribution system, and to signal the possible presence of fecal contamination); (2) reducing the potential pathways of contamination into the distribution system; (3) using the optimal indicator for the intended objectives (i.e., using total coliforms as an indicator of system operation and condition rather than an immediate public health concern and using *E. coli* as a fecal indicator); and (4) requiring systems that may be vulnerable to contamination, as indicated by the nature of their operation, to have in place procedures that will minimize the incidence of contamination (e.g., requiring start-up procedures for seasonal systems). EPA, therefore, anticipates greater public health protection under the RTCR compared to the 1989 TCR because of the RTCR’s more preventive approach to identifying and fixing problems that affect or may affect public health. (78 FR 10272 – 10273, February 13, 2013)

One or more of these revisions affect all 8,868 PWS that serve a total population of over 12 million Pennsylvanians. A decrease in fecal contamination should reduce the potential risk to human health for PWS customers. Thus, any reduction in *E. coli* occurrence is considered a benefit of the RTCR. Fecal contamination may contain waterborne pathogens including bacteria, viruses, and parasitic protozoa; a reduction in fecal contamination should reduce the health risk from each of these contaminants.

(11) Are there any provisions that are more stringent than federal standards? If yes, identify the specific provisions and the compelling Pennsylvania interest that demands stronger regulations.

There are four provisions in this final rule that are more stringent than federal requirements. The Department developed these provisions to better protect public health and to be consistent with existing Pennsylvania drinking water regulations.

- Sections 109.202(c)(4), 109.202(c)(5) and 109.701(a)(3)(iv) require one-hour notification for violations or situations where the federal rule does not. These provisions have been added to clarify that these situations are covered by the existing one-hour reporting requirements of § 109.701(a)(3). Pennsylvania's one-hour reporting requirements remain more stringent than federal standards and ensure that the Department and the public is alerted to potential problems as soon as possible so that appropriate investigative and corrective actions can be taken.
- Section 109.705(b)(7) requires a PWS to consult with DEP within 14 days of receiving written notification that a Level 1 or Level 2 assessment is determined to be insufficient. The federal rule requires consultation but does not set a time limit. This provision will prevent violations by ensuring that systems consult with the Department and take steps to make corrections to an improperly completed assessment in advance of the 30-day due date for the revised assessment.

(12) How does this regulation compare with those of the other states? How will this affect Pennsylvania's ability to compete with other states?

The federal RTCR will need to be complied with or adopted in all of the other 49 states.

(13) Will the regulation affect any other regulations of the promulgating agency or other state agencies? If yes, explain and provide specific citations.

The amendments will be incorporated into the existing language of 25 Pa Code Chapter 109. Other than this incorporation, the amendments should not affect any existing or proposed regulations of DEP or any other state agency.

(14) Describe the communications with and solicitation of input from the public, any advisory council/group, small businesses and groups representing small businesses in the development and drafting of the regulation. List the specific persons and/or groups who were involved. ("Small business" is defined in Section 3 of the Regulatory Review Act, Act 76 of 2012.)

The draft proposed rulemaking was submitted to the Small Water Systems Technical Assistance Center (TAC) Advisory Board for review and discussion on June 18, 2014. Comments and recommendations were received from TAC on July 3, 2014. Discussion with TAC was continued on September 23, 2014 and TAC's revised comments were received on October 20, 2014.

The draft final-form rulemaking was submitted to TAC for review and discussion on March 16, 2016. Comments were received from TAC on March 25, 2016.

(15) Identify the types and number of persons, businesses, small businesses (as defined in Section 3 of the Regulatory Review Act, Act 76 of 2012) and organizations which will be affected by the regulation. How are they affected?

One or more of these revisions will affect all PWS as well as the people to which they provide water. Currently, there are 8,868 PWS that serve a total population of over 12 million Pennsylvanians. Of the 8,868 PWS, approximately 2,408 are owned by a municipality, an authority, the Commonwealth of Pennsylvania, the federal government, or another not-for-profit entity. The other 6,460 PWS are either privately or investor owned.

A review of the USA Small Business Size Regulations under 13 CFR Chapter 1, Part 121 provides a standard for determining what constitutes a small business for the NAICS category relating to PWS. A PWS falls within NAICS category 221310, Water Supply and Irrigation Systems, which comprises establishments primarily engaged in operating water treatment plants and/or operating water supply systems. The small size standard for this NAICS category is annual receipts of not more than \$7.0 million.

For the 6,460 privately or investor owned PWS, the Department has no way to estimate annual receipts. Therefore, the Department used the federal definition of a small water system in 40 CFR 141.2, which states that a small water system is “a water system that serves 3,300 persons or fewer”. Under this regulatory package, a PWS owned by a private individual or investor serving less than or equal to 3,300 persons was considered to be a small business. In Pennsylvania, there are approximately 6,177 PWS meeting this criteria and can be considered as a small business.

The persons served by a PWS will benefit from this regulation, because a decrease in fecal contamination should reduce the potential risk to human health.

Some PWS will be affected by the need to change operation or make capital improvements to comply with some of the provisions set forth in the regulation. Additionally, PWSs which identify sanitary defects will need to correct those problems.

(16) List the persons, groups or entities, including small businesses that will be required to comply with the regulation. Approximate the number that will be required to comply.

8,868 PWS will be required to comply with one or more of these revisions. Of the 8,868 PWS, approximately 6,177 may be considered to be small businesses. For the purposes of this regulatory package, a PWS owned by a private individual or investor serving less than or equal to 3,300 persons was identified as a small business.

(17) Identify the financial, economic and social impact of the regulation on individuals, small businesses, businesses and labor communities and other public and private organizations. Evaluate the benefits expected as a result of the regulation.

The expected benefits of this regulation are (1) the avoidance of a full range of health effects from the consumption of contaminated drinking water such as: acute and chronic illness, endemic and epidemic disease, waterborne disease outbreaks, and death; and (2) healthy and sustainable communities.

This regulation will provide a positive economic impact to individuals, small businesses and businesses that provide services to the drinking water industry.

The financial impact of these revisions to the regulated community will be: increased monitoring for noncommunity water systems, hiring a certified operator to conduct a Level 2 assessment for transient noncommunity water systems (TNC), and correcting sanitary defects which have been identified during an assessment for all systems.

(18) Explain how the benefits of the regulation outweigh any cost and adverse effects.

Implementation of the proposed amendments is not anticipated to produce adverse effects. The benefits as discussed by EPA are largely unquantifiable but include the potential for decreased incidence of endemic illness from fecal contamination and other waterborne pathogens, increased knowledge regarding system operation, accelerated maintenance and repair, avoided costs of outbreaks, and reductions in averting behavior. (78 FR 10302 – 10303, February 13, 2013). These benefits outweigh the costs because of the increased protection of public health.

(19) Provide a specific estimate of the costs and/or savings to the **regulated community** associated with compliance, including any legal, accounting or consulting procedures which may be required. Explain how the dollar estimates were derived.

Costs were derived from the alternative option of EPA's economic analysis of the Federal RTCR. The alternative option looks at the costs associated with monthly monitoring for all PWSs and shows that costs are relatively insignificant. National costs were adjusted to represent the ratio of Pennsylvania PWSs compared to the number of PWSs nationwide.

CWS: \$126.77 per system/year

NTNC: \$128.90 per system/year

TNC: \$229.31 per system/year

Mandating monthly monitoring for all PWS will eliminate the requirement to collect 3 additional samples in the month following a total coliform positive sample. Based on a five-year average of approximately 580 positive samples per year, regulated noncommunity water systems (NCWS) are expected to save approximately \$40,000 per year in these extra sampling costs.

(20) Provide a specific estimate of the costs and/or savings to the **local governments** associated with compliance, including any legal, accounting or consulting procedures which may be required. Explain how the dollar estimates were derived.

The proposed amendments will affect all PWS, which includes local government agencies and municipal authorities operating such systems. The only costs to local government will be costs incurred by systems that are owned and/or operated by local government. The cost estimates are based on the figures in question 19. Of the 8,868 PWSs in Pennsylvania affected by this regulation, approximately 1,000 are operated by local governments. The total annual cost to these cities/boroughs or other municipal authorities are calculated and estimated to be \$156,393.

(21) Provide a specific estimate of the costs and/or savings to the **state government** associated with the implementation of the regulation, including any legal, accounting, or consulting procedures which may be required. Explain how the dollar estimates were derived.

The costs to state government will be those incurred by systems that are owned and/or operated by state government and costs associated with implementing and administering the rule. The cost estimates are based on the figures in question 19.

208 systems are owned and/or operated by the Commonwealth of Pennsylvania. The total cost to the Commonwealth for these systems is estimated to be \$44,139.

Implementation of the proposed amendments will result in Pennsylvania state government incurring costs associated with implementing and administering the rule, reviewing sample siting plans, reviewing sampling results, reviewing seasonal system start-up procedures and annual certification, reviewing completed assessment forms, tracking corrective actions, and tracking public notifications. EPA estimates nationwide costs for state government to equate to approximately \$200,000. The expected annual cost to Pennsylvania state government equates to \$11,000.

(22) For each of the groups and entities identified in items (19)-(21) above, submit a statement of legal, accounting or consulting procedures and additional reporting, recordkeeping or other paperwork, including copies of forms or reports, which will be required for implementation of the regulation and an explanation of measures which have been taken to minimize these requirements.

When sample results indicate the presence of total coliform and/or *E. coli* in a sufficient number of samples as designated by the rule, PWSs are required to complete a Level 1 and/or Level 2 Assessment form. Level 2 assessments must be completed by certified operators. Therefore, PWSs which do not employ a certified operator will need to contract with one. PWSs which operate seasonally are required to submit a Seasonal System Start-up Plan and then annually submit a form to the Department certifying that the start-up plan was implemented prior to opening for the season.

(23) In the table below, provide an estimate of the fiscal savings and costs associated with implementation and compliance for the regulated community, local government, and state government for the current year and five subsequent years.

	<b>Current FY Year</b>	<b>FY +1 Year</b>	<b>FY +2 Year</b>	<b>FY +3 Year</b>	<b>FY +4 Year</b>	<b>FY +5 Year</b>
<b>SAVINGS:</b>	\$	\$	\$	\$	\$	\$
<b>Regulated Community</b>	0	0	0	0	0	0
<b>Local Government</b>	0	0	0	0	0	0
<b>State Government</b>	0	0	0	0	0	0
<b>Total Savings</b>	0	0	0	0	0	0

<b>COSTS:</b>						
<b>Regulated Community</b>	1,720,610	1,720,610	1,720,610	1,720,610	1,720,610	1,720,610
<b>Local Government</b>	156,393	156,393	156,393	156,393	156,393	156,393
<b>State Government</b>	11,000 (44,139)	11,000 (44,139)	11,000 (44,139)	11,000 (44,139)	11,000 (44,139)	11,000 (44,139)
<b>Total Costs</b>	1,731,610	1,731,610	1,731,610	1,731,610	1,731,610	1,731,610
<b>REVENUE LOSSES:</b>						
<b>Regulated Community</b>	0	0	0	0	0	0
<b>Local Government</b>	0	0	0	0	0	0
<b>State Government</b>	0	0	0	0	0	0
<b>Total Revenue Losses</b>	0	0	0	0	0	0

**\*Notes:**

- **Costs for the regulated community is the cost for all PWSs which includes the cost to local and state government PWS.**
- **Local Government in this analysis is the regulated community, not the regulating agencies. Thus, the costs under local government are a portion of the costs identified for the regulated community.**
- **The top number in the State Government row is the State's oversight costs. The number in parentheses represents the portion of the costs identified for the regulated community for state-owned water systems.**
- **The Total Costs is equal to the cost to the regulated community plus the portion of the State Government oversight costs.**

(23a) Provide the past three-year expenditure history for programs affected by the regulation.

<b>Program</b>	<b>FY -3 2012-13</b>	<b>FY -2 2013-14</b>	<b>FY -1 2014-15</b>	<b>Current FY 2015-16</b>
Environmental Program Operations	\$7,184,356	\$7,357,140	\$6,972,192	\$5,818,214
Environmental Program Management	\$570,817	\$709,938	\$296,337	\$288,919
General Government Operations	\$0	\$385	\$0	\$0
Safe Drinking Water Act	\$58,481	\$15,439	\$50,927	\$52,334

(24) For any regulation that may have an adverse impact on small businesses (as defined in Section 3 of the Regulatory Review Act, Act 76 of 2012), provide an economic impact statement that includes the following:

- (a) An identification and estimate of the number of small businesses subject to the regulation.
- (b) The projected reporting, recordkeeping and other administrative costs required for compliance with the proposed regulation, including the type of professional skills necessary for preparation of the report or record.
- (c) A statement of probable effect on impacted small businesses.
- (d) A description of any less intrusive or less costly alternative methods of achieving the purpose of the proposed regulation.

(a) Of the 8,868 PWSs approximately 6,177 may be considered to be small businesses (as defined in Question 15).

(b) When sample results indicate the presence of total coliform and/or *E. coli* in a sufficient number of samples as designated by the rule, PWSs are required to complete a Level 1 and/or Level 2 Assessment form. Level 2 assessments must be completed by certified operators. Therefore, a PWS which does not employ a certified operator will need to contract with one. PWSs which operate seasonally are required to submit a Seasonal System Start-up Plan and then annually submit a form to the Department certifying that the start-up plan was implemented prior to opening for the season. The costs to complete these activities are part of the total implementation cost detailed in (c).

(c) Depending on the PWS type, businesses are expected to incur from \$126.77 for Community Water Systems (CWS) up to \$229.31 for Transient Noncommunity Water Systems (TNC) per system per year. Some of the associated expenses will only be realized if sampling indicates the potential for *E. coli* contamination, which then needs to be further evaluated through a Level 1 or Level 2 Assessment.

(d) For the RTCR provisions, no alternative regulatory schemes were considered. These amendments reflect federal rules that must be complied with or adopted by the individual state in order to assume primary enforcement responsibility.

(25) List any special provisions which have been developed to meet the particular needs of affected groups or persons including, but not limited to, minorities, the elderly, small businesses, and farmers.

The amendments should have no effects on one particular group relative to another since it will apply to most of Pennsylvania's population served by public water systems. However, the Safe Drinking Water Program is prepared to develop special provisions or provide special services to accommodate any such group as the need arises.

(26) Include a description of any alternative regulatory provisions which have been considered and rejected and a statement that the least burdensome acceptable alternative has been selected.

No alternative regulatory schemes were considered. These amendments reflect federal rules that must be complied with or adopted by the individual states.

(27) In conducting a regulatory flexibility analysis, explain whether regulatory methods were considered that will minimize any adverse impact on small businesses (as defined in Section 3 of the Regulatory Review Act, Act 76 of 2012), including:

- a) The establishment of less stringent compliance or reporting requirements for small businesses;
- b) The establishment of less stringent schedules or deadlines for compliance or reporting requirements for small businesses;
- c) The consolidation or simplification of compliance or reporting requirements for small businesses;
- d) The establishment of performing standards for small businesses to replace design or operational standards required in the regulation; and
- e) The exemption of small businesses from all or any part of the requirements contained in the regulation.

- a) For these provisions, no less stringent compliance or reporting requirements for small businesses were considered.
- b) For these provisions, no less stringent schedules or deadlines for small businesses were considered.
- c) For these provisions, neither consolidation nor simplification of compliance or reporting requirements for small businesses was considered.
- d) For these provisions, no performing standards for small businesses to replace design or operational standards required in the regulation for small businesses were considered.
- e) For these provisions, no exemptions for small businesses from all or any part of the requirements contained in the regulation were considered.

Alternative provisions were not considered for small businesses, because the requirements reflect federal regulations that must be adopted to maintain primacy.

(28) If data is the basis for this regulation, please provide a description of the data, explain in detail how the data was obtained, and how it meets the acceptability standard for empirical, replicable and testable data that is supported by documentation, statistics, reports, studies or research. Please submit data or supporting materials with the regulatory package. If the material exceeds 50 pages, please provide it in a searchable electronic format or provide a list of citations and internet links that, where possible, can be accessed in a searchable format in lieu of the actual material. If other data was considered but not used, please explain why that data was determined not to be acceptable.

These amendments reflect federal rules that must be complied with or adopted by the individual states.

(29) Include a schedule for review of the regulation including:

- A. The date by which the agency must receive public comments: August 13, 2015
- B. The date or dates on which public meetings or hearings will be held: November 3 and November 5, 2015

- C. The expected date of promulgation of the proposed regulation as a final-form regulation: Quarter 3, 2016
- D. The expected effective date of the final-form regulation: Upon publication in the PA Bulletin
- E. The date by which compliance with the final-form regulation will be required: Upon publication in the PA Bulletin
- F. The date by which required permits, licenses or other approvals must be obtained: Upon publication in the PA Bulletin

Note: In February 2013, the EPA adopted regulations amending 40 CFR Part 141 (relating to National primary drinking water regulations) to implement an RTCR. The compliance date for the federal RTCR was April 1, 2016.

(30) Describe the plan developed for evaluating the continuing effectiveness of the regulations after its implementation.

The amendments will be reviewed in accordance with the Sunset Review Schedule published by the Department.

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(Deputy Attorney General)

DEPARTMENT OF ENVIRONMENTAL  
PROTECTION  
ENVIRONMENTAL QUALITY BOARD

BY Mansa H. Z. Zehr

**JUL 01 2016**  
DATE OF APPROVAL

DATE OF APPROVAL

(AGENCY)

(Deputy General Counsel)  
(~~Chief Counsel - Independent Agency~~)  
(Strike inapplicable title)

DOCUMENT/FISCAL NOTE NO. 7-494

DATE OF ADOPTION June 21, 2016

Check if applicable. No Attorney General Approval  
or objection within 30 days after submission.

Check if applicable  
Copy not approved. Objections attached.

BY Patrick McDonnell

TITLE **PATRICK MCDONNELL  
ACTING CHAIRPERSON**

EXECUTIVE OFFICER CHAIRMAN OR SECRETARY

**NOTICE OF FINAL RULEMAKING**

**DEPARTMENT OF ENVIRONMENTAL PROTECTION  
ENVIRONMENTAL QUALITY BOARD**

**Revised Total Coliform Rule**

**25 Pa. Code, Chapter 109**



**Notice of Final Rulemaking**  
**[ 25 PA. CODE CH. 109 ]**  
**Safe Drinking Water; Revised Total Coliform Rule**

The Environmental Quality Board (Board) by this order amends 25 Pa. Code, Chapter 109 (relating to safe drinking water) to read as set forth in Annex A. The amendments supplement the Total Coliform Rule by requiring public water systems (PWSs) that are vulnerable to microbial contamination to perform assessments to identify sanitary defects and subsequently take action to correct them.

The amendments will protect public health through a multibarrier approach designed to guard against microbial contamination by evaluating the effectiveness of treatment and the integrity of drinking water distribution systems, and by finding and fixing sanitary defects.

The amendments will apply to all PWSs.

The proposed rulemaking relating to this final rule was included in a two-part proposal which was submitted to the Board for consideration at its meeting on April 21, 2015. One part contained proposed regulations necessary to assume primacy with respect to the Federal Revised Total Coliform Rule (RTCR) and the other part of the proposal included amendments to various other portions of Chapter 109. In response to a motion made at that meeting, the Board voted to approve the portion of the proposed rulemaking regarding the RTCR but to split the other proposed amendments into a separate rulemaking to provide an opportunity for further consideration by the Technical Assistance Center for Small Drinking Water Systems Advisory Board (TAC) and other interested parties. This final-form rulemaking exclusively concerns the RTCR.

This final-form rulemaking was adopted by the Board at its meeting on June 21, 2016.

*A. Effective Date*

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

*B. Contact Persons*

For further information, contact Lisa D. Daniels, Director, Bureau of Safe Drinking Water, P. O. Box 8467, Rachel Carson State Office Building, Harrisburg, PA 17105-8467, (717) 787-9633; or William Cumings, Assistant Counsel, Bureau of Regulatory Counsel, P. O. Box 8464, Rachel Carson State Office Building, Harrisburg, PA 17105-8464, (717) 787-7060. Persons with a disability may use the Pennsylvania AT&T Relay Service, (800) 654-5984 (TDD users) or (800) 654-5988 (voice users).

### *C. Statutory Authority*

The 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 section 1920-A of The Administrative Code of 1929 (71 P. S. § 510-20), which authorizes the Board to promulgate rules and regulations necessary for the performance of the work of the Department.

### *D. Background and Purpose*

In February 2013, the United States Environmental Protection Agency (EPA) adopted regulations amending 40 CFR Part 141 (relating to National primary drinking water regulations) to implement an RTCR. See 78 FR 10269 (February 13, 2013). Minor corrections to the RTCR were published at 79 FR 10665 (February 26, 2014). The compliance date for the RTCR is April 1, 2016. To maintain primacy with respect to the RTCR, it is imperative that the Board adopt regulations which are at least as stringent as those in the Federal regulations.

According to the preamble to the Federal RTCR, the rule aims to increase public health protection through the reduction of sanitary defects that could provide potential pathways of entry for fecal contamination into the distribution system of a PWS or could indicate a failure or imminent failure of a barrier that is already in place. See 78 FR 10269, 10276. Since fecal contamination may contain waterborne pathogens including bacteria, viruses and parasitic protozoa, a decrease in fecal contamination should reduce the risk from these contaminants.

In addition, the Federal rule aims for greater public health protection than the 1989 Total Coliform Rule (TCR) in a cost-effective manner by: maintaining the objectives of the 1989 TCR (that is, to evaluate the effectiveness of treatment, to determine the integrity of the distribution system and to signal the possible presence of fecal contamination); using the optimal indicator for the intended objectives (that is, using total coliforms as an indicator of system operation and condition rather than an immediate public health concern and using *E. coli* as a fecal indicator); and requiring systems that may be vulnerable to contamination, as indicated by the nature of their operation, to have in place procedures that will minimize the incidence of contamination (for example, requiring start-up procedures for seasonal systems). The EPA, therefore, anticipates greater public health protection under the RTCR compared to the 1989 TCR because of the RTCR's more preventive approach to identifying and fixing problems that affect or may affect public health. See 78 FR 10269, 10272, 10273.

The final-form rulemaking was presented to the Small Water Systems Technical Assistance Center Advisory Board on March 16, 2016. The TAC made several recommendations that were incorporated into this final-form rulemaking. Section E includes more information about the TAC's recommendations. The changes described in Section E reflect comments received on repeat monitoring and public notification. TAC also requested that repeat monitoring requirements be further clarified in RTCR technical guidance, which the Department intends to do.

The Board requested comments on whether only fixed alternative repeat monitoring locations should be allowed or if a standard operating procedure (SOP) for choosing locations may also be allowed and why. The Department agrees with the comments received regarding the alternative fixed location and has incorporated that provision into the final-form regulation. However, a recommendation to allow the use of a standard operating procedure (SOP) to establish criteria for selecting repeat sample sites on a case-by-case basis is not being added to this final-form rulemaking. The Department believes that repeat sample sites must be properly documented in the system's sample siting plan in order to ensure appropriate monitoring by the system and allow for proper oversight by the Department. However, nothing in this rulemaking discourages or prevents a water system from using advanced technology to conduct investigations and collect additional special samples when determining the cause and extent of sanitary defects.

The Independent Regulatory Review Commission requested that the Board provide its rationale for requiring one-hour notification to the Department for the detection of *E. coli*. The detection of *E. coli* warrants one-hour reporting to the Department and this notification occurs under current regulations at § 109.701(a)(3)(i) and § 109.701(a)(3)(ii). However, there are situations under the RTCR that would not be covered under § 109.701(a)(3)(i) and (ii). For example, seasonal systems conducting start-up monitoring, as required under § 109.301(3)(v), that learn of *E. coli*-positive start-up samples are not required to notify the department under § 109.701(a)(3)(i) or § 109.701(a)(3)(ii). Therefore, § 109.701(a)(3)(iv) is necessary, so that seasonal systems notify the Department within one hour in order to confer with the Department regarding potential steps to take in order to address the *E. coli* results prior to serving water to the public thereby protecting the public health.

The Independent Regulatory Review Commission also requested that the Board explain how DEP's regulation of bottled water fits into the regulatory framework of EPA's RTCR and the Food and Drug Administration's (FDA) regulations on bottled water. The FDA regulations do not preempt the Department from regulating bottled water systems in the manner set forth in these regulations. As noted in testimony presented to a Congressional Subcommittee by a Deputy Commissioner of the FDA, "[i]n addition to FDA, state and local governments also regulate bottled water. FDA relies on state and local government agencies to approve water sources for safety and sanitary quality, as specified in [21 CFR] 129.3(a)." See Statement of Joshua M. Sharfstein, M.D., Principal Deputy Commissioner of Food and Drugs, Food and Drug Administration before the Subcommittee on Oversight and Investigations of the House Committee on Energy and Commerce, July 8, 2009. The cited regulation, 21 CFR 129.3(a), provides that an "[a]pproved source . . . means a source of water and the water therefrom . . . that has been inspected and the water sampled, analyzed, and found to be of a safe and sanitary quality according to applicable laws and regulations of State and local government jurisdictions having jurisdiction."

The Pennsylvania Safe Drinking Water Act, 35 P.S. 721.1 *et seq.*, authorizes the Department to regulate public water systems within the Commonwealth. The Act defines a "public water system" as including "a system which provides water for bottling or bulk hauling for human consumption." As stated in the Preamble to the April 24, 1999 Permit by Rule for Bottled Water Systems, systems providing water for bottling include:

1. Bottled water systems, which provide water for bottling in sealed containers.
2. Vended water systems, which provide water for bottling through the use of water vending machines.
3. Retail water facilities which provide water for bottling by dispensing, at a store, unit servings of water in a customer's or the system's containers.

See 29 Pa.B. 2231 (April 24, 1999).

#### E. *Summary of Changes to the Proposed Rulemaking*

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

Proposed section 109.202(c)(4)(iii) (relating to State MCLs, MRDLs and treatment technique requirements) was deleted in response to public comments. That section would have authorized the Department to direct a PWS to conduct a Level 1 or Level 2 assessment if circumstances exist which may adversely affect drinking water quality. Commentators suggested that § 109.4(4) (relating to general requirements) obligates PWSs to take investigative action when necessary, but that these investigations should not be confused with assessments under the RTCR.

##### *§ 109.301. General monitoring requirements*

Section 109.301(3) (relating to general monitoring requirements) was amended in response to public comments. The added language clarifies that when PWSs forego *E. coli* testing and assume that a sample is *E. coli*-positive Tier 1 public notification is only required in the event that an *E. coli* violation occurs.

Section 109.301(3)(i)(E) was proposed to be added in the proposed rulemaking to reflect 40 CFR 141.854(c)(2). This section provides that a community water system serving 1,000 or fewer persons may be required to begin monitoring on an alternate schedule. No changes to this clause are being made in final-form rulemaking; however, the TAC requested that clarification be provided in this Order in relation to this clause. To clarify, although required for primacy, this clause will not be applied in Pennsylvania as long as all PWSs are required to monitor for total coliform no less frequently than monthly. The special monitoring evaluation described in the Federal rule applies only to PWSs monitoring less frequently than monthly.

Proposed section 109.301(3)(ii)(B) relating to check samples was amended in response to public comments. The added language provides clarification that a PWS is not required to identify or collect a check sample at only one repeat monitoring location on either side of a routine location that tests positive for total coliform. Instead, a PWS may identify all connections within five connections upstream and five connections downstream as potentially available repeat monitoring locations and then, when needed, select from those identified sites the available taps for sampling. Further, the added language allows PWSs to obtain Department approval of sites identified in the sample siting plan that are located outside of five connections. This language incorporates the "alternative fixed locations" allowed under the Federal rule and offers greater flexibility to PWSs.

Proposed section 109.301(3)(ii)(D) was amended in response to public comment. The added language clarifies that when any check sample is total coliform positive and additional check samples are required, the PWS must continue to collect check samples from the same three locations that were sampled in response to the routine sample testing positive. The added language is based on information provided from the EPA. The TAC provided comment regarding this language and its suggested language to provide additional clarification to this clause has been incorporated.

Section 109.301(3)(ii)(F) was added in response to public comment. The clause provides PWSs the opportunity to collect check samples from locations not identified in its sample siting plan in the event that the locations identified in the plan are unavailable. This added clause provides greater flexibility to PWSs and dispels concerns that if an identified repeat monitoring location is unavailable then a PWS has no alternative for complying with the rule. The TAC provided comment regarding this language and its suggested edits to provide additional clarification to this clause have been incorporated.

*§ 109.409. Tier 2 public notice—categories, timing and delivery of notice*

Proposed section 109.409(a)(3) (relating to tier 2 public notice—categories, timing and delivery of notice) which concerns failure to report *E. coli* MCL or positive *E. coli* routine or check sampling results was deleted and moved to the Tier 3 requirements of § 109.410(a)(5) in response to public comments.

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

Section 109.410(a)(5) (relating to tier 3 public notice—categories, timing and delivery of notice) was moved from proposed § 109.409(a)(3) in response to public comments and now reflects 40 CFR 141.204(a)(6).

Section 109.410(a)(6) concerning failure to submit a completed assessment form was added as a Tier 3 notice category in response to public comments and now reflects 40 CFR 141.204(a)(6).

Section 109.410(a)(7) concerning failure to submit certification of completion of seasonal system start-up procedures was added as a Tier 3 notice category in response to public comments and now reflects 40 CFR 141.204(a)(6).

*§ 109.701. Reporting and recordkeeping*

Proposed section 109.701(a)(9)(i) (relating to reporting and recordkeeping) which would have required a PWS to provide notice to the Department if a Level 1 or Level 2 assessment was triggered, was deleted to eliminate a reporting burden on PWSs. The Federal rule does not require PWSs to notify the state when an assessment is triggered.

Section 109.701(a)(9)(ii) was renumbered as § 109.701(a)(9)(i).

Section 109.701(a)(9)(iii) was renumbered as § 109.701(a)(9)(ii).

*§ 109.810. Reporting and notification requirements*

Proposed language in section 109.810(b) (relating to reporting and notification requirements) was amended by adding language to ensure that laboratories also provide sufficient notification to a public water supplier and the Department in the event that a seasonal start-up sample tests positive for total coliform to help ensure seasonal systems do not open prior to obtaining a negative test result.

*F. Benefits, Costs and Compliance*

*Benefits*

This rulemaking will affect all 8,868 PWSs serving approximately 12.75 million Pennsylvanians. The residents of this Commonwealth will benefit from the avoidance of a full range of health effects from the consumption of contaminated drinking water such as acute illness, endemic and epidemic disease, waterborne disease outbreaks and death.

As discussed by the EPA in the preamble to the Federal RTCR, the benefits of the Federal rule are largely unquantifiable but include the potential for decreased incidence of endemic illness from fecal contamination and other waterborne pathogens, increased knowledge regarding system operation, accelerated maintenance and repair, avoided costs of outbreaks and reductions in averting behavior. See 78 FR 10269, 10308—10320.

*Compliance costs*

Compliance costs were derived from the EPA's economic analysis. The Federal preamble defined these costs as "the net change in costs resulting from revisions to the 1989 TCR rather than absolute total costs of implementing the 1989 TCR as revised by the RTCR." National costs were adjusted to represent the ratio of PWSs in this Commonwealth compared to the number of PWSs Nationwide. It is estimated that water systems in this Commonwealth will bear nearly \$1.72 million of this total annual cost. The following figures represent estimated annual cost by system type: community water systems—\$126.77 per system/year; nontransient noncommunity water systems—\$128.90 per system/year; and transient noncommunity water systems: \$229.31 per system/year.

This estimate includes costs for all PWSs being required to monitor for total coliform monthly. It is important to note that mandating monthly monitoring for all PWSs will eliminate the Federal requirement to collect three additional samples in the month following a total coliform positive sample. Based on a 5-year average of approximately 580 positive samples per year, regulated noncommunity water systems are expected to not incur approximately \$40,000 per year in these extra sampling costs.

*Compliance Assistance Plan*

The Safe Drinking Water Program utilizes the Commonwealth's Pennsylvania Infrastructure Investment Authority Program to offer financial assistance to eligible PWSs. 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 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.

In addition to this network of training staff, the Bureau of Safe Drinking Water has staff dedicated to providing both training and outreach support services to PWS operators. The Department's web site also provides timely and useful information for treatment plant operators.

#### *Paperwork requirements*

Paperwork requirements include the following: revisions to a sample siting plan; completion of a Level 1 or Level 2 assessment form, or both, when sample results indicate the presence of total coliform or *E. coli*, or both, in a sufficient number of samples as designated by the regulations; submission of a seasonal system start-up plan for PWSs that operate seasonally; and annual submission of a form to the Department certifying that a seasonal system start-up plan was implemented prior to opening for the season.

#### *G. Sunset Review*

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

#### *H. Regulatory Review*

Under section 5(a) of the Regulatory Review Act (71 P. S. § 745.5(a)), on September 22, 2015, the Department submitted a copy of this proposed rulemaking and a copy of a Regulatory Analysis Form to the Independent Regulatory Review Commission (IRRC) and to the Chairpersons of the House and Senate Environmental Resources and Energy Committees. A copy of this material is available to the public upon request.

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

Under section 5.1(j.2) of the Regulatory Review Act, on \_\_\_\_\_ these final-form regulations were deemed approved by the House and Senate Committees. Under section 5.1(e) of the Regulatory Review Act, IRRC met on \_\_\_\_\_, and approved the final-form regulations.

I. *Findings of the Board*

The Board finds that

- (1) Public notice of proposed rulemaking was given under sections 201 and 202 of the act of July 31, 1968 (P.L. 769, No. 240) (45 P.S. §§ 1201 and 1202) and regulations promulgated thereunder at *1 Pennsylvania Code* §§ 7.1 and 7.2.
- (2) A public comment period was provided as required by law, and all comments were considered.
- (3) These regulations do not enlarge the purpose of the proposals published 45 Pa.B. 5943 (October 3, 2015).
- (4) These regulations are necessary and appropriate for administration and enforcement of the authorizing acts identified in Section C of this order.

J. *Order of the Board*

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

- (a) The regulations of the Department of Environmental Protection, *25 Pennsylvania Code*, Chapter 109, are amended to read as set forth in Annex A.
- (b) The Chairperson of the Board shall submit this order and Annex A to the Office of General Counsel and the Office of Attorney General for review and approval as to legality and form, as required by law.
- (c) The Chairperson of the Board shall submit this order and Annex A to the Independent Regulatory Review Commission and the Senate and House Environmental Resources and Energy Committees as required by the Regulatory Review Act.
- (d) The Chairperson of the Board shall certify this order and Annex A and deposit them with the Legislative Reference Bureau, as required by law.
- (e) This order shall take effect immediately.

PATRICK MCDONNELL,  
Acting Chairperson

## Annex A

### TITLE 25. ENVIRONMENTAL PROTECTION

#### PART I. DEPARTMENT OF ENVIRONMENTAL PROTECTION

##### Subpart C. PROTECTION OF NATURAL RESOURCES

#### ARTICLE II. WATER RESOURCES

#### CHAPTER 109. SAFE DRINKING WATER

##### Subchapter A. GENERAL PROVISIONS

#### § 109.1. Definitions.

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

\* \* \* \* \*

*Lead service line*—A service line made of lead which connects a water main to a building inlet and a lead pigtail, gooseneck or other fitting which is connected to the lead line.

*Level 1 assessment*—An evaluation to identify the possible presence of sanitary defects, defects in distribution system coliform monitoring practices and, when possible, the likely reason that the system triggered the assessment.

*Level 2 assessment*—An evaluation to identify the possible presence of sanitary defects, defects in distribution system coliform monitoring practices and, when possible, the likely reason that the system triggered the assessment. This assessment provides a more detailed examination of the system, including the system's monitoring and operational practices, than does a Level 1 assessment through the use of more comprehensive investigation and review of available information, additional internal and external resources, and other relevant practices.

*Liquid from dewatering processes*—A stream containing liquids generated from a unit used to concentrate solids for disposal.

\* \* \* \* \*

*SUVA*—*Specific ultraviolet absorption at 254 nanometers (nm)*—An indicator of the humic content of water. [it] It is a calculated parameter obtained by dividing a sample's ultraviolet absorption at a wavelength of 254 nm ( $UV_{254}$ ) (in  $m^{-1}$ ) by its concentration of dissolved organic carbon (DOC) (in mg/L).

**Sanitary defect**—A defect that could provide a pathway of entry for microbial contamination into the distribution system or that is indicative of a failure or imminent failure in a barrier that is already in place.

**Sanitary survey**—An onsite review and evaluation of a public water system's source, facilities and equipment and the operation and maintenance procedures used by a public water supplier for producing and distributing safe drinking water.

**Seasonal system**—A noncommunity water system that is not operated as a public water system on a year-round basis and starts up and shuts down at the beginning and end of each operating season.

**Sedimentation**—A process for the removal of solids before filtration by gravity or separation.

\* \* \* \* \*

## **Subchapter B. MCLs, MRDLs OR TREATMENT TECHNIQUE REQUIREMENTS**

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

\* \* \* \* \*

(c) *Treatment technique requirements for pathogenic bacteria, viruses and protozoan cysts.* A public water system shall provide adequate treatment to reliably protect users from the adverse health effects of microbiological contaminants, including pathogenic bacteria, viruses and protozoan cysts. The number and type of treatment barriers and the efficacy of treatment provided shall be commensurate with the type, degree and likelihood of contamination in the source water.

\* \* \* \* \*

(3) A community public water system shall provide continuous disinfection and comply with Subchapter M (relating to additional requirements for groundwater sources) for groundwater sources.

**(4) Public water systems shall conduct assessments in accordance with § 109.705(b) (relating to system evaluations and assessments) after meeting any of the triggers under subparagraph (i) or (ii). Failure to conduct an assessment or complete a corrective action in accordance with § 109.705(b) is a treatment technique violation requiring 1-hour reporting in accordance with § 109.701(a)(3) and public notification in accordance with § 109.409 (relating to Tier 2 public notice—categories, timing and delivery of notice).**

**(i) A Level 1 assessment is triggered if any of the following conditions occur:**

**(A) For systems taking 40 samples or more per month under § 109.301(3), the system exceeds 5.0% total coliform-positive samples for the month.**

**(B) For systems taking fewer than 40 samples per month under § 109.301(3), the system has 2 or more total coliform-positive samples in the same month.**

**(C) The system fails to take every required check sample under § 109.301(3) after any single total coliform-positive sample.**

**(ii) A Level 2 assessment is triggered if any of the following conditions occur:**

**(A) A system fails to meet the *E. coli* MCL as specified under subsection (a)(2).**

**(B) A system triggers another Level 1 assessment, as defined in subparagraph (i), within a rolling 12-month period, unless the Department has determined a likely reason that the samples that caused the first Level 1 assessment were total coliform-positive and has established that the system has corrected the problem.**

~~**(iii) The Department may direct a system to conduct a Level 1 or Level 2 assessment if circumstances exist which may adversely affect drinking water quality including, but not limited to, the situations specified in § 109.701(a)(3)(iii).**~~

**(5) Failure by a seasonal water system to complete the approved start-up procedure prior to serving water to the public as required under § 109.715 (relating to seasonal systems) is a treatment technique violation requiring 1-hour reporting in accordance with § 109.701(a)(3) and public notification in accordance with § 109.409.**

**(d) *Fluoride.* A public water system shall comply with the primary MCL for fluoride of 2 mg/L, except that a noncommunity water system implementing a fluoridation program approved by the Department of Health and using fluoridation facilities approved by the Department under § 109.505 (relating to requirements for noncommunity water systems) may exceed the MCL for fluoride but may not exceed the fluoride level approved by the Department of Health. The secondary MCL for fluoride of 2 mg/L established by the EPA under 40 CFR 143.3 (relating to secondary MCLs) is not incorporated into this chapter.**

\* \* \* \* \*

## **Subchapter C. MONITORING REQUIREMENTS**

### **§ 109.301. General monitoring requirements.**

Public water suppliers shall monitor for compliance with MCLs, MRDLs and treatment technique requirements in accordance with the requirements established by the EPA under the National Primary Drinking Water Regulations, 40 CFR Part 141 (relating to [national] 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-] *E. coli***-positive. A system which chooses to forego **[fecal coliform or] *E. coli*** testing shall, under § 109.701(a)(3), notify the Department within 1 hour after the water system learns of the violation or the situation, and shall provide public notice in accordance with § 109.408 (relating to Tier 1 public notice—categories, timing and delivery of notice) **IF THERE IS A VIOLATION OF THE *E. COLI* MCL AS SET FORTH IN PARAGRAPH (iv).**

(i) *Frequency.* Public water systems shall collect **monthly** 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.

(A) **[Except as provided under § 109.705(b) (relating to sanitary surveys), the]** The number of monthly total coliform samples that **[community water systems] a public water system** shall take is based on the population served by the system as follows:

Population Served	Minimum Number of Samples per Month
25 to 1,000	1
1,001 to 2,500	2
2,501 to 3,300	3
3,301 to 4,100	4
4,101 to 4,900	5
4,901 to 5,800	6
5,801 to 6,700	7
6,701 to 7,600	8
7,601 to 8,500	9
8,501 to 12,900	10
12,901 to 17,200	15

17,201 to 21,500	20
21,501 to 25,000	25
25,001 to 33,000	30
33,001 to 41,000	40
41,001 to 50,000	50
50,001 to 59,000	60
59,001 to 70,000	70
70,001 to 83,000	80
83,001 to 96,000	90
96,001 to 130,000	100
130,001 to 220,000	120
220,001 to 320,000	150
320,001 to 450,000	180
450,001 to 600,000	210
600,001 to 780,000	240
780,001 to 970,000	270
970,001 to 1,230,000	300
1,230,001 to 1,520,000	330
1,520,001 to 1,850,000	360
1,850,001 to 2,270,000	390
2,270,001 to 3,020,000	420
3,020,001 to 3,960,000	450
3,960,001 or more	480

**[(B) Except as provided under § 109.705(c), the number of periodic total coliform samples that noncommunity water systems shall take is as follows:**

**(I) A noncommunity water system using only groundwater and serving 1,000 or fewer persons per day on a permanent basis, January through December each year, shall take one sample each calendar quarter that the system provides water to the public.**

**(II) A noncommunity water system using surface water (in total or in part) or serving more than 1,000 persons per day during a given month shall take the same number of samples as a community water system serving the same number of persons specified in clause (A) for each month the system provides water to the public, even if the population served is temporarily fewer than 1,000 persons per day. A groundwater system determined to be under the influence of surface water shall begin monitoring at this frequency 6 months after the Department determines that the source water is under the direct influence of surface water.**

**(C)] (B)** 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] E. coli** established under § 109.202(a)(2) and whether an assessment has been triggered under § 109.202(c)(4).

**(C)** Prior to serving water to the public each season, a seasonal system shall collect one or more total coliform samples in accordance with the Department-approved start-up procedure specified in § 109.715 (relating to seasonal systems) until coliforms are not detected in a set of samples. These samples are considered special purpose samples under subparagraph (v).

**(D)** A system may take more than the minimum number of required routine samples only if the samples are collected in accordance with § 109.303(a)(2) and are included in the sample siting plan in accordance with § 109.701(a)(5). These samples shall be included in determining whether an assessment has been triggered under § 109.202(c)(4).

**(E)** A community water system serving 1,000 people or fewer or a noncommunity water system may be required to begin monitoring on an alternate schedule established by the Department. This determination will be made based on the results of a special monitoring evaluation performed during a sanitary survey. The system shall continue monitoring on the alternate schedule until otherwise notified by the Department.

(ii) *Repeat monitoring.* A public water system shall collect a set of check samples within 24 hours of being notified of a total coliform-positive routine **[or check sample] sample, a total coliform-positive check sample or a total coliform-positive sample collected under subparagraph (i)(B).** 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 check samples analyzed within 30 hours of collection. A logistical problem outside the system's control may include a coliform-positive sample result received over a holiday or weekend in which the services of a Department **[certified] accredited** laboratory are not available within the prescribed sample holding time.

**(A)** A public water system **[which collects more than one routine sample per monitoring period]** shall collect at least three check samples for each routine total coliform-positive sample found.

**[(B)] (B) A system which collects only one routine sample per monitoring period shall collect at least four check samples for each total coliform-positive sample found.**

**[(C)] (B) The system shall collect at least one check sample from the sampling tap where the original total coliform-positive sample was taken[;]. THE SYSTEM SHALL ALSO COLLECT at least one check sample at [a]ANY tap within five service connections upstream of the original coliform-positive sample and at least one check sample AT ANY TAP within five service connections downstream of the original sampling site UNLESS ALTERNATIVE LOCATIONS ARE APPROVED BY THE DEPARTMENT IN ACCORDANCE WITH § 109.701(a)(5) (RELATING TO SITING PLAN). If a total coliform-positive sample occurs at the end of the distribution system or one service connection away from the end of the distribution system, the water supplier shall collect an additional check sample upstream of the original sample site in lieu of a downstream check sample.**

**[(D)] (C) A system shall collect all check samples on the same day, except that a system with a single service connection may collect the required set of check samples all on the same day or consecutively over a [4-day] 3-day period.**

**[(E)] (D) At a minimum, the system shall collect one set of check samples for each total coliform-positive routine sample. If a check sample is total coliform-positive, the public water system shall collect AN additional SET OF check samples FROM THE SAME LOCATIONS in the manner specified in this subparagraph. The system shall continue to collect ADDITIONAL SETS OF check samples FROM THE SAME LOCATIONS until either total coliforms are not detected in a set of check samples, or the system determines that [the MCL for total coliforms as established under § 109.202(a)(2) has been exceeded and notifies the Department] an assessment has been triggered under § 109.202(c)(4) and notifies the Department in accordance with § 109.701(a)(9).**

**[(F)] If a system collecting fewer than five routine samples per month has one or more valid total coliform-positive samples, the system shall collect at least five routine samples during the next month the system provides water to the public. The number of routine samples for the month following a total coliform-positive sample may be reduced by the Department to at least one sample the next month if the reason for the total coliform-positive sample is determined and the problem has been corrected or will be corrected before the end of the next month.**

**[(G)] (E) Results of all routine and check samples not invalidated by the Department shall be included in determining compliance with the MCL for [total coliforms] *E. coli* as established under § 109.202(a)(2) or whether an assessment has been triggered under § 109.202(c)(4).**

**(F) IF AN UPSTREAM OR DOWNSTREAM REPEAT MONITORING LOCATION IDENTIFIED IN THE SAMPLE SITING PLAN IS NOT AVAILABLE IN THE TIMEFRAME SPECIFIED IN THIS SUBPARAGRAPH, THE PUBLIC WATER SYSTEM SHALL NOTIFY THE DEPARTMENT PRIOR TO COLLECTING THE CHECK SAMPLE THAT THE CHECK SAMPLE WILL BE COLLECTED FROM A**

**LOCATION WITHIN REASONABLE PROXIMITY TO THE ROUTINE MONITORING LOCATION.**

(iii) *Invalidation of total coliform samples.* A total coliform sample invalidated under this paragraph does not count towards meeting the minimum monitoring requirements of this section.

(A) The Department may invalidate a total coliform-positive sample if one of the following applies:

(I) The laboratory which performed the analysis establishes that improper sample analysis caused the total coliform-positive result.

(II) A domestic or other nondistribution system plumbing problem exists when a coliform contamination incident occurs that is limited to a specific service connection from which a coliform-positive sample was taken in a public water system with more than one service connection. The Department's determination to invalidate a sample shall be based on a total coliform-positive check sample collected at the same tap as the original total coliform-positive sample and all total coliform-negative check samples collected within five service connections of the original total coliform positive sample. This type of sample invalidation does not apply to public water systems with only one service connection.

(III) A total coliform-positive sample result is due to a circumstance or condition which does not reflect water quality in the distribution system. The Department's decision to invalidate a sample shall be based on evidence that the sample result does not reflect water quality in the distribution system. In this case, the system shall still collect all check samples required under subparagraph (ii) to determine compliance with the MCL for **[total coliforms] *E. coli*** as established under § 109.202(a)(2) **or whether an assessment has been triggered under § 109.202(c)(4). The decision to invalidate a total coliform-positive sample result and supporting evidence will be documented by the Department, in writing, and approved and signed by the supervisor of the Department official who recommended the decision.**

(B) A laboratory shall invalidate a total coliform sample if no total coliforms are detected and one of the following occurs:

(I) The sample produces a turbid culture in the absence of gas production using an analytical method where gas formation is examined.

(II) The sample exhibits confluent growth or produces colonies too numerous to count with an analytical method using a membrane filter.

**(III) The sample produces a turbid culture in the absence of an acid reaction in the Presence-Absence Coliform Test.**

(C) If a laboratory invalidates a sample because of interference as specified in clause (B), the laboratory shall notify the system within 1 business day to collect another sample from the same location as the original sample within 24 hours of being notified of the interference and have it

analyzed for the presence of total coliforms. The system shall resample within 24 hours of being notified of interference and continue to resample every 24 hours until it receives a valid result. The Department may extend this 24-hour limit to a maximum of 72 hours if the system adequately demonstrates a logistical problem outside the system's control in having the resamples analyzed within 30 hours. A logistical problem outside the system's control may include a notification of a laboratory sample invalidation, due to interference, which is received over a holiday or weekend in which the services of a Department **[certified] accredited** laboratory are not available within the prescribed sample holding time.

(iv) *Compliance determinations.*

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

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

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

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

**(A) A system is in compliance with the MCL for *E. coli* as specified under § 109.202(a)(2) for samples taken under this paragraph unless any of the following conditions occur:**

**(I) The system has an *E. coli*-positive check sample following a total coliform-positive routine sample.**

**(II) The system has a total coliform-positive check sample following an *E. coli*-positive routine sample.**

**(III) The system fails to take all required check samples following an *E. coli*-positive routine sample.**

**(IV) The system fails to test for *E. coli* when any check sample tests positive for total coliform.**

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

(v) **Special purpose samples.** Special purpose samples, such as those taken to determine whether disinfection practices are sufficient following pipe placement, replacement or repair, **those taken to investigate potential problems in the distribution system or those collected as part of a seasonal system start-up procedure**, may not be used to determine compliance with the MCL for [total coliform] *E. coli* as established under § 109.202(a)(2) or whether an assessment has been triggered under § 109.202(c)(4). Check samples taken under subparagraph (ii) are not considered special purpose samples, and shall be used to determine compliance with the monitoring [and], MCL requirements and treatment technique requirements for total coliforms and *E. coli* established under [this paragraph and] § 109.202(a)(2) and (c)(4).

\* \* \* \* \*

### § 109.303. Sampling requirements.

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

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

(2) Samples for determining compliance with the [total coliform MCL] *E. coli* MCL under § 109.202(a)(2) (relating to State MCLs, MRDLs and treatment technique requirements) and for determining whether an assessment is triggered under § 109.202(c)(4) shall be taken at regular intervals throughout the monitoring period at sites which are representative of water throughout the distribution system according to [an approved] a written sample siting plan as specified under § 109.701(a)(5) (relating to reporting and recordkeeping). **Representative locations include, but are not limited to, the following:**

(i) **Dead ends.**

(ii) **First service connection.**

(iii) **Finished water storage facilities.**

(iv) **Interconnections with other public water systems.**

(v) **Areas of high water age.**

(vi) **Areas with previous coliform detections.**

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

\* \* \* \* \*

## Subchapter D. PUBLIC NOTIFICATION

### § 109.408. Tier 1 public notice—categories, timing and delivery of notice.

(a) *General violation categories and other situations requiring a Tier 1 public notice.* A public water supplier shall provide Tier 1 public notice for the following circumstances:

(1) Violation of the MCL for **[total coliforms when fecal coliforms or *E. coli* are present in the water distribution system]** *E. coli*, as specified in § 109.202(a)(2) (relating to State MCLs, MRDLs **[or] and** treatment technique requirements), or when the water supplier fails to test for **[fecal coliforms or]** *E. coli* when any check sample tests positive for coliforms, as specified in § 109.301(3) (relating to general monitoring requirements).

\* \* \* \* \*

### § 109.409. Tier 2 public notice—categories, timing and delivery of notice.

(a) *General violation categories and other situations requiring a Tier 2 public notice.* A public water supplier shall provide Tier 2 public notice for the following circumstances:

(1) All violations of the primary MCL, MRDL, treatment technique requirements and failure to take corrective action in Subchapters B, C, G, K, L or M, except when a Tier 1 notice is required under § 109.408 (relating to Tier 1 public notice—categories, timing and delivery of notice) or when the Department determines that a Tier 1 notice is required. The tier assignment for fluoride is not incorporated by reference. Under § 109.202(d) (relating to State MCLs, MRDLs **[or] and** treatment technique requirements), a public water system shall comply with the primary MCL for fluoride of 2 mg/L. As such, a public water supplier shall provide Tier 2 public notice for violation of the primary MCL for fluoride.

(2) Violations of the monitoring requirements in Subchapter C, K or M (relating to monitoring requirements; lead and copper; and additional requirements for groundwater sources), when the Department determines that a Tier 2 rather than a Tier 3 public notice is required, taking into account potential health impacts and persistence of the violation.

~~(3) Failure to report an *E. coli* MCL violation or an *E. coli* positive routine or check sample as required under § 109.701(a)(3)(iv) (relating to reporting and recordkeeping).~~

~~{(3)} {(4)}~~ Failure to comply with the terms and conditions of any variance or exemption in place under Subchapter I (relating to variances and exemptions issued by the Department).

~~{(4)} {(5)}~~ Other violations or situations determined by the Department to require a Tier 2 public notice, taking into account potential chronic health impacts and persistence of the violation.

(b) *Timing for a Tier 2 public notice.* A public water supplier shall do the following

(1) Report the circumstances to the Department within 1 hour of discovery of a violation under subsection (a)(1), in accordance with § 109.701(a)(3) [(relating to reporting and recordkeeping)].

(2) Provide the public notice as soon as possible, but no later than 30 days after the system learns of the violation. If the public notice is posted, the notice shall remain in place for as long as the violation or situation persists, but in no case for less than 7 days, even if the violation or situation is resolved. The Department may, in appropriate circumstances, allow additional time for the initial notice of up to 3 months from the date the system learns of the violation. The Department will not grant an extension across the board or for an unresolved violation. Extensions granted by the Department will be in writing.

(3) Repeat the notice every 3 months as long as the violation or situation persists, unless the Department determines that appropriate circumstances warrant a different repeat notice frequency. In no circumstances may the repeat notice be given less frequently than once per year. The Department will not allow less frequent repeat notices across the board; [or for an MCL violation for total coliforms established under § 109.202(a)(2);] or for a violation of a treatment technique requirement for pathogenic bacteria, viruses and protozoan cysts as defined in § 109.202(c); or for other ongoing violations. Determinations granted by the Department for less frequent repeat notices will be in writing.

\* \* \* \* \*

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

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

\* \* \* \* \*

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

**(5) FAILURE TO REPORT AN *E. COLI* MCL VIOLATION OR AN *E. COLI*-POSITIVE ROUTINE OR CHECK SAMPLE AS REQUIRED UNDER § 109.701(a)(3)(iv) (RELATING TO REPORTING AND RECORDKEEPING).**

**(6) FAILURE TO SUBMIT A COMPLETED ASSESSMENT FORM IN ACCORDANCE WITH § 109.701(a)(9).**

**(7) FAILURE TO SUBMIT CERTIFICATION OF COMPLETION OF A DEPARTMENT-APPROVED START-UP PROCEDURE BY A SEASONAL SYSTEM IN ACCORDANCE WITH § 109.715(e) (RELATING TO SEASONAL SYSTEMS).**

\* \* \* \* \*

## 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:

\* \* \* \* \*

(3) *One-hour reporting requirements.* A public water supplier shall report the circumstances to the Department within 1 hour of discovery for the following violations or situations:

\* \* \* \* \*

(iii) Circumstances exist which may adversely affect the quality or quantity of drinking water including, but not limited to:

\* \* \* \* \*

(H) A lack of resources that adversely affect operations, such as staff shortages, notification by the power utility of planned lengthy power outages or imminent depletion of treatment chemical inventories.

(iv) **Any sample result is *E. coli*-positive.**

(4) *Notice.* The water supplier shall, within 10 days of completion of each public notification required under Subchapter D (relating to public notification) with the exception of a CCR, submit to the Department a certification that it has fully complied with the public notification requirements. The water supplier shall include with this certification a representative copy of each type of notice distributed, published, posted and made available to persons served by the system and to the media and a description of the means undertaken to make the notice available.

(5) *Siting plan.* The water supplier shall submit to the Department a written sample siting plan for routine **and repeat** coliform sampling as required [by § 109.303(a)(2) (relating to sampling requirements) within 30 days of receipt of the Department's request for this information] under § 109.301(3) by \_\_\_\_ (*Editor's Note: The blank refers to the effective date of adoption of this proposed rulemaking.*). A public water system that begins operation after \_\_\_\_ (*Editor's Note: The blank refers to the effective date of adoption of this proposed rulemaking.*) shall submit the sample siting plan prior to serving water to the public.

(i) A sample siting plan shall include at a minimum the following:

(A) A list of [available] sample site locations as specified in § 109.303(a)(2) (relating to sampling requirements) in the distribution system to be used for routine monitoring purposes[, including the first service connection (or Department approved equivalent) and dead ends].

(B) The name of the company or individual collecting the samples.

(C) [A time period by which available sites representative of the distribution system are to be sampled during each monitoring period.] A sample collection schedule.

(D) Available repeat monitoring locations for each routine monitoring location.

(E) Triggered source water monitoring locations as specified under § 109.1303 (relating to triggered monitoring requirements for groundwater sources).

(F) The population served by the system.

(G) A description of the accessibility of sample sites.

(H) The beginning and ending dates of each operating season for seasonal systems.

[(ii) The Department's approval of a sample siting plan will be based upon the following:

(A) The population served by the system.

(B) The accessibility of sample sites.

(C) The past monitoring history for the system.

(D) The completeness of the sample siting plan which includes the information specified in subparagraph (i) and other information relating to the criteria in this subparagraph necessary for evaluation of the sample siting plan.

[(iii)] (ii) A water supplier shall revise and resubmit its sample siting plan within 30 days of notification by the Department of a sample siting plan which fails to meet the criteria in [subparagraphs (i) and (ii)] subparagraph (i).

[(iv)] (iii) The water supplier shall notify the Department of subsequent revisions to [an approved] a coliform sample siting plan [for approval] as they occur. Revisions to [an approved] a coliform sample siting plan shall be submitted in written form to the Department within 30 days of notifying the Department of the revisions.

(6) *Records.* Upon request by the Department, the water supplier shall submit copies of records required to be maintained under this subchapter.

(7) *Form.* Reports required by this chapter shall be submitted in a manner or form acceptable to the Department.

(8) *Reporting requirements for disinfectant residuals.* In addition to the reporting requirements specified in paragraph (1), public water systems shall report MRDL monitoring data as follows:

(i) Systems monitoring for chlorine dioxide under § 109.301(13) shall report the number of days chlorine dioxide was used at each entry point during the last month.

(ii) Systems monitoring for either chlorine or chloramines under § 109.301(13) shall report the following:

(A) The number of samples taken during the month.

(B) The arithmetic average of all distribution samples taken in the last month.

(9) *Level 1 and Level 2 assessments.* A public water supplier shall:

~~(i) Report to the Department within 48 hours of triggering a Level 1 or Level 2 assessment under § 109.202(e)(4).~~

~~(ii)(i) Submit an assessment form completed in accordance with § 109.705(b) (relating to system evaluations and assessments) to the Department within 30 days after the system learns that it has exceeded a trigger under § 109.202(c)(4).~~

~~(iii)(ii) Submit a revised assessment form in accordance with § 109.705(b) within 30 days of notification from the Department that revisions are necessary.~~

~~(9)~~ (10) *Noncompliance report.* Except where a different reporting period is specified in this chapter, the water supplier shall report to the Department within 48 hours the failure to comply with any National Primary Drinking Water Regulation, including the failure to comply with any monitoring requirement set forth in this chapter.

\* \* \* \* \*

(d) *Record maintenance.* The public water supplier shall retain on the premises of the public water system or at a convenient location near the premises the following:

\* \* \* \* \*

(8) Copies of public notifications issued under Subchapter D and certifications made to the Department under subsection (a)(4) shall be kept for 3 years after issuance.

(9) A copy of any assessment form and documentation of corrective actions completed as a result of those assessments or other available summary documentation of the sanitary

defects and corrective actions taken under § 109.705(b) shall be kept at least 5 years after completion of the assessment or corrective action.

(e) Reporting requirements for public water systems required to perform individual filter monitoring under § 109.301(1)(iv).

\* \* \* \* \*

**§ 109.702. Operation and maintenance plan.**

(a) A community water supplier shall develop an operation and maintenance plan for the community water system. The operation and maintenance plan must generally conform to the guidelines contained in the Department's *Public Water Supply Manual* and contain at least the following information:

\* \* \* \* \*

(9) [Sanitary survey program] System evaluation program as required under § 109.705(a) (relating to system evaluations and assessments) including the wellhead protection program for any water system that develops one under § 109.713 (relating to wellhead protection [programs] program).

\* \* \* \* \*

**§ 109.705. [Sanitary surveys] System evaluations and assessments.**

(a) A community water supplier shall conduct [a sanitary survey] an evaluation of the water system at least annually. The [survey] evaluation shall include the following activities:

\* \* \* \* \*

(5) Pressure surveys consisting of a measurement of pressures at representative points in the distribution system, which shall include new water line extensions. Surveys shall be made during periods of maximum and minimum usage. Records of these surveys shall show the date and time of the beginning and end of the test and the location at which the test was made.

**[(b) A community water system which does not collect five or more routine coliform samples per month shall do one of the following:**

**(1) Undergo a sanitary survey conducted by the Department by June 29, 1994, and thereafter undergo a subsequent sanitary survey conducted by the Department at a minimum frequency of every 3 years.**

**(2) Increase the number of routine coliform samples collected to at least five samples per month if the Department does not conduct a sanitary survey by June 29, 1994, or within 3**

years following the initial or a subsequent sanitary survey. This increased sampling frequency shall be in place of the monitoring frequency requirements for coliforms in § 109.301(3)(i) (relating to general monitoring requirements) and remain in effect through the month in which the next sanitary survey is conducted by the Department.

(c) A noncommunity water system which does not collect five or more routine coliform samples per month shall do one of the following:

(1) Undergo an initial sanitary survey conducted by the Department by June 29, 1999, and thereafter undergo a subsequent sanitary survey at a minimum of every 5 years after the initial sanitary survey.

(2) Increase the number of routine coliform samples collected to at least five samples per month if the Department does not conduct a sanitary survey by June 29, 1999, or within 5 years following the initial or a subsequent sanitary survey. This increased sampling frequency shall be in place of the monitoring frequency requirements for coliforms in § 109.301(3)(i) and shall remain in effect through the month in which the next sanitary survey is conducted by the Department.]

(b) A public water system shall conduct Level 1 and 2 assessments required under § 109.202(c)(4) (relating to State MCLs, MRDLs and treatment technique requirements). The public water system shall also comply with any expedited actions or additional actions required by the Department in the case of an *E. coli* MCL violation.

(1) A Level 1 or Level 2 assessment must include review and identification of the following elements, at a minimum:

(i) Atypical events that could affect distributed water quality or indicate that distributed water quality was impaired.

(ii) Changes in distribution system maintenance and operation that could affect distributed water quality, including water storage.

(iii) Sources and treatment processes that impact distributed water quality.

(iv) Existing water quality monitoring data.

(v) Inadequacies in sample sites, sampling protocols and sample processing.

(2) Within 30 days of triggering a Level 1 or Level 2 assessment under § 109.202(c)(4), a public water system shall complete the appropriate assessment and submit a report to the Department on forms acceptable to the Department.

(3) A Level 1 assessment must be conducted by competent personnel qualified to operate and maintain the water system's facilities.

**(4) A Level 2 assessment must be conducted by one or more individuals meeting the following criteria:**

**(i) Holds a valid certificate issued under Chapter 302 (relating to administration of the water and wastewater operators' certification program) to operate a water system.**

**(ii) Maintains certification in the appropriate class and subclassifications as defined in Chapter 302 for the size and treatment technologies for the water system being assessed.**

**(5) The Department may conduct a Level 1 or Level 2 assessment in addition to the assessment conducted by the public water system.**

**(6) In the completed assessment report, the public water system shall describe all sanitary defects identified, corrective actions completed and a proposed timetable for any corrective actions not already completed. The assessment report may also note that no sanitary defects were identified.**

**(7) If the Department determines that a Level 1 or Level 2 assessment is not sufficient, the public water system shall consult with the Department within 14 days of receiving written notification from the Department that the assessment is not sufficient. Following consultation, the Department may require a public water system to revise the assessment. A public water system shall submit a revised assessment form to the Department no later than 30 days from the date of consultation.**

**(8) Public water systems shall correct sanitary defects found through either a Level 1 or Level 2 assessment conducted in accordance with this subsection. For corrections not completed by the time of submission of the assessment report, the public water system shall complete the corrective actions in compliance with a timetable approved by the Department in consultation with the system. The system shall notify the Department when each scheduled corrective action is completed.**

**(9) At any time during the assessment or corrective action phase, either the public water system or the Department may request a consultation with the other party to determine the appropriate actions to be taken. The public water system may consult with the Department on all relevant information that may impact its ability to comply with a requirement of this subsection.**

**[(d)] (c) The following apply to significant deficiencies identified at public water systems supplied by a surface water source and public water systems supplied by a groundwater source under the direct influence of surface water:**

**(1) For sanitary surveys performed by the Department, a system shall respond in writing to significant deficiencies identified in sanitary survey reports no later than 45 days after receipt of the report, indicating how and on what schedule the system will address significant deficiencies noted in the survey.**

(2) A system shall correct significant deficiencies identified in sanitary survey reports according to the schedule approved by the Department, or if there is no approved schedule, according to the schedule reported under paragraph (1) if the deficiencies are within the control of the system.

**[(e)] (d) Significant deficiencies identified by the Department at public water systems using groundwater shall comply with § 109.1302(c) (relating to [groundwater systems with significant deficiencies or source water *E. coli* contamination] treatment technique requirements).**

*(Editor's Note: The following section is new and printed in regular type to enhance readability.)*

### **§ 109.715. Seasonal systems.**

**(a) A new seasonal system shall submit a start-up procedure with the construction permit application or brief description as required under § 109.505(a) (relating to requirements for noncommunity water systems).**

**(b) A seasonal system approved by the Department to operate prior to \_\_\_\_\_ (*Editor's Note: The blank refers to the effective date of adoption of this proposed rulemaking.*), shall submit a start-up procedure to the Department by \_\_\_\_\_ (*Editor's Note: The blank refers to 30 days after effective date of adoption of this proposed rulemaking.*).**

**(c) If the Department determines that a start-up procedure is not sufficient, the public water system shall submit a revised start-up procedure within 30 days of receiving written notification from the Department.**

**(d) A seasonal system shall submit to the Department for approval any revisions to an approved start-up procedure prior to serving water to the public the next season.**

**(e) A seasonal system shall demonstrate completion of a Department-approved start-up procedure by submitting written certification prior to serving water to the public each season.**

## **Subchapter H. LABORATORY CERTIFICATION**

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

\* \* \* \* \*

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

109.301 (relating to general monitoring requirements), or **any check sample collected under § 109.301(3) is total coliform-positive, or A SAMPLE COLLECTED BY A SEASONAL SYSTEM AS PART OF A DEPARTMENT-APPROVED START-UP PROCEDURE UNDER § 109.301(3)(i)(C) IS TOTAL COLIFORM-POSITIVE, OR** a sample collected under Subchapter M (relating to additional requirements for groundwater sources) is *E. coli*-positive:

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

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

(ii) Establishing or updating a standard operating procedure by November 8, 2002, and at least annually thereafter to provide the information needed to report the occurrences to the Department. The information regarding the public water system must include, but is not limited to, the PWSID number of the system, the system's name, the contaminant involved in the occurrence, the level of the contaminant found, where the sample was collected, the dates and times that the sample was collected and analyzed, the name and identification number of the **[certified] accredited** laboratory, the name and telephone number of a contact person at the laboratory and what steps the laboratory took to contact the public water system before calling the Department.

\* \* \* \* \*

## **Subchapter I. VARIANCES AND EXEMPTIONS ISSUED BY THE DEPARTMENT**

### **§ 109.901. Requirements for a variance.**

\* \* \* \* \*

(b) The MCL for **[total coliforms] *E. coli*** established under § 109.202(a) (relating to State MCLs, MRDLs and treatment technique requirements) is not eligible for a variance.

\* \* \* \* \*

### **§ 109.903. Requirements for an exemption.**

\* \* \* \* \*

(b) The MCL for [total coliforms] *E. coli* established under § 109.202(a) (relating to State MCLs, MRDLs and treatment technique requirements) is not eligible for an exemption.

\* \* \* \* \*

**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 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:

(i) Monitor [for microbiological contaminants] weekly for the presence or absence of total coliform. For any total coliform positive routine or check sample, determine the presence or absence of *E. coli*. All analyses must be conducted in accordance with analytical techniques approved by the Department under § 109.304 (relating to analytical requirements). A system may forego *E. coli* testing on a total coliform-positive sample if the system assumes that any total coliform-positive sample is also *E. coli*-positive. A system which chooses to forego *E. coli* testing shall, under § 109.701(a)(3) (relating to reporting and recordkeeping), 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 § 109.1004 (relating to public notification).

\* \* \* \* \*

(2) Vended water systems shall monitor in accordance with paragraph (1) except that vended water systems qualifying for permit by rule under § 109.1005(b), for each entry point shall:

(i) Monitor monthly for [microbiological contaminants] the presence or absence of total coliform. For any total coliform positive routine or check sample, determine the presence or absence of *E. coli*. All analyses must be conducted in accordance with analytical techniques approved by the Department under § 109.304. A system may forego *E. coli* testing on a total coliform-positive sample if the system assumes that any total coliform-positive sample is also *E. coli*-positive. A system which chooses to forego *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 § 109.1004.**

\* \* \* \* \*

(c) *Repeat monitoring for microbiological contaminants.*

(1) If a sample collected in accordance with subsection (a)(1)(i) or **(2)(i)** is found to be total coliform-positive:

(i) The bottled water system shall collect a set of three additional samples (check) from the same lot or batch of the type of product.

(ii) The vended water, retail water facility or bulk water hauling systems shall collect a set of **[four] three** additional samples (check) from the same entry point (machine, point of delivery or carrier vehicle).

(2) Samples shall be collected for analysis within 24 hours of being notified of the total coliform-positive sample. 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 check samples analyzed within 30 hours of collection. A logistical problem outside the system's control may include a coliform-positive result received over a holiday or weekend in which the services of a Department certified laboratory are not available within the prescribed sample holding time.

**(3) [If a check sample is total coliform-positive, the system shall be deemed to have violated the MCL for total coliforms established under § 109.1002 (relating to MCLs, MRDLs or treatment techniques).] At a minimum, the system shall collect one set of check samples for each total coliform-positive routine sample. If a check sample is total coliform-positive, the public water system shall collect additional check samples in the manner specified in this subsection. The system shall continue to collect check samples until either total coliforms are not detected in a set of check samples, or the system determines that an assessment has been triggered under § 109.202(c)(4) (relating to State MCLs, MRDLs and treatment technique requirements).**

(d) *A bulk water hauling system that serves at least 25 of the same persons year around.* A bulk water hauling system that is determined by the Department to serve at least 25 of the same persons year round shall comply with the monitoring requirements for community water systems in accordance with § 109.301.

\* \* \* \* \*

### **§ 109.1008. System management responsibilities.**

\* \* \* \* \*

(d) [**Sanitary survey**] *Annual system evaluation requirements.* Bottled water and vended water systems, retail water facilities and bulk water hauling systems shall conduct [**a sanitary survey**] **an evaluation** of the water system at least annually[, **the survey to include**] **that includes** the activities listed in paragraphs (1)—(4). A bottled water, vended water, bulk water hauling system or retail water facility obtaining finished water from a permitted public water system is not required to perform the activities in paragraphs (1) and (2) if the Department determines that there are no potential problems necessitating inspection and evaluation of the source.

\* \* \* \* \*

(f) *Cross-connection control program.* At the direction of the Department, the bottled water, vended water, retail water or bulk water supplier shall develop and implement a comprehensive control program for the elimination of existing cross-connections or the effective containment of sources of contamination, and prevention of future cross connections. A description of the program, including the following information, shall be submitted to the Department for approval:

- (1) A description of the methods and procedures to be used.
- (2) An implementation schedule for the program.
- (3) A description of the methods and devices which will be used to protect the water system.

(g) *Level 1 and Level 2 assessments.* **Bottled water systems, vended water systems, retail water facilities and bulk water hauling systems shall comply with the requirements of § 109.705(b) (relating to system evaluations and assessments). Bottled water systems, vended water systems, retail water facilities and bulk water hauling systems may use a Nationally-recognized organization which inspects bottled water systems for compliance with 21 CFR Part 129, such as NSF, or another organization, state or country which utilizes an inspection protocol as stringent as NSF's protocols to conduct the Level 2 assessment.**

(h) *Seasonal systems.* **A bottled water system, vended water system, retail water facility or bulk water hauling system that operates as a seasonal system shall comply with the requirements of § 109.715 (relating to seasonal systems).**





**pennsylvania**

DEPARTMENT OF ENVIRONMENTAL  
PROTECTION

**COMMENT AND RESPONSE  
DOCUMENT**

**REVISED TOTAL COLIFORM RULE  
(RTCR)**

*25 Pa. Code Chapter 109*

45 Pa.B. 5943 (October 3, 2015)

Environmental Quality Board Regulation #7-494

(Independent Regulatory Review Commission #3119)

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## COMMENTS AND RESPONSES

### 1. Comment:

PaDEP is incorrectly stating EPA guidance in the revised total coliform preamble “Background and Purpose” section by including language referencing that microbial contamination in the distribution system occurs when there are conditions that allow proliferation of the microorganisms, including “the lack of a disinfectant residual” or poor operation and maintenance practices. This is a misstatement of EPA guidance. In addition, the lack of a disinfectant residual is not a sanitary defect pursuant the Federal RTCR. Rather, it is simply an indication that a sanitary defect—a pathway to contamination—could exist.

EPA’s Revised Total Coliform Rule Assessments & Corrective Actions Guidance Manual (Sept. 2014,pg. 2-1, 2-2) specifically states:

Coliform bacteria may be present in the distribution system if three conditions simultaneously occur:

1. A source of coliform bacteria;
2. A pathway into the distribution system or a breach in the system’s physical integrity; and
3. A mechanism that allows coliform bacteria to be carried on this pathway into the distribution system or that allows bacteria within biofilms, corrosion tubercles or sediment to break free and enter the water.

PaDEP is incorrectly stating that “the lack of disinfectant residual” is a sanitary defect in the revised total coliform preamble “Background and Purpose” section.

PaDEP states that "the lack of disinfectant residual" is a sanitary defect and also references EPA's RTCR Assessment and Corrective Action Manual. EPA’s guidance manual, despite PaDEP’s reference to it, does not identify disinfectant residual alone as being a pathway for contamination. PaDEP is suggesting that “the lack of a disinfectant residual” is a sanitary defect, i.e. a defect that could provide a pathway of entry for microbial contamination into the distribution system or that is indicative of a failure or imminent failure in a barrier that is already in place.

Pathways need to be clarified and thought of in terms of a route of exposure for contamination (See AWWA’s April 2011 Opflow Article Preventing the Perfect Storm, Public Health Relies on Risk Management). A cross connection, capable of causing backflow from back siphonage or backpressure, is a pathway for contamination. A finished water storage tank with any sort of opening, like an open defective hatch, vent or hole, is a pathway for contamination. A new water main that was exposed to the environment and not properly installed before connecting to the active distribution system, is a pathway for contamination.

The level of disinfectant residual may or may not indicate that contamination gained access to the distribution system. In other words, disinfectant residual is an indicator that a pathway may exist, but it is not the pathway. In fact, the real indicator is often a sudden loss in disinfectant residual that suggests an increase in demand, than a seasonal decline that is gradual. There is no scientifically based research showing a direct correlation between “lack”

of a disinfectant residual and microbial contamination. This was noted during special TAC meetings with presentations from various utilities and experts, in which there were cases where samples were positive for total coliforms and E. coli, despite the presence of adequate disinfectant residuals.

EPA's RTCR Assessments & Corrective Actions Guidance Manual, Table 5-1: Common Causes of Total Coliforms and E. coli in the Distribution System & Possible Corrective Actions to Address Them, (pg. 5-7 in the manual) under the Sanitary Defects/Cause(s) of TC+ & EC+ column lists inadequate disinfectant residual levels in the distribution system.

EPA guidance points more toward "inadequate disinfectant" being the result of disinfection practices that create a condition that may point to the presence of coliform or E. coli. In other words, EPA guidance is stating that inadequate disinfectant in the distribution system is more of a disinfection issue (i.e. during the treatment phase) and needs to be addressed there rather than being reactionary to a low disinfectant residual result measured within the distribution system. Results within the distribution system shouldn't necessarily trigger corrective action; rather they should trigger investigation. Water with zero chlorine residual is not necessarily unsafe for drinking.

**Corrective Action:**

Philadelphia Water requests that PaDEP remove the inaccurate statement (microbial contamination in the distribution system occurs when there are conditions that allow proliferation of the microorganisms, including "the lack of a disinfectant residual" or poor operation and maintenance practices) because it incorrectly references specific EPA guidance. The intent of EPA's RTCR Assessment and Corrective Actions Guidance Manual is not about the proliferation of microorganisms, but about addressing failures to detect or mitigate the presence of coliforms and E. coli.

Philadelphia Water requests that PaDEP remove the inaccurate statement regarding the lack of disinfection residual as being a pathway for contamination because it misinterprets EPA's RTCR Assessment and Corrective Actions Manual.

Inaccurately referencing and misinterpreting EPA guidance in the preamble will lead to confusion among water systems because the language creates a regulatory framework that is inaccurate and that has not been proven. The language could expose public water systems to enforcement actions, public notifications and subsequent remedial action costs. A simple, accurate language reference could avoid misinterpretation and the previously mentioned risks as well as make PaDEP enforcement actions far less likely since background and purpose objectives would be clearly and accurately articulated. (4)

**Response:**

For the purpose of providing clarity in the final Order, the Department has removed the sentence related to this comment. However, the Department disagrees with the commentator. The lack of a disinfectant residual does meet the definition of a sanitary defect under the RTCR, as the federal and state definition of a sanitary defect contains two parts. 40 CFR 141.2 and Chapter 109.1 define a sanitary defect as a defect:

1. That could provide a pathway of entry for microbial contamination into the distribution system; or
2. That is indicative of a failure or imminent failure in a barrier that is already in place.

Maintenance of a disinfectant residual in the distribution system is already required by state regulations and is part of the multi-barrier approach to ensuring safe drinking water. A lack of a disinfectant residual is indicative of a failure or imminent failure in a barrier that is already in place.

## **2. Comment:**

PaDEP is using inaccurate and archaic language from the existing Total Coliform Rule (check sample terminology) that the EPA abandoned in revision to the Total Coliform Rule by changing all check sample language to repeat sample.

EPA's Total Coliform Rule – Distribution System Federal Advisory Committee (TCRDSAC) carefully discussed changing the term “check sample” to repeat sample. There is no way to verify or discount an original positive sample by taking another grab sample at another time. The follow-up sample is not a “check” on the initial positive. The follow-up sample repeats the sampling process in order to determine if an active pathway for contamination could still be in place and to what extent. This error appears throughout the proposed regulation.

PaDEP confuses the language, as they consider the follow-up process to refer to repeat monitoring requirements, however the follow-up samples collected are referred to as check samples. The “check sample” terminology is outdated, as EPA uses “repeat sample” terminology. The “check sample” terminology is confusing especially when going through EPA's RTCR references and publication reports.

### **Corrective Action:**

The term “check sample” should be changed to “repeat sample” throughout Chapter 109 because the EPA RTCR abandoned “check sample” language. Along with the “check sample” terminology being inaccurate and inconsistent with the federal RTCR, its continued usage could create confusion among water systems when going through EPA's RTCR references and publication reports. The intent of revisions to TCR is to improve implementation while maintaining or improving public health protection and distribution system water quality, not to expose public water systems to enforcement actions, public notifications and subsequent remedial action costs. Abandoning language that is inconsistent with the EPA's RTCR could avoid these risks as well as make PaDEP enforcement actions far less likely since compliance standards and terminology are now clearly and consistently articulated. (4)

### **Response:**

The Department does not believe that the term “check sample” may cause confusion for water systems, because Chapter 109 consistently refers to samples collected as part of repeat

monitoring as check samples. The Department intends to maintain “check samples” as the term used to denote samples collected for repeat monitoring purposes, because:

1. The term “check sample” has long been used in the Commonwealth and it is the term most commonly known and used by public water systems and accredited laboratories; and
2. Department programming for its Pennsylvania Drinking Water Information System (PADWIS) and Drinking Water Electronic Reporting (DWELR) databases as well as all technical guidance documents for laboratory reporting instructions use the letter ‘C’ to denote sample results as check samples. The letter ‘R’ is already in use to denote raw water sampling so it cannot be used to denote repeat sampling.

**3. Comment:**

PaDEP must clarify how a system must proceed after triggering another Level 1 assessment, as defined in subparagraph (i), within a rolling 12-month period if the Department has determined a likely reason that the samples that caused the first Level 1 assessment were total coliform-positive and has established that the system has corrected the problem.

According to EPA, if the first Level 1 Assessment identifies problem(s) and corrected them prior to the second Level 1 Assessment trigger, the only a Level 1 assessment is required the second time.

Corrective Action:

Philadelphia Water requests that PaDEP clarify that if during a rolling 12-month period, a second Level 1 assessment is triggered where the first Level 1 assessment identified and corrected the problem leading to the initial assessment, then only a Level 1 Assessment would be required the second time. If the problem leading to the initial assessment was not identified and corrected, then PaDEP must clarify that Level 2 assessment would be required. (4)

**Response:**

Section 109.202(c)(4)(ii)(B) is consistent with the federal rule at 40 CFR 141.859(a)(2)(ii) and states that a Level 2 assessment is triggered if a second Level 1 assessment occurs unless the Department has determined a likely reason for the first Level 1 assessment and has established that the water system has corrected the problem.

**4. Comment:**

PaDEP must not be able to broadly or vaguely direct a system to conduct an assessment if circumstances exist which may adversely affect drinking water quality.

Corrective Action:

Philadelphia Water requests that PaDEP within the revised TCR, tie the use of “assessments” to only RTCR triggers, because Level 1 and Level 2 Assessments are only intended in

response to RTCR treatment technique or E. coli MCL violation. An “assessment” for situations outside of the RTCR is beyond the scope of the RTCR. Requiring assessments based on “water quality” is vague; not all water quality problems are threats to public health. As an example, bad taste and odor customer complaints will trigger an investigation by the water supplier but the proposed language here suggests that such an investigation could become a requirement under the RTCR. (4)

**Response:**

The Department agrees and has deleted subparagraph §109.202(c)(4)(iii).

**5. Comment:**

PaDEP must not limit the use of advanced technology, if it is already available, for selecting repeat sampling locations rather than collecting at least one check sample at a tap within five service connections upstream of the original coliform-positive sample and at least one check sample within five service connections downstream of the original sampling site.

EPA §141.853(a)(5)(i) *General monitoring requirements for all public water systems* states :

(5) Systems must identify repeat monitoring locations in the sample siting plan. Unless the provisions of paragraphs (a)(5)(i) or (a)(5)(ii) of this section are met, the system must collect at least one repeat sample from the sampling tap where the original total coliform-positive sample was taken, and at least one repeat sample at a tap within five service connections upstream and at least one repeat sample at a tap within five service connections downstream of the original sampling site. If a total coliform-positive sample is at the end of the distribution system, or one service connection away from the end of the distribution system, the system must still take all required repeat samples. However, the State may allow an alternative sampling location in lieu of the requirement to collect at least one repeat sample upstream or downstream of the original sampling site. Except as provided for in paragraph (a)(5)(ii) of this section, systems required to conduct triggered source water monitoring under §141.402(a) must take ground water source sample(s) in addition to repeat samples required under this subpart.

(i) Systems may propose repeat monitoring locations to the State that the system believes to be representative of a pathway for contamination of the distribution system. A system may elect to specify either alternative fixed locations or criteria for selecting repeat sampling sites on a situational basis in a standard operating procedure (SOP) in its sample siting plan. The system must design its SOP to focus the repeat samples at locations that best verify and determine the extent of potential contamination of the distribution system area based on specific situations. The State may modify the SOP or require alternative monitoring locations as needed.

EPA is suggesting methods like these to be used, when available, instead of the 5 upstream/downstream requirement which is not science-based. It has been demonstrated by hydraulic modeling (see the attached article featured in AWWA’s May 2013 Issue of *OpFlow Hydraulic Model Improves Contamination Response*) that what was on one day an upstream sample location may be a downstream location on another day, or neither during

different demands and valve operations. Issues associated with smaller system capabilities and PaDEP limitations should not become a disincentive to larger systems. For example, the application of online sensors, hydraulic models, event detection and customer complaint surveillance for water security is providing real benefits for routine system operations and helps utilities better understand water quality issues. Allowing a PWS to determine, in real time, the most likely upstream and downstream sample locations for repeat sampling improves the chances of identifying ongoing contamination and likely causes, and ultimately strengthens public health protection.

**Corrective Action:**

Philadelphia Water strongly recommends that PaDEP adopt the EPA's RTCR suggestion by allowing public water systems utilizing advanced technologies to develop better alternative repeat sampling plans than the 5 upstream/downstream requirement, which never had any demonstrated scientific background.

A PWS that can select, in real time, the most valid upstream and downstream sample location is better able to meet the intent of the rule and strengthen public health protection. Limiting systems from utilizing advanced technologies to better select repeat sampling locations will weaken public health protection. (4)

**Response:**

The Department is not discouraging the use of advanced technology, such as hydraulic models or online sensors, to track and predict changes in water quality. These tools are incredibly useful for the proper operation of distribution systems. The tools can also be used to identify problem areas within the distribution system, which in turn make good locations for routine RTCR sample sites.

The requirement to collect check or repeat samples at a site within 5 service connections up- and down-stream of routine TCR sample sites has been a long-standing requirement of the TCR (since 1989). Therefore, available check sample locations that meet these criteria should be well-established in most water system's sampling plans.

Both the existing regulation and the final regulation recognize that conditions within the distribution system are dynamic; and therefore, the regulations do not require public water systems to identify which sampling location is upstream and which sampling location is downstream. By not requiring systems to specify which sampling location is upstream of the routine site and which is downstream, the regulation ensures that samples are collected on either side of the routine sample location.

Having results available for review from either side of a location testing positive may help systems to determine if the contamination is limited to the connection which tested positive or if a pathway of contamination exists which needs to be identified and eliminated.

The Department does recognize that it may be possible for a location greater than 5 service connections from the routine sample location to better represent a pathway for contamination. Therefore, 109.301(3)(ii)(B) has been revised as follows.

**(B) The system shall collect at least one check sample from the sampling tap where the original total coliform-positive sample was taken[.]. THE SYSTEM SHALL ALSO COLLECT at least one check sample at [a]ANY tap within five service connections upstream of the original coliform-positive sample and at least one check sample AT ANY TAP within five service connections downstream of the original sampling site UNLESS ALTERNATIVE LOCATIONS ARE APPROVED BY THE DEPARTMENT IN ACCORDANCE WITH § 109.701(a)(5) (RELATING TO SITING PLAN).** If a total coliform-positive sample occurs at the end of the distribution system or one service connection away from the end of the distribution system, the water supplier shall collect an additional check sample upstream of the original sample site in lieu of a downstream check sample.

The Department is not allowing the use of an SOP to establish criteria for selecting repeat sample sites on a case-by-case basis. The Department believes that repeat sample sites must be properly documented in the system's sample siting plan in order to ensure appropriate monitoring by the system and allow for proper oversight by the Department. One of the concerns with not specifying where repeat samples should be collected is that systems could purposefully collect repeat samples across town (and away from a localized pathway of contamination) in order to avoid incurring an MCL violation. And the Department would have no way of knowing that this has occurred.

Finally, nothing in this final rule discourages or prevents a water system from using advanced technology to conduct investigations and collect additional special samples when determining the cause and extent of sanitary defects.

#### **6. Comment:**

PaDEP must not limit the use of advanced technology, if it is already available, for selecting repeat sampling locations rather than collecting at least one check sample at a tap within five service connections upstream of the original coliform-positive sample and at least one check sample within five service connections downstream of the original sampling site.

Why alternative repeat monitoring locations should be allowed.

According to EPA's Agreement in Principle (AIP), Total Coliform Rule – Distribution System Federal Advisory Committee (TCRDSAC), pg. 14, 15 the intent is that the RTCR should provide for a more flexible and more protective response. Larger, more complex systems can specify criteria for selecting repeat sampling sites on a situational basis in its standard operating procedures. This SOP should be designed to focus the repeat samples at locations that will best verify and determine the extent of potential contamination of the distribution system area based on specific situations.

Criteria using advanced methods - through an SOP – should be used, if available rather than the 5 upstream/downstream requirement (EPA §141.853(a)(5)(i) General monitoring requirements for all public water systems).

Additionally, in the AIP (pg. 14, 15) the intent of repeat sampling in RTCR is that flexibility in the selection of monitoring locations can provide a public health benefit through specific

targeting for each incident to facilitate the identification of the source and extent of any problem. The intent by EPA and TCRDSAC during RTCR discussion, as described in the previously noted AIP, is for systems to use, if available, more advanced methods for selecting sites on a situational basis through an SOP. If those resources are not available, then collect the 5 upstream/downstream samples.

Alternative repeat monitoring locations are recommended by EPA, and allow a system to select, under certain conditions, the most valid upstream and downstream sample location to meet the intent of the RTCR. This is accomplished by reviewing variables that impact flow and direction of flow in the system such as valve positions, storage areas in service or out of service, and utilizing hydraulic modeling. It has been demonstrated by hydraulic modeling (see the attached article featured in AWWA's May 2013 Issue of OpFlow Hydraulic Model Improves Contamination Response) that what was on one day an upstream sample location may be a downstream location on another day, or neither during different demands and valve operations. Distribution systems are complex and by allowing a system to better determine repeat sample locations improves the chances of identifying any on-going contamination and, therefore, is better protective of public health than the 5 upstream/downstream requirement.

EPA's Agreement in Principle (AIP), Total Coliform Rule – Distribution System Federal Advisory Committee (TCRDSAC) can be found at:

[http://water.epa.gov/lawsregs/rulesregs/sdwa/tcr/upload/2009\\_05\\_01\\_disinfection\\_tcr\\_tcrdsac\\_agreementinprinciple\\_tcrdsac\\_2008-09-18.pdf](http://water.epa.gov/lawsregs/rulesregs/sdwa/tcr/upload/2009_05_01_disinfection_tcr_tcrdsac_agreementinprinciple_tcrdsac_2008-09-18.pdf)

**Corrective Action:**

Philadelphia Water strongly recommends that PaDEP adopt the EPA's RTCR suggestion by allowing public water systems utilizing advanced technologies to develop better alternative repeat sampling plans than the 5 upstream/downstream requirement, which never had any demonstrated scientific background. A PWS that can select, in real time, the most valid upstream and downstream sample location is better able to meet the intent of the rule and strengthen public health protection. Limiting systems from utilizing advanced technologies to better select repeat sampling locations will weaken public health protection. (4)

**Response:**

See response to Comment #5. In addition, the AIP does not carry the force of law or regulation and was not meant to be binding for state development of RTCR regulations.

#### **7. Comment:**

PaDEP must not limit the use of advanced technology, if it is already available, for selecting repeat sampling locations rather than collecting at least one check sample at a tap within five service connections upstream of the original coliform-positive sample and at least one check sample within five service connections downstream of the original sampling site.

PaDEP is incorrectly stating that "the monitoring location represent the pathway for contamination".

Follow-up sampling can't, in and of itself, confirm or deny whether the initial sample was positive or not, or if it was representative of the distribution system because distribution systems are dynamic.

Follow-up sampling is repeat sampling to see if coliform bacteria can still be detected at the sample tap and at two other sample taps. These other alternative sample taps are those that are chosen through advanced technology (i.e. hydraulic modeling) because they best represent the characteristics and direction of the flow that most likely occurred when the initial sample collected was positive.

Additionally, the "location" does not represent a pathway for contamination (see Comment #2); rather it represents the extent of contamination. This language is incorrectly written and is confusing and should be revised to include the extent of contamination, not pathways for contamination. Again, alternative repeat monitoring locations allow systems the ability to best select the most appropriate sample locations for follow-up sampling because they best represent the characteristics and direction of the flow that occurred when the initial sample collected was positive.

For additional information on how hydraulic modeling can improve total coliform response (and proof that it does), see the attached article featured in AWWA's May 2013 Issue of OpFlow Hydraulic Model Improves Contamination Response.

**Corrective Action:**

Philadelphia Water strongly recommends that PaDEP adopt the EPA's RTCR suggestion by allowing public water systems utilizing advanced technologies to develop better alternative repeat sampling plans than the 5 upstream/downstream requirement, which never had any demonstrated scientific background.

A PWS that can select, in real time, the most valid upstream and downstream sample location is better able to meet the intent of the rule and strength public health protection. Limiting systems from utilizing advanced technologies to better select repeat sampling locations will weaken public health protection.

Philadelphia Water requests that PaDEP remove the inaccurate statement regarding the monitoring location representing a pathway for contamination because the language is inaccurate and should be revised to include that the sampling location represents the extent of contamination. (4)

**Response:**

See response to Comment #5. Additionally, the Department cites the first sentence of 40 CFR 141.853(a)(5)(i) as being critical for a water system identifying alternative repeat monitoring locations. That sentence states:

"Systems may propose repeat monitoring locations to the State that the system believes to be representative of a pathway for contamination of the distribution system."

The commenter did not indicate how the use of advanced technology for selecting repeat sampling locations represents the pathway for contamination that led to the original coliform-positive sample.

#### 8. Comment:

PaDEP must not limit the use of advanced technology, if it is already available, for selecting repeat sampling locations rather than collecting at least one check sample at a tap within five service connections upstream of the original coliform-positive sample and at least one check sample within five service connections downstream of the original sampling site.

As noted in the Agreement in Principle, Total Coliform Rule – Distribution System Federal Advisory Committee (TCRDSAC), pg.14, the intent of repeat sampling in RTCR is that flexibility in the selection of monitoring locations can provide a public health benefit through specific targeting for each incident to facilitate the identification of the source and extent of any problem.

Follow-up sampling can't, in and of itself, confirm or deny whether the initial sample was positive or not, or if it was representative of the distribution system because distribution systems are dynamic.

Follow-up sampling is repeat sampling to see if coliform bacteria can still be detected at the sample tap and at two other sample taps. These other alternative sample taps are those that are chosen through advanced technology (i.e. hydraulic modeling) because they best represent the characteristics and direction of the flow that most likely occurred when the initial sample collected was positive.

Specification of criteria for selecting alternative repeat monitoring location on a situational basis through a standard operating procedure should be allowed.

For additional information on how hydraulic modeling can improve total coliform response (and proof that it does), see the attached article featured in AWWA's May 2013 Issue of OpFlow, Hydraulic Model Improves Contamination Response.

#### Corrective Action:

Philadelphia Water strongly recommends that PaDEP adopt the EPA's RTCR suggestion by allowing public water systems utilizing advanced technologies to develop better alternative repeat sampling plans than the 5 upstream/downstream requirement, which never had any demonstrated scientific background.

A PWS that can select, in real time, the most valid upstream and downstream sample location (and not be locked into fixed alternative repeat monitoring locations) is better able to meet the intent of the rule and strength public health protection. Limiting systems from utilizing advanced technologies to better select repeat sampling locations will weaken public health protection. (4)

**Response:**

See responses to Comment #5, #6 and #97.

**9. Comment:**

PaDEP must not limit alternative repeat monitoring locations to only be submitted by a certified operator.

Larger water systems have numerous individuals (environmental scientists, chemists, biologists, engineers, laboratory director, water quality manager, etc.) who are not necessarily certified operators but who have vast experience in distribution system water quality. In many instances, a variety of personnel may be involved in the selection of the alternative repeat monitoring locations, none of whom are “certified operators”, but who are qualified to submit an alternative repeat monitoring location plan.

Therefore, each system should designate these appropriate personnel and submit this list of qualified individuals to PaDEP, which can be reviewed and updated during sanitary surveys.

**Corrective Action:**

Philadelphia Water strongly recommends that PaDEP allow individuals designated by the public water system (and not necessarily “certified operators”) be eligible to submit alternative repeat monitoring location plans because there may be numerous individuals who are not necessarily certified operators but who have vast experience in distribution system water quality and are qualified to submit an alternative repeat monitoring location plan. (4)

**Response:**

The Department has decided not to specify the qualifications of who may request alternative locations. Therefore, any individual representing the water system may request alternative locations.

**10. Comment:**

PaDEP must not limit alternative repeat monitoring locations to only be submitted under the seal of a professional engineer.

Larger water systems have numerous individuals (environmental scientists, chemists, biologists, engineers, laboratory director, water quality manager, etc.) who are not necessarily professional engineers but who have vast experience in distribution system water quality. In many instances, a variety of personnel may be involved in the selection of the alternative repeat monitoring locations, none of whom are “professional engineers”, but who are qualified to submit an alternative repeat monitoring location plan. Therefore, each system should designate these appropriate personnel and submit this list of qualified individuals to PaDEP, which can be reviewed and updated during sanitary surveys.

**Corrective Action:**

Philadelphia Water strongly recommends that PaDEP allow individuals designated by the public water system (and not necessarily “professional engineers”) be eligible to submit alternative repeat monitoring location plans because there may be numerous individuals who are not necessarily professional engineers but who have vast experience in distribution system water quality and are qualified to submit an alternative repeat monitoring location plan. (4)

**Response:**

See response to Comment #9.

**11. Comment:**

PaDEP must not limit the use of advanced technology, if it is already available, for selecting repeat sampling locations rather than collecting at least one check sample at a tap within five service connections upstream of the original coliform-positive sample and at least one check sample within five service connections downstream of the original sampling site.

As noted in the Agreement in Principle, Total Coliform Rule – Distribution System Federal Advisory Committee (TCRDSAC), pg.14, the intent of repeat sampling in RTCR is that flexibility in the selection of monitoring locations can provide a public health benefit through specific targeting for each incident to facilitate the identification of the source and extent of any problem.

There are many progressive, small systems that know their systems well and use advanced technology (i.e. hydraulic modeling) to help better determine alternative repeat monitoring locations. Prohibiting smaller systems from using more advanced technology (compared to the 5 upstream/downstream requirement – which is non-science based) would weaken public health protection.

For additional information on how hydraulic modeling can improve total coliform response (and proof that it does), see the attached article featured in AWWA’s May 2013 Issue of OpFlow, Hydraulic Model Improves Contamination Response.

**Corrective Action:**

Philadelphia Water strongly recommends that PaDEP adopt the EPA’s RTCR suggestion by allowing public water systems utilizing advanced technologies to develop better alternative repeat sampling plans than the 5 upstream/downstream requirement, which never had any demonstrated scientific background.

A PWS that can select, in real time, the most valid upstream and downstream sample location (and not be locked into fixed alternative repeat monitoring locations) is better able to meet the intent of the rule and strengthen public health protection. Limiting systems from utilizing advanced technologies to better select repeat sampling locations will weaken public health protection. (4)

**Response:**

See responses to Comment #5, #6, #9 and #97.

**12. Comment:**

PaDEP (and EPA) do not clearly communicate to water systems which sample(s) dictate where subsequent repeat samples need to be collected.

Consider the following scenario of total coliform results for an initial routine and repeat set that includes a repeat routine sample, and upstream and downstream samples (both collected within 5 service connections):

SAMPLE LOCATION	INITIAL SAMPLE	REPEAT SAMPLE
<i>Upstream</i>	NA	TC-
<i>Routine</i>	TC+	TC-
<i>Downstream</i>	NA	TC+

Under the federal rule as stated in § 141.858(a)(3), water systems must continue collecting repeat samples until all samples within the repeat set are negative for the presence of coliforms. However, does every coliform positive require a set of repeat samples based on the latest positive's location, or is it based on the routine repeat result? For example, when a repeat downstream is total coliform positive and all other repeats are total coliform negative, does the initial routine positive dictate where the repeats are collected or does the new repeat positive dictate where the new repeat samples are collected.

**Corrective Action:**

Philadelphia Water requests that PaDEP clarify which samples dictate where subsequent repeat samples are collected and address repeat sampling when the repeat routine may be negative for coliforms but one or both of the upstream or downstream samples in the repeat set are positive for coliforms. Both the federal and state RTCR do not clearly address this. The intent of revisions to TCR is to improve implementation while maintaining or improving public health protection and distribution system water quality. If the federal and state RTCR do not clearly address the situation when the repeat routine may be negative for coliforms but one or both of the upstream or downstream samples in the repeat set are positive for coliforms, then public health protection will be weakened. (4)

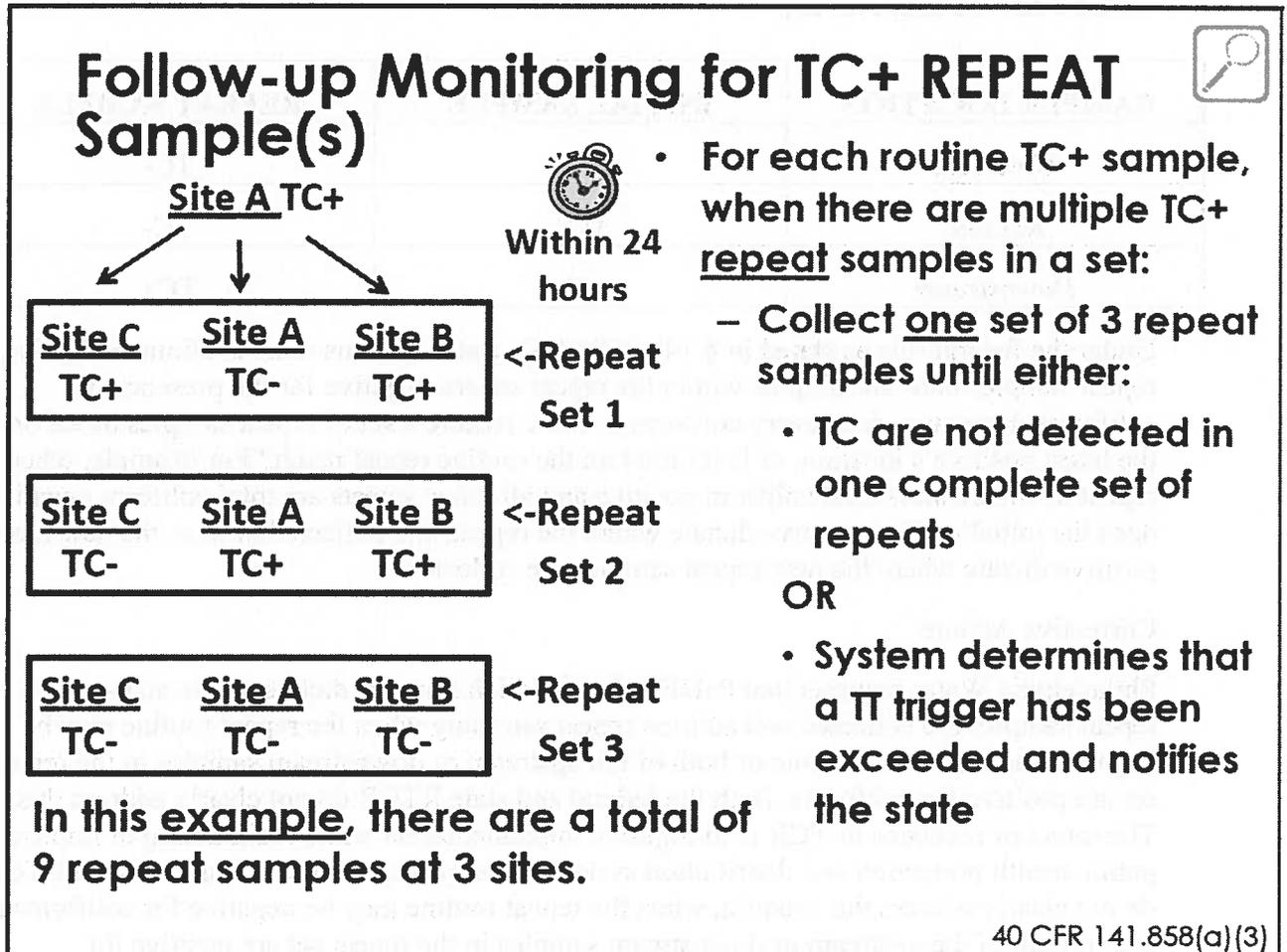
**Response:**

The Department has revised § 109.301(3)(ii)(D) to show that systems must continue to conduct repeat monitoring from the same three locations in the original set of check samples as follows:

**[(E)] (D) At a minimum, the system shall collect one set of check samples for each total coliform-positive routine sample.** If a check sample is total coliform-positive, the

public water system shall collect AN additional SET OF check samples FROM THE SAME LOCATIONS in the manner specified in this subparagraph. The system shall continue to collect ADDITIONAL SETS OF check samples FROM THE SAME LOCATIONS until either total coliforms are not detected in a set of check samples, or the system determines that [the MCL for total coliforms as established under § 109.202(a)(2) has been exceeded and notifies the Department] an assessment has been triggered under § 109.202(c)(4) ~~{and notifies the Department in accordance with § 109.701(a)(9)}~~.

This revision is based on guidance provided by EPA at its webinar on December 3, 2013 as shown in the following illustration:



**13. Comment:**

PaDEP is inconsistent within the federal RTCR and Chapter 109 revisions on the timeframe for collecting repeat samples.

§ 109.301(3)(ii) and § 109.301(3)(ii)(C) do not match. The provision to collect “repeat samples” on the same day doesn’t allow much room for correction. For example, the system, due to various circumstances may be limited to collecting a routine sample later in the day

and closer to the end of business. If results the following day shows the presence of coliform there is a very narrow window for collecting repeat samples on the same day. This could be especially challenging for smaller systems if they are limited on resources on a specific day (ex: sample bottles).

**Corrective Action:**

Philadelphia Water requests PaDEP to remain consistent with the federal RTCR (and throughout Chapter 109) by allowing repeat sampling to be completed within 24 hours, not on the same day. This will provide systems of all sizes enough time to address issues (like limited laboratory resources) for collecting the required set of repeat samples. (4)

**Response:**

Sections 109.301(3)(ii) and 109.301(3)(ii)(C) are consistent with 40 CFR § 141.858(a)(1) and § 141.858(a)(2). Section 141.858(a)(1) specifies that sets of repeat samples must be collected within 24 hours and § 141.858(a)(2) specifies that all samples should be collected on the same day. The Department is preparing a Revised Total Coliform Rule Technical Guidance document to provide additional guidance for staff and water systems. The Department's Revised Total Coliform Rule Technical Guidance document will be made available for a separate comment and response process.

**14. Comment:**

Tier 2 public notification for a single positive E. coli result is inappropriate. Additionally, 1 hour notification to PaDEP of a single E. coli occurrence is inconsistent with the federal requirement of end of the day notification.

E. coli is an indicator of biological contamination, not an indicator of acute contamination. As an indicator species it is not perfect, therefore we can't overreact to a single positive E. coli sample. Years ago, Philadelphia Water experienced this as various samples delivered to the laboratory, at times, represented contamination that was not representative of water within the distribution system but was specific to other characteristics (ex: sample tap, sample collector) (See Drinking Water E. coli Positive Samples during 2003-2006).

After a single positive E. coli occurrence, a system is still investigating and collecting follow up samples and trying to determine if there is a possibility of contamination in the area of the distribution system where the positive has occurred. Within 1 hour of a single positive E. coli occurrence, there is little information to be communicated to PaDEP and therefore little to no action to be taken by PaDEP. How is 1 hour notification justified? A laboratory could report preliminary results to provide an advanced warning, but approved data release could come later. Reporting to PaDEP by the end of the working day or within the same day is fine. Reporting in 1 hour however, interferes with reaction to E. coli positive and provides no addition information on which to act.

Additionally, failure to report a single occurrence of E. coli within 1 hour does not in itself represent a threat to public health, especially since there have been documented cases of E. coli positive samples that did not signal water contamination. EPA in § 141.858(b)(1) E.coli

testing, requires end of day notification to the state. Tier 3 public notification is appropriate for this type of reporting violation and is consistent with other reporting violations that fall under Chapter 109 related to reporting and recordkeeping requirements. Overuse of public notification for issues that do not in themselves signify a public health threat will unnecessarily erode public trust in the water system and could desensitize the public to the importance of notifications if they begin to hear them often for issues that are not truly related to public health.

**Corrective Action:**

Philadelphia Water requests that a requirement to notify PaDEP of a single *E. coli* positive occur by the end of the day, not within 1 hour, because the system is still gathering information about the result after 1 hour.

Philadelphia Water requests to classify failure to notify PaDEP about a single *E. coli* occurrence as a Tier 3 violation. Though Philadelphia Water agrees that the presence of *E. coli* requires investigation, Tier 2 public notification for a single positive *E. coli* sample is inappropriate. This would be overuse of public notification for issues that do not, in themselves, signify a public health threat and will unnecessarily erode public trust in the water system and could desensitize the public to the importance of notifications if they begin to hear them often for issues that are not truly related to public health. (4)

**Response:**

The detection of *E. coli* warrants one hour reporting to the Department and this notification occurs under current regulations at § 109.701(a)(3)(i) or § 109.701(a)(3)(ii). However, there are situations under the RTCR that would not be covered under subparagraphs (i) and (ii); therefore the addition of § 109.701(a)(3)(iv) is necessary. For example, seasonal systems conducting start-up monitoring as required under § 109.301(3)(v) that learn of *E. coli*-positive start-up samples are not required to notify the department under § 109.701(a)(3)(i) or § 109.701(a)(3)(ii). Therefore, § 109.701(a)(3)(iv) is necessary, so that seasonal systems notify the Department in one hour in order to confer with the Department regarding potential steps to take in order to address the *E. coli* results prior to serving water to the public.

Because this violation is a reporting violation, the Department has moved the public notification text from § 109.409(a)(3) to § 109.410(a)(5) as suggested, which makes failure to report an *E. coli* MCL violation or an *E. coli*-positive routine or check sample a Tier 3 violation.

**15. Comment:**

Repeat coliform monitoring locations must be included in sample siting plans.

EPA's RTCR does not lay out specific sample siting plan details except that they should be representative of the water in the distribution system. As referenced in Agreement in Principle, Total Coliform Rule – Distribution System Federal Advisory Committee (TCRDSAC) pg. 15, 16, systems should have the flexibility to propose repeat monitoring locations that may be representative of a pathway for contamination (ex: storage tank) as

opposed to the current requirement of 5 connections upstream and downstream. The RTCR is intended to be an incentive for systems to conduct more monitoring than is required, to investigate potential problems in the distribution system, and use monitoring as a tool to assist in uncovering problems where they exist. Nothing shall preclude a system from taking more than the minimum number of required routine samples and including them in calculating compliance with RTCR, if the samples are taken in accordance with the approved sample siting plan.

**Corrective Action:**

Philadelphia Water strongly recommends that PaDEP allow flexibility in sample siting plans and follow the EPA's RTCR by allowing public water systems utilizing advanced technologies to develop better alternative repeat sampling plans than the non-science based 5 upstream/downstream requirement. (4)

**Response:**

The first sentence of 40 CFR 141.853(a)(5) states:

“Systems must identify repeat monitoring locations in the sample siting plan.”

Further, the EPA provides clarification on page 13 of the September 2014 Interim Final version of *The Revised Total Coliform Rule (RTCR) State Implementation Guidance*. This document states:

“The sample siting plan must contain routine and repeat sampling locations representative of the distribution system, along with the sample collection schedule.”

Regarding additional monitoring, see the response to Comment #20.

**16. Comment:**

16. PaDEP should not require a “certified operator” or “professional engineer” to complete Level 1 and Level 2 assessments.

Larger water systems have numerous individuals (environmental scientists, chemists, biologists, engineers, laboratory director, water quality manager, etc.) who are not necessarily certified operators or certified professional engineers, but who may have vast experience in distribution system water quality.

In many instances, a variety of personnel may be well qualified to conduct an assessment, none of whom are “certified operators” or “professional engineers”, but are qualified to conduct an assessment.

Therefore, each system should designate these appropriate personnel and submit this list of qualified individuals to PaDEP, and in the absence of a “certified operator” or “professional engineer”, these individuals can conduct an assessment. Additionally, personnel such as a laboratory director or water quality manager may not necessarily conduct an assessment, but may oversee and later submit the assessment.

**Corrective Action:**

Philadelphia Water strongly recommends that PaDEP allow individuals designated by the public water system and approved by PaDEP, but not necessarily “certified operators” or “professional engineers”, be eligible to conduct assessments. In many instances, a variety of personnel may be well qualified to conduct an assessment, none of whom are “certified operators” or “professional engineers”, but are qualified to conduct an assessment. (4)

**Response:**

EPA deferred these decisions to the states. Regarding Level 1 assessments, certified operators are not required to conduct these assessments. Section 109.705(b)(3) provides that a Level 1 assessment must be conducted by competent personnel qualified to operate and monitor the water system’s facilities.. Section 109.705(b)(3) ensures that a person with knowledge of the water systems actually conducts the investigation to determine, when possible, the likely reason the assessment was triggered.

Level 2 Assessments provide a more detailed examination of the PWS than a Level 1 Assessment. The Department believes that an appropriately certified operator is the proper qualification for ensuring that a sufficient Level 2 assessment is adequately conducted. The regulation does not prevent other individuals from contributing to the assessment process. In fact, the Department encourages the Assessor to utilize the assistance of other individuals with expertise on various portions of the water system when conducting a Level 2 assessment. For example, an operator who works primarily in the distribution system may be the most appropriate individual to consult when investigating distribution pressures and line breaks. However, an engineer who oversaw the installation of a storage tank may be a key contributor when assessing the integrity from the tank. Other individuals such as geologists and lab analysts are useful when answering source or water quality monitoring questions.

**17. Comment:**

Outside of RTCR treatment technique or E. coli MCL violation, PaDEP should not conduct a Level 1 or Level 2 assessment in addition to the assessment conducted by the public water system.

Provided that PaDEP’s assessment is in the context of RTCR, otherwise if it is outside of that, it should be called something else other than Level 1 or Level 2 assessment to avoid confusion among water systems.

**Corrective Action:**

Philadelphia Water strongly recommends that if PaDEP conducts assessments outside of RTCR that those assessments are not referred to as Level 1 or Level 2 assessments. This will avoid exposing public water systems to unnecessary enforcement actions, public notifications and subsequent remedial action costs. A simple language clarification could avoid these risks as well as make PaDEP enforcement actions far less likely since compliance standards are now clearly articulated. (4)

**Response:**

The Department agrees that assessments conducted by the Department under § 109.705(b)(5) would be in the context of an assessment triggered under § 109.202(c)(4) as provided in § 109.705(b).

**18. Comment:**

§ 109.202(c)(4)(i), (ii), (iii).

Under (iii), CWA disagrees with DEP directing a system to conduct an assessment if other situations outside § 109.701(a)(3)(iii) arise for any particular water quality situation. Assessments are designed to be applied for specific response to Total Coliform and *E. coli* and using assessments otherwise could impart confusion among water suppliers and regulators. While CWA agrees that DEP may have other water quality concerns where other “investigations” may be warranted, these should not be incorporated here or referred to as “assessments” to prevent confusion. (1)

**Response:**

See response to Comment #4. The Department has deleted subparagraph §109.202(c)(4)(iii).

**19. Comment:**

§109.301(3).

The PN requirement as stated is confusing and may not be required for every single *E. coli* positive sample. If a system foregoes *E. coli* testing on a positive total coliform sample, this does not always result in a violation of the MCL. If, for example, this is the original-routine sample, then the system must collect a set of repeat samples prior to making an MCL determination (see §109.301(3)(iv)(A)) relating to compliance determinations. CWA recommends that the language be clarified to say that the sample must be counted as *E. coli* positive and must be used to determine MCL compliance and that DEP must be notified of the positive sample result within 1 hour. (1)

**Response:**

Section 109.301(3) has been revised 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-] *E. coli*-positive. A system which chooses to forego [fecal coliform or] *E. coli* testing shall, under § 109.701(a)(3), notify the

Department within 1 hour after the water system learns of the violation or the situation, and shall provide public notice in accordance with § 109.408 (relating to Tier 1 public notice—categories, timing and delivery of notice) **IF THERE IS A VIOLATION OF THE *E. COLI* MCL AS SET FORTH IN SUBPARAGRAPH (iv).**

**20. Comment:**

§109.301(3)(i)(D)

CWA agrees with DEP in allowing PWSs to collect more than the required number of samples for compliance with the TCR as explained in the sample siting plan. However, CWA recommends that the PWSs be allowed to collect more samples than required in unusual circumstances, such as following positive total coliform samples, when the PWS believes there is reason to collect more samples to ensure public health protection. This flexibility in the sampling site plan should be noted in the PWS's sample siting plan. **(1)**

**Response:**

Additional samples are allowed under §109.301(3)(v), but these special purpose samples are not to be used to determine whether the coliform treatment technique trigger has been exceeded. Further, as these special purpose samples are not used to determine whether the coliform treatment technique trigger has been exceeded, there is no requirement that they be collected in accordance with the sample siting plan. This amendment is consistent with and reflects the federal requirement under 40 CFR 141.853(b).

**21. Comment:**

§109.301(3)(ii)(B)

We concur with DEP for following these EPA revisions in repeat sampling requirements. The current TCR is complicated for smaller systems to determine the appropriate number of repeat samples required. This change clarifies that every positive total coliform sample requires three repeat samples for all PWSs regardless of size.

However, CWA strongly recommends that DEP follow the EPA's revision (refer to 40 CFR § 141.853(a)(5)(i) ) by allowing PWSs to develop alternative repeat sampling plans in addition to utilizing the default +/- 5 upstream/downstream requirements. PWSs should be given flexibility to assess the current situation and then to utilize alternative plans or default to +/- 5 upstream and downstream, whichever is appropriate. PWSs can select, under current conditions, the most valid upstream and downstream sample locations to meet the intent of the rule by reviewing variables that impact flow and direction of flow in the system such as valve positions, storage tank in service or out of service for maintenance, utilizing hydraulic modeling etc. The distribution systems are complex and are not static and the PWS is best able to evaluate the system operation on a real-time basis to select the appropriate repeat sample locations. Allowing a PWS to better determine the repeat sample locations improves the chances of identifying any on-going contamination and, therefore, better protects public health. **(1)**

**Response:**

See responses to Comment #5 and #97.

**22. Comment:**

§109.301(3)(iii)(A)(III)

Invalidation should be used for both total coliform and *E. coli* sample results when contamination is deemed to come from the faucet, sample tap, the internal plumbing system, etc. This determination should be made following discussions between the PWS and DEP.

(1)

**Response:**

Section 109.301(3)(iii)(A)(III) is consistent with the federal rule found in 40 CFR 141.853(c)(1)(ii), which is specific to the invalidation of total coliform samples.

**23. Comment**

§109.301(3)(iv)

CWA supports the MCL determination being based on *E. coli* and also on the MCL determination in clause (A) above. CWA notes that sub-clauses I-IV support CWAs comment above [comment 19] to §109.301(3) when not every *E. coli* positive result generates an MCL violation requiring PN. (1)

**Response**

The Department agrees.

**24. Comment:**

§109.303(a)(2)

CWA agrees with TCR sampling locations that are “representative” of water throughout the distribution system. These samples should be collected at regular intervals throughout the monitoring period, however, CWA advocates that sampling plans be flexible such that the plan allows and supports operational/business efficiencies, customer service demands, special projects and other unusual circumstances such as road closures, inclement weather, icy/snow covered road conditions, flooding events and sampling personnel schedules (e.g. vacation, sick and Holiday time; company required training, etc.). Often times, a PWS may only have 1 person designated as the primary sampler or, in cases of smaller PWSs, the sampling may be done by a certified commercial laboratory that may have limited sampling collection personnel with multiple demands competing for time. Sampling plans, therefore, must be sufficiently flexible, to realistically accommodate for planned, unplanned and unscheduled events. CWS also advocates for written or electronic sample siting plans. (1)

**Response:**

Sampling at regular time intervals is consistent with the federal requirement 40 CFR 141.853(a)(2). If regular time intervals were not required, a system may sample on the first day of one month and the last day of the following month allowing for as many as 60 days between samples (July 2 through August 30 for example).

The Department recognizes that unusual circumstances such as road closures, inclement weather, icy/snow covered road conditions, flooding events and sampling personnel schedules could affect the schedules identified in the sample siting plans. The Department is preparing a Revised Total Coliform Rule Technical Guidance document to provide additional guidance for staff and water systems. The Department's Revised Total Coliform Rule Technical Guidance document will be made available for a separate comment and response process.

**25. Comment:**

§109.409(a)(3).

CWA disagrees with Tier 2 PNs for failure to report an *E. coli*-positive routine sample that does not result in an MCL violation. Since the routine *E. coli* positive sample requires repeat sampling, a failure to report the routine positive sample does not pose risk to public health itself. This should be a Tier 3 Reporting violation, not a Tier 2 violation. CWA suggests that the language be clarified to reflect that this example be a Tier 2 reporting violation to be consistent with the Federal RTCR reporting violations. (1)

**Response:**

The public notification text has been moved from § 109.409(a)(3) to § 109.410(a)(5) as requested, which makes failure to report an *E. coli* MCL violation or an *E. coli*-positive routine or check sample a Tier 3 violation rather than a Tier 2 violation.

**26. Comment**

§109.701(a)(5)

CWA agrees that PWSs should have written or electronic sample siting plans, yet plans need to be flexible to accommodate for business/operational efficiency, customer service, sampling personnel availability and unusual events etc. However, CWA strongly discourages incorporation of clauses (D) and (G) above as they are more stringent than requirements of the Federal RTCR, have no benefit to public health protection, are overly time-consuming and burdensome to PWSs and do not allow for the flexibility needed to assess positive total coliform or *E. coli* results on a case-by-case or situational basis.

The Federal Rule at 40 CFR §141.853(a)(5)(i) states, "Systems may propose repeat monitoring locations to the State that the system believes to be representative of a pathway for contamination of the distribution system. A system may elect to specify either alternative

fixed locations or criteria for selecting repeat sampling sites on a situational basis in a standard operating procedure (SOP) in its sample siting plan.”

For example, CWAs current sample siting plan has 64 routine sampling sites; if CWA must select 2 “fixed” repeat sampling locations for each routine location, then the sample siting plan would contain, at minimum, 192 sampling locations. CWA also notes that simply selecting 2 “fixed” addresses or range of addresses for repeat locations is not sufficient. CWA and other PWSs would need to spend additional time investigating and testing potential sample taps within each premise to find suitable sampling taps to include in the siting plan. In addition, these “fixed” locations may not be reflective of operational flow patterns in the distribution system at the given time when repeat sampling is required. The PWS is better able to select the appropriate repeat sampling locations on a case-by-case basis at the specific point in time to better protect public health and this selection process can be documented in an SOP.

Given that total coliform and *E. coli* positive sample results are not frequently detected under routine conditions, month after month and year after year, it is not appropriate to force all PWSs to exhaust efforts and resources and to absorb the costs of “pre-selecting” repeat monitoring locations that, in actual practice, may never be used or needed. CWS, therefore, recommends that clause (D) not be adopted.

Similarly, clause (G) above is more stringent than the Federal RTCR. Federal RTCR does not require PWSs to identify and document accessibility for routine and repeat monitoring locations in the sample siting plan. Requiring PWSs to pre-determine accessibility of repeat monitoring locations and documenting such in sample siting plans has limited to no value to the PWS. PWSs are accustomed to reviewing system operations and determining accessible repeat monitoring locations on a real-time, as needed bases. CWA recommends that this practice be continued and that clause (G) not be adopted. (1)

**Response:**

See responses to Comment #5, #15, and #97. Regarding the requirement to determine accessibility of sample locations, the accessibility of routine monitoring locations is an existing condition for the Department’s approval of a system’s sample siting plan (per § 109.701(a)(5)(ii)(B)). Determining accessibility of all sample locations is an important component of a sample siting plan in order to appropriately schedule routine sample collection as well as to help determine which of the 5 locations on either side of a routine positive sample may be available within the 24-hour sample collection window.

**27. Comment:**

§ 109.705(b)(3), (4)

The Level 1 assessment should be conducted and approved by persons appropriate within or to the PWS. This person, for example, could be an engineer or water quality person that may not “operate and maintain” the system per se but may have areas of expertise to complete the assessment. The Level 2 assessment does not have to be fully “conducted” by someone meeting the qualifications as other personnel may assist in the assessment, however, the

assessment should be reviewed and approved by this qualified person. CWA recommends that the language be clarified to reflect these comments. (1)

**Response:**

See response to Comment #16.

**28. Comment:**

CWA responses to the Board's request for comments on the following:

“Why alternate repeat monitoring locations should be allowed”

As noted in CWA response [in Comment #21] above, CWA strongly recommends that DEP follow the EPA's revision by allowing PWSs to develop alternative repeat sampling plans in addition to utilizing the default +/- 5 upstream/downstream requirements. PWSs should be given flexibility to assess the current situation and then to utilize alternative plans or default to +/- upstream and downstream, whichever is appropriate. PWSs can select, under current conditions, the most valid upstream and downstream sample locations to meet the intent of the rule by reviewing variables that impact flow and direction of flow in the system such as valve positions, storage tanks in service or out of service for maintenance, utilizing hydraulic modeling etc. The distribution systems are complex and are not static and the PWS is best able to evaluate the system operation on a real-time basis to select the appropriate repeat sampling locations. Allowing a PWS to better determine the repeat sample locations improves the chances of identifying any on-going contamination and, therefore, better protects public health. CWA asks that the Board be mindful that there is a 24 hour time requirement to perform the repeat sampling. To maintain efficiency and to identify potential pathways to contamination, the process of repeat sampling selection should be in the hands of the PWSs, as that process is now. However, CWA does support EPA's requirement to have an SOP, for how a PWS may determine or select a repeat sampling location, included in the PWS sample siting plan.

“How a PWS would demonstrate that an alternative repeat monitoring location represents the pathway for contamination that led to the original coliform-positive sample in the distribution.”

As noted in CWA response [in Comment #21] above, CWA strongly recommends that PWSs be given flexibility to assess the situation and then utilize alternative plans and/or default to +/- 5 upstream and downstream service connections, whichever is appropriate and is best able to identify any pathway to contamination. Both of these options for repeat sample site selection can be documented in an SOP. PWSs can select, under current conditions, the most valid upstream and downstream sample locations to meet the intent of the rule by reviewing variables that impact flow and direction of flow in the system such as valve positions, storage tanks in service or out of service for maintenance, utilizing hydraulic modeling etc. The distribution systems are complex and are not static and the PWS is best able to evaluate the system operation on a real-time basis to select the appropriate repeat sampling locations. Allowing a PWS to better determine the repeat sample locations improves the chances of identifying any on-going contamination and, therefore, better protects public health.

“Whether only fixed alternative repeat monitoring locations should be allowed or if a standard operating procedure for choosing locations may also be allowed and why”

Again as noted in CWA response [in Comment #21] above, CWA strongly recommends that PWSs be given flexibility to assess the situation and then utilize alternative plans and/or default to +/- 5 upstream and downstream service connections, whichever is appropriate to select repeat sampling locations. The Federal rule, 40 CFR §141.853(a)(5)(i), allows for selection of alternate repeat sampling locations via SOP. PWSs can select, under current conditions, the most valid upstream and downstream sample locations to meet the intent of the rule by reviewing variable that impact flow and direction of flow in the system such as valve positions, storage tanks in service or out of service for maintenance, utilizing hydraulic modeling etc. The distribution systems are complex and are not static and the PWS is best able to evaluate the system operation on a real-time basis to select the appropriate repeat sampling locations. Allowing a PWS to better determine the repeat sample locations improves the chances of identifying any on-going contamination and, therefore, better protects public health.

“Whether alternative repeat monitoring locations must be submitted under the signature of a certified operator”

CWA strongly discourages requiring a certified operator to submit the alternative repeat monitoring locations. A “one size fits all” approach is not appropriate for every situation or every system. In many PWSs, the certified operator(s) may only operate the water treatment plant and may have very limited or no knowledge of the distribution system operation and water quality. Similar to the Level 1 assessment comment as noted [in comment #27] above, CWA recommends that alternate repeat sampling locations be submitted and approved by persons appropriate within or to the PWS. This person, for example, could be a sample collector, distribution person, engineer or water quality person, etc. that may not “operate and maintain” the system per se but may have areas of expertise sufficient to complete the assessment. In many instances, a variety of personnel at a PWS may be involved in selection of the repeat monitoring locations and it is possible that none of them are “certified operators”. PWSs should have flexibility and authority in utilizing whatever resources available, including various personnel, to best determine selection of repeat monitoring locations to ensure public health protection.

“Whether alternative repeat monitoring locations must be submitted under the seal of a professional engineer”

CWA strongly discourages requiring a professional engineer to submit the alternative repeat monitoring locations. A “one size fits all” approach is not appropriate for every situation or every system. CWA recommends that alternate repeat sampling locations be submitted and approved by persons appropriate within or to the PWS. PWSs should have flexibility and authority in utilizing whatever resources available, including various personnel, to best determine selection of repeat monitoring locations to ensure public health protection. Requiring a professional engineer to submit alternative repeat sampling locations is not appropriate as not every professional engineer is familiar with distribution hydraulics, operations etc. This requirement would also put unjustified time and financial burdens on PWSs and there may be no benefit to public health by incorporating this.

“Whether alternative locations should only be allowed for systems serving greater than 9,999 people”

As noted in CWA response [in Comment #21] above, CWA strongly recommends that PWSs of all sizes be given flexibility to assess the situation and then utilize alternative plans and/or default to +/- 5 upstream and downstream service connections, whichever is appropriate and is best able to identify any pathway to contamination. PWSs should have flexibility and authority in utilizing whatever resources available, including various personnel, to best determine selection of repeat monitoring locations to ensure public health protection. (1)

**Response:**

See responses to Comment #5, #9, #10, #11, #15 and #97.

**29. Comment:**

Section 109.701(a)(5)(i)(D) is proposed to be added to clarify that repeat coliform monitoring locations must be included in sample siting plans.

The Department does not include, nor does it acknowledge that the federal rule allows flexibility for water systems to utilize an SOP (Standard Operating Procedures) to select repeat monitoring locations. The Department is requiring that repeat monitoring locations be pre-identified, static, and listed in the sampling plan. Specifically, the TAC recommends against this, noting that identifying specific addresses is unworkable for some water systems. Additionally, I had detailed and made apparent in my oral testimony, flexibility as defined in the current federal RTCR is necessary.

The Department and the utility do not benefit by pre-identifying these locations and in fact pre-identification can inhibit utilities from correctly identifying or even searching for the actual potential pathways or failures. By identifying these locations in advance presumes knowledge of all of the water systems' potential operational conditions in advance of any potential Coliform positive event. Additionally, it limits the utility to assess, in real-time, using technology (water system modeling) to assess the factors impacting the system's flow dynamics. For a simplified example, picture a “T” intersection with a pump at one end, a large customer at the far end, and water storage tank on the third leg. The sample location is near the intersection on the leg leading to the tank. If the pump is running to feed the customer and fill the tank the upstream will be on the pump side, the downstream will be on the tank side. However, when the pump is off, the tank will supply the water to the customer and therefore the upstream will be on the tank-leg but the downstream will be on the customer side of the sample location. Consider that the sample might have been collected after business hours (or no usage at the large customer) – and how might that change the up/down stream sample locations. The point is that this is a very simplified example with only three factors - and if the objective is to truly track-down a potential root cause of contamination, then the Department should make provisions in their language to encourage the use of technology and advanced modeling techniques to aid the utilities in meeting the intent of the Federal RTCR. Now if we mentally picture how the majority of distribution systems are laid-out, there are multiple intersections, multiple tanks, pumps, pressure zone boundaries, regulating valves, closed or throttled valves, and other dynamic conditions that

change on an hourly, daily, seasonal or situational basis that will confound efforts to pre-identify the up/downstream locations.

Secondly, identifying up/downstream locations will take time and money that will not be of benefit to the utility. I make this statement based on a few factors. I am required to submit results from 120 compliance Coliform samples per month. One might assume that 50 different locations might be part of the sampling plan to collect these samples from. The PADEP's proposed version of the RTCR will now require that I develop and pre-evaluate a minimum of 500 more sample locations. That is 5-up and 5-downstream locations for each sampling location, and all of this will likely be required to take place during off-hours while customers are home or during hours where a supervisor might grant a utility worker access and accurately respond to their questions. This will take considerable time and cost significant amount of money to accomplish. Additionally, the day after this list is developed it is already obsolete as our utility has no control over the actual conditions at these additional locations. The reason that this is significant is that there are many critical factors involved in selecting a sample location. Any home or business that has any of the following cannot be used as a reliable sampling location: automatic faucets, single handled hot/cold faucets, a softener, a filter or any appurtenance, etc... So, the day after I've identified all 500 (or more) locations and pre-evaluated them, the home owner or business may change one of the above conditions or change fixtures making that an unusable sample location. So with that in mind, I know that every likely sample location must be re-evaluated in the heat-of-the-moment during a total coliform positive event, regardless of whether it was pre-vetted or not.

The solution is to encourage water systems to develop an SOP as part of their plan for selection of condition appropriate up/downstream repeat sample locations. This will enable the utility and the Department to more effectively protect public health via the "find-and-fix" approach referenced in the Federal RTCR. Not providing this flexibility will impede utilities, forcing them to fit a square peg into a round hole, and will cost serious money for little or no return on that investment. (2)

**Response:**

See responses to Comment #5, #15 and #97.

**30. Comment:**

109.303. Sampling Requirements (Section a(2)) The Department needs to include language clarifying "collected at regular intervals throughout the monitoring period".

The Department has verbally expressed that the intent of requiring sample collection schedules as part of the sample siting plan should not be interpreted as limiting or confining for certified external contract labs that collect and analyze coliform samples for many systems nor should it be limiting for medium and larger systems that due to sheer volume of required samples per month, must spread the sample collection evenly through the month. The expressed intent was targeting small systems that are required to collect a single digit number of samples per month – to keep them from collecting on the 30th of the month and then collecting on the 1st of the following month leaving a potential two month window with no samples being collected. Unfortunately the Department has failed to include language to

detail this intent, leaving the interpretation up to local sanitarians who will have no guidance other than what will appear in a future version of Chapter 109. It will be likely that a sanitarian in one district may interpret this language as elastic while another in the next district may interpret it as a legal requirement to collect a specific sample on a specific day. The water system may operate in both districts with and be subjected to wildly different interpretations of the same language – I’ve experienced this first-hand, many times in the past. The language needs to specifically identify the need for schedule flexibility for business and operational needs and efficiencies. Additionally the language must provide flexibility for scheduling changes due to severe inclement weather (snow, ice, flood, and resultant conditions associated), construction projects, holidays, vacations, operational and customer service priorities, personnel issues, and ongoing training.

The solution is for the Department to clarify the language to allow flexibility in scheduling sample collection. (2)

**Response:**

Section 109.303 is consistent with the federal rule at 40 CFR 141.853(a)(1) and (2) and already allows this flexibility. In addition, the Department is preparing a Revised Total Coliform Rule Technical Guidance document to provide additional guidance for staff and water systems. The Department’s Revised Total Coliform Rule Technical Guidance document will be made available for a separate comment and response process.

**31. Comment:**

109.202. State MCLs, MRDLs and treatment technique requirements (Section(c)(4)(iii)) The Department may direct a system to conduct a Level 1 or Level 2 assessment if circumstances exist which may adversely affect drinking water quality including, but not limited to, the situations specified in 109.701(a)(3)(iii)

The Department should not direct systems to conduct ‘assessments’ as defined by the RTCR for reasons unrelated to the RTCR.

The Department already has the authority to conduct or request that a water system conduct investigations into “circumstances that exist which may adversely affect drinking water quality” but those investigations should not be identified as “assessments” as defined in the proposed RTCR. Identifying these other investigations as assessments will lead to confusion for the suppliers, the regulators, and the interactions between the two as these ‘assessments’ are designed for response to coliform positive events. (2)

**Response:**

See response to Comment #4. The Department has deleted proposed subparagraph §109.202(c)(4)(iii) which would have authorized the Department to direct a system to conduct an assessment if circumstances exist which may adversely affect water quality.

**32. Comment:**

109.301. General monitoring requirements Monitoring requirements for coliforms (Section 3) A system which chooses to forego E. coli testing shall, under 109.701(a)(3), notify the Department within one hour after the water system learns of the violation or the situation and shall provide public notice in accordance with 109.408. Similarly, failing to report an E. coli positive routine sample should not generate an automatic Tier 2 violation and subsequent public notification as stated in 109.409. Tier 2 public notices – categories, timing and delivery of notice (a) General violation categories and other situations requiring a Tier 2 public notice (Section a(3))

Not every E. coli positive event is an MCL violation so this language needs to be adjusted accordingly. Additionally, one of the primary drivers for creating the federal RTCR was to eliminate unwarranted, unnecessary, and excessive public notifications, especially for matters that were not related to public health.

For clarification, should a system receive an E. coli positive result on a routine sample, it must notify the Department of the positive result and go collect three more samples (resample, upstream, and downstream). Should any of these samples be positive for E. coli then the water system has violated the MCL for E. coli and needs to inform the Department and issue a public notification as mentioned above. We would suggest that should a system forego E. coli testing on a routine coliform positive sample, it will be counted as an E. coli positive and the system must notify the Department within 1 hour and proceed with the resampling. However, any system that foregoes E. coli testing on any resample following an E. coli positive shall, under 109.701(a)(3), notify the Department within one hour after the water system learns of the violation or the situation and shall provide public notice in accordance with 109.408. We believe the Department has correctly spelled out the compliance criteria in 109.301. General monitoring requirements – Monitoring requirements for coliforms, Compliance determinations Section (Section 3(iv)) and should adjust the above mentioned 109.301. General monitoring requirements Monitoring requirements for coliforms (Section 3) to match – as not every E. coli positive sample result causes an MCL violation, and therefore would only require public notification when the MCL is exceeded. (2)

**Response:**

See responses to Comment #14 and #19.

**33. Comment:**

Response to Questions from the Board

1) Why alternate repeat monitoring locations should be allowed

The York Water Company strongly encourages DEP to allow alternate repeat monitoring locations as stated in the Federal RTCR 40 CFR 141.853 (a)(5)(i). As stated in comment # [29] in this document, water systems should be encouraged to utilize technology and apply the conditions during the sampling event to correctly identify the upstream and downstream locations. Limiting this flexibility will severely inhibit utilities abilities to identify and rectify

any system specific defect or contamination. The flow direction in the distribution system changes regularly and in response to different events such as tanks filling or draining to feed the system, pressure regulating valves and altitude valves diverting water to or from certain areas, pumps running or not, bypass piping or construction related activities, etc... all require that a system evaluate in real-time the hydraulic conditions and choose their repeat monitoring locations accordingly. SOPs to determine the correct alternate repeat monitoring locations that follow the EPA's requirements should be encouraged in PA. (2)

**Response:**

See responses to Comment #5, #15 and #97.

**34. Comment:**

Response to Questions from the Board

2) How a PWS would demonstrate that an alternative repeat monitoring location represents the pathway for contamination that led to the original coliform-positive sample in the distribution system.

As stated in response #1 and in answer #1, The York Water Company believes that utilizing ever advancing technology and system specific information is the only way to correctly identify potential pathways and should therefore be encouraged by the Department. We strongly recommend that water systems be granted the flexibility that we presently have to select the most correct up/downstream sample locations. Please refer to my example in response #1 of how distribution systems change flow directions in even the simplest of arrangements. (2)

**Response:**

See responses to Comment #5, #15 and #97.

**35. Comment:**

Response to Questions from the Board

3) Whether only fixed alternative repeat monitoring locations should be allowed or if a standard operating procedure for choosing locations may also be allowed and why.

The York Water Company strongly encourages the Department to allow SOPs as part of a system's sampling plan for determination of alternative monitoring locations. As stated in response #1, answer #1, and answer #2, we believe that the Department should be encouraging the use of technology (hydraulic modeling software – which is regularly becoming less expensive and more interactive) and system specific conditions (tank filling/draining, pumps on/off, valves open, closed, or throttled, flushing, construction, breaks, etc..) to correctly identify in real-time the appropriate up/downstream repeat monitoring locations. (2)

**Response:**

See responses to Comment #5, #15 and #97.

**36. Comment:**

Response to Questions from the Board

4) Whether alternative repeat monitoring locations must be submitted under the signature of a certified operator.

The York Water Company does not believe that the repeat monitoring locations need to be submitted under the signature of a certified operator. Many certified operators may not have any interaction with the distribution system and therefore less knowledge than another individual in or outside the company. It should be left to the utility to decide who is most qualified within their organization, whether they are an engineer, a water quality person, an operator, a sample collector, a supervisor, or a distribution specialist to submit the sampling plan with alternative repeat monitoring locations. (2)

**Response:**

See response to Comment #9.

**37. Comment:**

Response to Questions from the Board

5) Whether alternative repeat monitoring locations must be submitted under the seal of a professional engineer.

The York Water Company strongly discourages the requiring the services of a professional engineer in order to submit the sampling plan with alternative repeat monitoring locations. One single approach will not work for all systems. Many systems do not employ the services of a professional engineer regularly and the costs associated are unwarranted and potentially burdensome. (2)

**Response:**

See response to Comment #10.

**38. Comment:**

Response to Questions from the Board

6) Whether alternate locations should only be allowed for systems serving greater than 9,999 people.

As noted in response #1, answer #1, #2, and #3, The York Water Company strongly suggests that the Department allow water systems of all sizes to utilize alternate repeat monitoring locations.

Water systems should have the flexibility to determine, in real-time, based upon real-world conditions where the appropriate up/downstream sampling locations should be. Locking in fixed repeat monitoring locations can actually have the opposite impact of that which is desired. It might cause or create an atmosphere where apathy will be accepted because someone created the ‘plan’ and only the specified locations can be used as repeat monitoring locations – even though system conditions may have changed so dramatically that the up and downstream sample locations may no longer be part of the flow-path of a potential contaminant or pathway for contamination. Water systems, regardless of size, need flexibility to utilize all of the tools and resources available in order to properly protect public health.

For a simplified example, picture a “T” intersection with a pump at one end, a large customer at the far end, and water storage tank on the third leg. The sample location is near the intersection on the leg leading to the tank. If the pump is running to feed the customer and fill the tank the upstream will be on the pump side, the downstream will be on the tank side. However, when the pump is off, the tank will supply the water to the customer and therefore the upstream will be on the tank-leg but the downstream will be on the customer side of the sample location. Consider that the sample might have been collected after business hours (or no usage at the large customer) – and how might that change the up/down stream sample locations. The point is that this is a very simplified example with only three factors - and if the objective is to truly track-down a potential root cause of contamination, then the Department should make provisions in their language to encourage all systems to use technology and advanced modeling techniques to aid the utilities in meeting the intent of the Federal RTCR. Now if we mentally picture how the majority of distribution systems are laid-out, there are multiple intersections, multiple tanks, pumps, pressure zone boundaries, regulating valves, closed or throttled valves, and other dynamic conditions that change on an hourly, daily, seasonal or situational basis that will confound efforts to pre-identify the up/downstream locations. (2)

**Response:**

See response to Comment #11.

**39. Comment:**

Pure-Test specifically objects to:

- 1) Interim Final FORM 2: Total Coliform Sample Siting Plan Form Instructions 3930-FM-BSDW0525 Rev. 10/2015 (Page 3) Part 2: Sampling Information D. Sample Interval Description: *Indicate the week of the month that sampling will occur.*
- 2) Interim Final FORM 3: Total Coliform Sample Siting Plan Form Instructions 3930-FM-BSDW0526 Rev. 10/2015 (Page 3) Part 3: Sampling Information D. Sample Interval Description: *These systems should indicate the week of the month in which that day will fall.*

Under the RTCR and the proposed PA rule, Pure-Test will collect samples from more than 400 PWS each month. Forcing labs to collect samples a specific week of each month creates difficult logistics. Pure-Test collects samples in 25 PA counties, including rural areas such as Schuylkill, Perry, Huntingdon, and Somerset. To keep costs low for our customers, Pure-Test tries to group sample collections geographically. The proposal fails to recognize that a given PWS may be inaccessible during the week the siting plan requires a sample collection, due to system maintenance, weather events, or limited access PWS business days or hours. 'PROPOSED RULEMAKING F. Benefits, Costs and Compliance' is not realistic, especially if a lab must go to a rural area a specific week regardless of cost effectiveness. Pure-Test's current standard sample pickup charge is \$12 per PWS, and Total Coliform/E. Coli analysis is \$26. A Transient Noncommunity Water System will see an annual increase of \$304 (at standard rates) from Pure-Test under the RTCR, not \$229.31 as listed in your proposal. This is without considering surcharges for a special trip to accommodate the specific week sampling requirement.

In addition, if the goal of the proposed rule is to bring about 'greater public health protection', the requirement for collecting samples a specific week of the month inhibits that goal; if a PWS knows which week samples will be collected, they may be more likely to make sure that any treatment on their system is working properly during that sampling window, rather than properly maintaining their system throughout the month pending a random sample collection. If the proposal seeks to spread out sample collection from a given system, perhaps it should simply specify that sample collections should be separated by at least 4 days. (3)

**Response:**

Sampling at regular time intervals is consistent with the federal language at 40 CFR 141.853(a)(2). Planning those intervals by identifying a week in the month in which a sample will be collected protects public health by minimizing the days between sample collection. If regular time intervals were not required, a system may sample on the first day of one month and the last day of the following month allowing for as many as 60 days between samples (July 2 through August 30 for example).

Further, § 109.4 requires public water systems to effectively operate and maintain their facilities, including water treatment. Monitoring is only one indication that water systems are complying with § 109.4. Other indications include customer complaints and Department inspections.

Additionally, the Department encourages water systems to contact accredited laboratories to compare costs and to consider other ways to minimize costs such as collecting and delivering samples to the laboratory and maintaining their public water system facilities to help minimize the collection of check samples.

Finally, the Department recognizes that unusual circumstances such as road closures, inclement weather, icy/snow covered road conditions, flooding events and sampling personnel schedules could affect the schedules identified in the sample siting plans. The Department is preparing a Revised Total Coliform Rule Technical Guidance document to provide additional guidance for staff and water systems. The Department's Revised Total

Coliform Rule Technical Guidance document will be made available for a separate comment and response process.

**40. Comment:**

The agency specifically sought comments regarding the proposed change to Chapter 109 (Safe Drinking Water) Section 109.705(b)(2) which requires the public water system company to submitted a contamination assessment form and accounting of corrective actions taken within 30 days to the agency. The agency seeks comments at to submitting these electronically. While the agency no doubt seeks input from water suppliers, as a member of the public I feel that any assessment and accounting forms following a contamination finding should be filed electronically as soon at completed and no longer than 30 days after the contamination is discovered. These reports should be posted on the PA EPA website and should be available for inspection by the public under the Commonwealth's Sunshine Law. As someone who has the unfortunate experience of being sicken by water borne contamination, though not in the Commonwealth, I and others would we keenly interested in seeing the sample results from local public water systems. (5)

**Response:**

The federal rule [40 CFR § 141.859(b)(3)(i) and 141.859(b)(4)(i)] provides water systems 30 days to complete and submit assessments. The intent of allowing electronic submission is to help speed up the beginning of the Department's review of completed assessments. These assessments may contain sensitive information. Accordingly, the release of information contained in an Assessment may be subject to the provisions of the Pennsylvania Right to Know Law (65 P.S. § 67.701.101 *et seq.*). Information concerning sample results for all public water systems is available for review by visiting:  
<http://www.drinkingwater.state.pa.us/dwrs/HTM/Welcome.html>

**41. Comment:**

I fully support the more stringent proposed addition to Section 109.701(a)(3)(iv), that the public water system supplier notify the PA Department of Environmental Protection within one hour following a positive test for E. coli bacteria. This should be applicable to both Tier 1 and Tier 2 (acute E. Coli contamination, more serious than Tier 2) violations. Again, speed in notification will ultimately benefit the public. (5)

**Response:**

The Department appreciates the commentator's support.

**42. Comment:**

Proposed § 109.701(d)(9) instructs that water companies maintain a copy of water assessment forms, corrective action instruments for a least five years. I would further urge that these forms be made available online through the PA EPA website for public

inspection. I would argue that the public should be able to track how their water supplier is performing over a five year period. (5)

**Response:**

See responses to Comment #40.

In addition, community water systems will be required under the consumer confidence requirements to include the following information regarding assessments in their annual consumer confidence report provided to their customers: the number of assessments required and completed; the corrective actions required and completed; the reasons for conducting assessments and corrective actions; and whether the system has failed to complete any required assessments or corrective actions.

**43. Comment:**

The proposed alteration to § 109.301(3)(i)(D) appears to be a sensible, it seeks to prevent water system sampling and then not reporting the location of where the samples were obtained. This proposal states that a system operator may only collect "more than the required minimum amount of samples to be used for compliance during a monitoring period if those samples are included in the sample siting plan." Importantly, "these extra samples must be included in determining whether a Level 1 or Level 2 assessment has been triggered." (5)

**Response:**

The Department appreciates the commentator's support.

**44. Comment:**

I believe the agency correctly neglected to adopt the proposal Section 109.701(a)(3)(iv) from a water system consultant company which recommended that a positive test sampling for E. Coli bacteria be reported to the PA EPA by the end of that day. I think the more sensible course, and one which the agency advocates is that a test positive shall be reported no less than on one hour to the agency. (5)

**Response:**

The Department appreciates the commentator's support.

**45. Comment:**

I oppose the deletion from Section 109.303(a)(2) of "an approved." The deletion will allow public water systems not to seek approval from the agency for their sample siting plan locations. At the present time, public water systems require the agency to sign off on the locations of where sampling will occur. I think the Commonwealth would better served by having the sampling locations be approved by the agency, since their expertise in this area is undoubtedly comprehensive. (5)

**Response:**

The Department intends to review sample siting plans when they are submitted. In addition, the Department intends to review sample siting plans during routine inspections at public water systems. This review process will allow for problems with plans to be identified and fixed.

**46. Comment:**

The Columbia Water Company believes the language in 109.202(c)(4)(iii) allowing PaDEP to require a Level 1 or Level 2 assessment "... if circumstances exist which may adversely affect drinking water quality ..." is too broad and unnecessary. The federal rule meant for these assessments to be used as a tool to address the presence of Total Coliform and E. coli. The proposed language broadens the scope greatly and opens the door for assessments completely unrelated to Total Coliform and E. coli. The other "circumstances which may adversely affect drinking water quality" that would trigger a Level 1 or Level 2 assessment should be defined in this section and should also identify specifically which level of assessment it will trigger. If PaDEP is concerned about other circumstances then they should identify them so that they can be reviewed and discussed. If other specific circumstances are not known at this time, then PaDEP can rely on existing regulations to require investigation and/or assessments to address some future, undefined circumstances. The proposed language goes into great detail defining how and when a Level 1 or Level 2 assessment will be triggered and then effectively erases that language by adding the and-for-any-other -reason language. (6)

**Response:**

The Department has deleted subparagraph §109.202(c)(4)(iii).

**47. Comment:**

The Columbia Water Company believes the language in 109.409 requiring a Tier 2 Public Notice for failure to report a positive E. coli routine sample within one hour as excessive and unnecessary. One of the driving forces behind revisions to the TCR was to eliminate unnecessarily alarming the public. Failure to report the routine positive sample does not pose any risk to public health, and similar to other failure to report violations, it should be classified as a Tier 3 Reporting violation. We believe requiring a Tier 3 public notification for this type of violation is consistent with the Federal RTCR reporting requirements. (6)

**Response:**

See response to Comment #14.

#### 48. Comment:

The Columbia Water Company believes the language in 109.701(a)(5)(D) and (G) requiring the identification of specific repeat monitoring sites and a description of the accessibility of the sample sites will be overly burdensome for water systems and provides no benefit to public health protection, and in fact may jeopardize public health protection. Water systems are dynamic by nature and the direction of flowing water changes constantly based upon water demands, tank levels and treatment methods/locations. Water could be flowing one direction in the morning while a treatment plant is on line and then a different direction in the afternoon if the treatment plant shuts down. The flow direction could change again should a nearby industry start-up a piece of equipment that uses a lot of water or change yet again if a satellite well is placed in service to meet system demands. Requiring water systems to identify the specific locations for check sample locations prevents operators from using real time data to select the best locations for check samples based upon real-time conditions. Further, the long-term suitability of check sample locations is unpredictable especially in residential areas where there is no legal or practical way for water systems to monitor changes in plumbing, fixtures, maintenance or uses by changing residential populations. Great care must be taken to make sure the sample being taken is representative of the water in the water system and is not inadvertently contaminated by the plumbing or fixtures at the sampling locations. Identifying the exact locations for check samples months, or more likely, years before they will be used forces water systems to collect check samples from locations that may have been modified or neglected by homeowners thereby significantly increasing the risk of obtaining false positive result. This situation will cause unnecessary public alarm and cause water systems to expend money addressing a problem that may not be representative of the actual situation. Water systems may be forced to collect check samples from locations that are no longer suitable for collecting samples simply because years early it was required to set fixed check sample locations with no flexibility to make important changes based upon current conditions. We strongly believe that water systems should be given the option of defining the criteria for selecting the repeat sampling sites on a situational basis using a standard operating procedure which is completely consistent with the federal rule. (6)

#### Response:

See responses to Comment #5, #15, #24, #26 and #97.

#### 49. Comment:

Response to questions raised by the Board

Question: *Why alternative repeat monitoring locations should be allowed.*

Response: We believe the state regulation should follow the federal rule (40 CFR §141.853(a)(5)(i)) and allow water systems the flexibility to assess the real-time situation with real-time data in addition to using the default option of +/- 5 upstream/downstream requirement. See our additional discussion on this issue in our detailed comment [#48] above. (6)

**Response:**

See response to Comment #5.

**50. Comment:**

Response to questions raised by the Board

*Question: How a PWS would demonstrate that an alternative repeat monitoring location represents the pathway for contamination that led to the original coliform-positive sample in the distribution system.*

Response: As discussed in our detailed comment [#48] above, water systems are dynamic by their very nature and selecting repeat monitoring locations can only be effective using real-time data. Water suppliers will be able to demonstrate that an alternative repeat monitoring location represents the pathway for contamination that led to the original coliform-positive sample by evaluating and identifying the open/close status of valves, tank levels, pump/treatment run schedules, construction status, system maintenance status and historic time-of-day system demands. (6)

**Response:**

See response to Comment #5.

**51. Comment:**

Response to questions raised by the Board

*Question: Whether only fixed alternative repeat monitoring locations should be allowed or if a standard operation procedure for choosing location may also be allowed and why.*

Response: We believe the state regulation should follow the federal rule (40 CFR § 141.853(a)(5)(i)) and allow water systems the flexibility to assess the real-time situation with real-time data in addition to allowing the default option of +/- 5 upstream/downstream requirement. See our additional discussion on this issue in our detailed comment [#48] above. The federal rule allows for selection of alternative repeat sampling locations by means of standard operation procedure (SOP) and we strongly recommend that the state rule should provide the same flexibility. Fixing check sampling locations months or years before using them would be irresponsible and could cause unnecessary public alarm since the water system would not be afforded the flexibility to address changing circumstances or undesirable changes to plumbing/fixtures which could lead to false positive results. (6)

**Response:**

See response to Comment #5.

**52. Comment:**

Response to questions raised by the Board

Question: *Whether alternative repeat monitoring location must be submitted under the signature of a certified operator.*

Response: We believe it is unnecessary for alternative repeat monitoring location to be submitted under the signature of a certified operator. Many other professionals within or associated with a water system may have the expertise to identify the appropriate alternative repeat monitoring locations including professional engineers, water quality personnel, distribution employees, system managers and consultants. If the approved SOP is followed and the required support data is provided, we strongly believe submitting it under the signature of a certified operator is unnecessary and an overly narrow approach to addressing the situation. (6)

**Response:**

See response to Comment #9.

**53. Comment:**

Response to questions raised by the Board

Question: *Whether alternative repeat monitoring location must be submitted under the seal of a professional engineer.*

Response: We believe it is unnecessary for alternative repeat monitoring location to be submitted under the seal of a professional engineer. Many other professionals within or associated with a water system may have the expertise to identify the appropriate alternative repeat monitoring locations including certified operators, water quality personnel, distribution employees, system managers and consultants. If the approved SOP is followed and the required support data is provided, we strongly believe submitting it under the seal of a professional engineer is unnecessary and an overly narrow approach to addressing the situation. (6)

**Response:**

See response to Comment #10.

**54. Comment:**

Response to questions raised by the Board

Question: *Whether alternative location should only be allowed for systems serving greater than 9,999 people.*

Response: We believe the state regulation should follow the federal rule (40 CFR § 141.853(a)(5)(i)) and allow ALL water systems the flexibility to assess the real-time situation with real-time data in addition to using the default option of +/- 5 upstream/downstream

requirement. See our additional discussion on this issue in our detailed comment [#48] above. If a water system is permitted to operate and is operated by a certified operator, we strongly believe a small water system should be afforded the same responsibilities and privileges as a larger system. Having the qualifications, tools and necessary skills to identify alternative sampling locations has absolutely NO dependence at all upon system size. If small systems are trusted to produce and distribute potable water each and every day to the public, then surely they can be trusted to identify alternative sampling locations using an approved SOP. There is no technical basis for suggesting smaller system would be unable to select alternative sample sites. (6)

**Response:**

See response to Comment #11.

**55. Comment:**

On October 3, 2015, the Pennsylvania Environmental Quality Board published in the *Pennsylvania Bulletin* proposed regulations to amend 25 PA Code, Chapter 109, to add the Revised Total Coliform Rule (RTCR). These regulations are being adopted to increase public health protection through the reduction of sanitary defects that could provide a pathway for entry of fecal contamination into the water distribution system and to maintain primacy enforcement authority for the drinking water program under the Federal Safe Drinking Water Act. The U.S. Environmental Protection Agency (EPA) promulgated the Federal RTCR in 2013 with a compliance date of April 1, 2016.

We have reviewed these proposed regulations and find that these are no less stringent than the Federal regulations. We encourage the Board to finalize these regulations in a timely manner such that implementation and enforcement in Pennsylvania can begin in April 2016 or shortly thereafter, to reduce any confusion on the part of public water suppliers impacted by this rule.

While EPA offers this determination regarding the stringency of the proposed regulations, this determination does not constitute an approval of a primacy program revision. Final approval can only occur after opportunity for public review and/or hearing of the findings of our regional review of the formal program revision submittal from the Pennsylvania Department of Environmental Protection to the EPA Regional Administrator. These materials are due to EPA no later than February 13, 2017. (7)

**Response:**

The Department thanks EPA for its comment.

**56. Comment:**

The Water Works Operators' Association of Pennsylvania (WWOAP) supports the Pennsylvania Department of Environmental Protection's (DEP) efforts to increase public health protection by adopting revisions to the Total Coliform Rule (TCR). WWOAP participated as a member of the DEP's Advisory Committee: the Technical Assistance Center

for Small Drinking Water Systems (TAC) at all meetings during the development of the RTCR regulatory package. (8)

**Response:**

The Department thanks WWOAP for its comment.

**57. Comment:**

WWOAP remains concerned that DEP after substantial input from water industry professionals representing, large, medium, and small water systems and a diversity of system ownership including authorities, investor-owned, municipal and private systems did not adopt the TAC recommendations in the proposed RTCR rulemaking. (8)

**Response:**

The Department considered all comments from TAC during the development of the proposed rulemaking and addressed TAC's comments in the preamble to the proposed rulemaking. In its letter dated October 20<sup>th</sup>, 2014, TAC provided seven comments related to the RTCR. As provided in that letter those recommendations were numbered: #1, #3, #5, #6, #7, #8 and #9. Of those comments, the Department incorporated three recommendations (#3, #7 and #8) into the proposed regulation. Two recommendations (#6 and #9) are better suited for and will be incorporated into guidance. One recommendation (#5) was used as a mechanism for soliciting additional input via the preamble to the proposed rule. Only one recommendation (#1) has not been incorporated by the Department; and the reason is discussed in the response to Comment #14 of this document.

**58. Comment:**

WWOAP finds the language in 109.202(c)(4)(iii) allowing DEP to require a Level 1 or Level 2 assessment "...if circumstances exist which may adversely affect drinking water quality..." to be beyond the intent of the RTCR. The Federal RTCR meant for assessments to be used as a tool to specifically address Total Coliform and E.coli. The proposed regulatory language unnecessarily broadens the scope and intent of assessments. While DEP may have other water quality concerns that warrant investigation, these should not be designated as assessments as defined under the RTCR but remain separate to preclude confusion between water suppliers, regulators, and the public.

Under (iii), WWOAP disagrees with DEP directing a system to conduct an assessment if other situations outside § 109.701(a)(3)(iii) arise for any particular water quality situation. The Federal RTCR proposed Assessments to be used as a tool specifically to respond to Total Coliform and E. coli. The proposed language provides significant detail describing how and when a Level 1 or Level 2 Assessment will be required, but is then negated by "for any other" reason language. Use of Assessments for other purposes will be confusing to water suppliers and regulators. WWOAP agrees that DEP may have other water quality concerns that may warrant "investigations" and that DEP can rely on existing regulations to compel a water supplier to conduct the necessary investigation. (8)

**Response:**

The Department has deleted proposed subparagraph §109.202(c)(4)(iii).

**59. Comment:**

WWOAP finds the language in 109.409 requiring a Tier 2 Public Notice for failure to report a positive E.coli routine sample within one hour is contrary to the intent of the Federal RTCR. One major objective of the Revisions to the Total Coliform Rule was to eliminate alarming the public unnecessarily. The Federal RTCR recognized this objective by requiring a Tier 3 Public Notification. WWOAP urges the EQB to support the change to a Tier 3 Public Notification instead of a Tier 2 Public Notification to be consistent with the intent of the Federal RTCR. (8)

**Response:**

See response to Comment #14.

**60. Comment:**

WWOAP finds the language in 109.701(a)(5)(D) and (G) requiring the identification of specific monitoring sites and a description of the accessibility of the sample sites is unworkable and unduly burdensome to water systems as well as not protective of public health. DEP stated in the Proposed Rulemaking that, "Section 109.701(a)(5)(i)(D) is proposed to be added to clarify that repeat coliform monitoring locations must be included in sample siting plans. This amendment reflects 40 CFR 141.853(a)(1). TAC noted that identifying specific addresses for check samples is unworkable for some water systems. However, this proposed amendment reflects 40 CFR 141.853(a)(1)." WWOAP maintains that, in fact, this requirement will be unworkable for the majority of water systems. WWOAP further believes that DEP failed to provide the regulatory language in 40 CFR 141.853(a)(1) in its entirety for transparency and comparison and that DEP also failed to acknowledge that the Federal rule allows flexibility for water systems to select repeat monitoring locations. Per 40 CFR § 141.853 (a)(5)(i) General Monitoring requirements for all public water systems Sample Siting Plans states, "Systems may propose repeat monitoring locations to the State that the system believes to be representative of a pathway for contamination of the distribution system. A system may elect to specify either alternative fixed locations or criteria for selecting repeat sampling sites on a situational basis in a standard operating procedure (SOP) in its sample siting plan." WWOAP, therefore, would recommend the EQB's re-consideration of the proposed amendment by DEP based on the full citation and intent from 40 CFR. (8)

**Response:**

The citation, 40 CFR 141.853(a)(1), in its entirety is:

"(a) *Sample siting plans.* (1) Systems must develop a written sample siting plan that identifies sampling sites and a sample collection schedule that are representative of water throughout the distribution system not later than March 31, 2016. These plans are subject to

State review and revision. Systems must collect total coliform samples according to the written sample siting plan. Monitoring required by §§ 141.854 through 141.858 may take place at a customer's premise, dedicated sampling station, or other designated compliance sampling location. Routine and repeat sample sites and any sampling points necessary to meet the requirements of subpart S must be reflected in the sampling plan."

The Department believes that the final sentence of 40 CFR 141.853(a)(1) supports the identification of sample sites in a sample siting plan.

For further discussion, refer to the response to Comment #5 and #15.

**61. Comment:**

WVOAP finds that the term "check" is used extensively throughout the proposed regulation to refer to "repeat" monitoring. The term "check" should be replaced consistently with the term "repeat" to conform to the Federal RTCR terminology. Use of the terms "check" and "repeat" interchangeably is confusing for both water systems and regulators. (8)

**Response:**

The regulations consistently refer to "repeat monitoring" when describing monitoring requirements and "check samples" when referring to the type of sample collected when conducting repeat monitoring. For further explanation, see response to Comment #2.

**62. Comment:**

WVOAP is concerned that DEP may not have reviewed and drafted revisions to the Public Notification (PN) and Consumer Confidence Report (CCR) requirements due to the changes created by the RTCR revisions. This review is needed to preclude compliance uncertainty for both the regulated community and the regulators. (8)

**Response:**

CCR content requirements are incorporated by reference per § 109.416(3). The Department agrees the following Tier 3 PN requirements were missed and are being added per the federal regulation to the final rulemaking as follows:

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

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

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

\*\*\*\*\*

**(5) FAILURE TO REPORT AN *E. COLI* MCL VIOLATION OR AN *E. COLI*-POSITIVE ROUTINE OR CHECK SAMPLE AS REQUIRED UNDER § 109.701(a)(3)(iv) (RELATING TO REPORTING AND RECORDKEEPING).**

**(6) FAILURE TO SUBMIT A COMPLETED ASSESSMENT FORM IN ACCORDANCE WITH § 109.701(a)(9)(ii).**

**(7) FAILURE TO SUBMIT CERTIFICATION OF COMPLETION OF A DEPARTMENT-APPROVED START-UP PROCEDURE BY A SEASONAL SYSTEM IN ACCORDANCE WITH § 109.715(e) (RELATING TO SEASONAL SYSTEMS).**

**63. Comment:**

§ 109.301. General monitoring requirements – Monitoring requirements for coliforms (Section 3)

WWOAP Comment: The Public Notification requirement as stated is unclear and may not be required for every single E. coli positive sample. If a system foregoes E. coli testing on a positive total coliform sample, this does not always result in a violation of the MCL. If, for example, this is the original-routine sample, then the system must collect a set of repeat (check) samples prior to making an MCL determination (see §109.301(3)(iv)(A)) relating to compliance determinations. WWOAP recommends that the language be clarified to state that the sample must be counted as an E. coli positive and must be used to determine MCL compliance and that DEP must be notified of the positive sample result within 1 hour. **(8)**

**Response:**

See response to Comment #19.

**64. Comment:**

§ 109.301. General monitoring requirements – Monitoring requirements for coliforms, Frequency (Section 3(i)(D))

WWOAP Comment: WWOAP agrees with DEP in allowing water systems to collect more than the required number of samples for compliance with the TCR as explained in the sample siting plan. However, WWOAP recommends that water systems be allowed to collect more samples than required in unusual circumstances, such as following positive total coliform samples, when a water system believes there is reason to collect more samples to ensure public health protection. This flexibility in the sampling site plan should be noted in the water system's sample siting plan. **(8)**

**Response:**

See response to Comment #20.

**65. Comment:**

§ 109.301. General monitoring requirements – Monitoring requirements for coliforms, Repeat monitoring Section (Section 3(ii)B)

WWOAP Comment: WWOAP concurs with DEP for following the EPA revisions in repeat sampling requirements. The current TCR is complicated for smaller systems to determine the appropriate number of repeat samples required. This RTCR change clarifies that every positive total coliform sample requires three repeat samples for all water systems regardless of water system size. WWOAP, however, strongly recommends that DEP follow the EPA's revision (refer to 40 CFR § 141.853 (a)(5)(i) General Monitoring requirements for all public water systems Sample Siting Plans) by allowing water systems to develop alternative repeat sampling plans in addition to utilizing the default +/- 5 upstream/downstream requirements. Water systems should be given flexibility to assess the current, real-time situation and then to utilize alternative plans or default to +/- 5 upstream and downstream, whichever is appropriate. Water systems can select, under current conditions (frequently using hydraulic models), the most valid upstream and downstream sample locations to meet the intent of the rule by reviewing system dynamics and variables that impact flow volume and direction of flow in the system such as storage tank levels, storage tanks in/out of service, valve positions, system maintenance activities, pump activity, water supply demand, etc. Distribution systems are complex and dynamic and the water systems are best able to evaluate system operation on a real-time basis to select the appropriate repeat sampling locations. Allowing a water system to better determine the repeat sample locations improves the chances of identifying any contamination and/or any sanitary defects, and, therefore, better protect public health. (8)

**Response:**

See responses to Comment #5, #15 and #97.

**66. Comment:**

§ 109.301. General monitoring requirements – Monitoring requirements for coliforms, Invalidation of total coliform samples Section (Section 3(iii)(A)(III))

WWOAP Comment: Invalidation should be used for both total coliform and E. coli sample results when contamination is deemed to come from the sample tap, the internal plumbing system, etc. This determination should be made following discussion between the water system and DEP. (8)

**Response:**

See response to Comment #22.

**67. Comment:**

§ 109.301. General monitoring requirements – Monitoring requirements for coliforms, Compliance determinations Section (Section 3(iv))

WWOAP Comment: WWOAP supports the MCL determination being based on E. coli and also on the MCL determination in clause (A) above. Moreover, WWOAP notes that sub-clauses I-IV support WWOAP's Comment [#63] above to § 109.301. General monitoring requirements – Monitoring requirements for coliforms (Section 3), when not every E. coli positive result generates an MCL violation requiring PN. (8)

**Response:**

See response to Comment #19.

**68. Comment:**

§ 109.303. Sampling requirements (Section a(2))

WWOAP Comment: WWOAP agrees with TCR sampling locations that are “representative” of water throughout the distribution system. These samples should be collected at regular intervals throughout the monitoring period, however, WWOAP advocates that sampling plans need to be flexible to accommodate operational/business efficiencies, particularly for small systems that are dependent on commercial laboratories for sample collection. Small systems will see significant cost increases for sample collection if commercial laboratories cannot continue to collect samples for several small systems on the same date in order to economize on personnel and travel expenses. Sampling plans require flexibility for all water systems due to unusual events such as adverse weather, flooding, road closures, etc. Sampling plans also need to be flexible so that water systems can accommodate sampling personnel schedules including vacations, sick leave, Holidays, etc., since many water systems may have only one designated employee for sample collection, or in the case of small water systems may rely on a commercial laboratory that has multiple water systems' demands competing for sample collection time. (8)

**Response:**

See responses to Comment #24 and #39.

**69. Comment:**

§ 109.409. Tier 2 public notice – categories, timing and delivery of notice (a) General violation categories and other situations requiring a Tier 2 public notice (Section a(3))

WWOAP Comment: WWOAP disagrees with Tier 2 Public Notifications for failure to report an E.coli-positive routine sample that does not result in an MCL violation. Since the routine E. coli positive sample requires repeat (check) sampling, a failure to report the routine positive sample does not pose risk to public health itself. This should be a Tier 3 Reporting violation, not a Tier 2 Reporting violation to be consistent with the Federal RTRC reporting requirements. (8)

**Response:**

See response to Comment #14.

## 70. Comment:

### §109.701. Reporting and recordkeeping - Siting plan (Section a(5))

WWOAP Comment: WWOAP agrees that water systems should have written or electronic sample siting plans that provide flexibility for planned and unplanned circumstances, see WWOAP Comment [#68]. However, WWOAP strongly disagrees with the incorporation of clauses (D) and (G) above and finds they are more stringent than requirements of the Federal RTCR. Clauses (D) and (G) provide no benefit to public health protection are unworkable, overly time-consuming and burdensome to water systems and do not allow for the flexibility needed to assess positive total coliform or E. coli results on a real-time and current situational basis. Clauses (D) and (G) in fact, may jeopardize public health.

The Federal Rule at 40 CFR § 141.853 (a)(5)(i) General Monitoring requirements for all public water systems Sample Siting Plans states, “*Systems may propose repeat monitoring locations to the State that the system believes to be representative of a pathway for contamination of the distribution system. A system may elect to specify either alternative fixed locations or criteria for selecting repeat sampling sites on a situational basis in a standard operating procedure (SOP) in its sample siting plan.*”

WWOAP notes that simply selecting two (2) “fixed” addresses or range of addresses for repeat (check) sample locations is not sufficient. Water systems must spend additional time investigating and testing potential sample taps within each sample site location to find suitable sampling taps to include in the siting plan. However, these “fixed” locations may not reflect operational considerations or the distribution system flow direction at the given time when repeat sampling is required. Water systems can more appropriately select the repeat sampling locations on an as needed basis at the specific point in real-time with due consideration to the operational and/or distribution system dynamics to better identify a contamination issue or sanitary defect and to better protect public health. The water system methodology for the sample site selection process can be documented in an SOP.

It is not cost effective to force all water systems to expend limited funds and resources to “pre-select” repeat monitoring locations that, in actual practice, may never be used or needed. WWOAP therefore, recommends that clause (D) not be adopted.

Similarly, clause (G) above is more stringent than the Federal RTCR. The Federal RTCR does not require water systems to identify and document accessibility for routine or repeat monitoring locations in the sample siting plan. Requiring water systems to pre-determine accessibility of repeat monitoring locations and documenting that information in sample siting plans is an exercise with no value. Water systems need to review current operations, in real-time to properly select routine or repeat monitoring locations, including the availability of appropriate sample taps within a premise location. In the same manner that distribution systems are dynamic, sample site locations are also dynamic with changing occupancy and use. The water system has no control over whether a sample location is closed, not open during the time when a repeat sample is required, whether a resident is home or not home, etc. Water systems are accustomed to reviewing system operations, distribution system dynamics and determining the appropriate, as well as, accessible repeat monitoring locations on a real-time, as needed basis. WWOAP recommends that clause (G) not be adopted and

that water systems be allowed to continue to appropriately select sampling locations that assure public health protection. (8)

**Response:**

See responses to Comment #5, #15, #24, #26 and #97.

**71. Comment:**

§ 109.705. System Evaluations and Assessments (Section b(3),(4))

WVOAP Comment: WVOAP recommends that the language be clarified to state that the Level 1 assessment should be conducted and approved by persons appropriate to the water system. Such persons, for example, could be an engineer, distribution system specialist or water quality specialist that may not “operate or maintain” the system but may have areas of expertise to complete the assessment. Further, that the Level 2 assessment does not have to be fully “conducted” by someone meeting the stated qualifications, but that personnel with expertise may assist in the assessment, providing the assessment is reviewed and approved by the qualified person. (8)

**Response:**

See response to Comment #16.

**72. Comment:**

WVOAP Responses to the Board’s request for Comments on the following Questions:

Question - “Why alternate repeat monitoring locations should be allowed”

WVOAP Response: WVOAP strongly recommends that DEP follow the EPA’s revision (refer to 40 CFR § 141.853 (a)(5)(i) General Monitoring requirements for all public water systems Sample Siting Plans) by allowing water systems to develop alternative repeat sampling plans in addition to utilizing the default +/- 5 upstream/downstream requirements. Water systems should be given flexibility to assess the current, real-time situation and then to utilize alternative plans or default to +/- 5 upstream and downstream, whichever is appropriate. Water systems can select, under current conditions (frequently using hydraulic models), the most valid upstream and downstream sample locations to meet the intent of the rule by reviewing system dynamics and variables that impact flow and direction of flow in the system such as storage tank levels, storage tanks in/out of service, valve positions, system maintenance activities, water supply demand, etc.. Distribution systems are complex and dynamic and the water systems are best able to evaluate system operation on a real-time basis to select the appropriate repeat sampling locations. Allowing a water system to better determine the repeat sample locations improves the chances of identifying any contamination and/or any sanitary defects, and, therefore, better protect public health. The process of repeat sample selection needs to be controlled by water systems on a case by case, real-time basis. WVOAP does support EPA’s requirement that a water system have an SOP for how a water

system determines or selects repeat sample locations, and that the SOP be included in the water system's sampling plan. (8)

**Response:**

See responses to Comment #5, #15 and #97.

**73. Comment:**

WWOAP Responses to the Board's request for Comments on the following Questions:

Question - "How a PWS would demonstrate that an alternative repeat monitoring location represents the pathway for contamination that led to the original coliform-positive sample in the distribution system"

WWOAP Response: WWOAP strongly recommends that water systems be given flexibility to assess the situation and then utilize an alternative plan and/or default to +/- 5 upstream and downstream service connections, whichever is appropriate to the current situation and whichever is best able to identify any contamination or pathway to contamination. Both of these options for repeat sample site selection should be documented in an SOP. Water systems can select, under current conditions, the most valid upstream and downstream sample locations to meet the intent of the rule by reviewing variables that impact distribution system dynamics as discussed in WWOAP Comment [#65]. Allowing a water system to appropriately determine the repeat sample locations significantly improves the chances of identifying any contamination or sanitary defect and, therefore, better protects public health. (8)

**Response:**

See responses to Comment #5, #15 and #97.

**74. Comment:**

WWOAP Responses to the Board's request for Comments on the following Questions:

Question - "Whether only fixed alternative repeat monitoring locations should be allowed or if a standard operating procedure for choosing locations may also be allowed and why"

WWOAP Response: WWOAP references Comment [#65] and the responses to the previous questions. The Federal rule, 40 CFR § 141.853 (a)(5)(i), allows for selection of alternate repeat sampling locations via SOP. (8)

**Response:**

See responses to Comment #5, #15 and #97.

**75. Comment:**

WWOAP Responses to the Board's request for Comments on the following Questions:

Question - "Whether alternative repeat monitoring locations must be submitted under the signature of a certified operator"

WWOAP Response: WWOAP strongly disagrees with requiring a certified operator to submit the alternative repeat monitoring locations. In many water systems, the certified operator may only operate the treatment facility and may have limited to no interaction with distribution system operation and/or water quality control. WWOAP recommends that the determination of alternative repeat monitoring locations be submitted by the personnel deemed qualified by the water system. In many circumstances, a variety of personnel at a water system with different qualifications and expertise may be involved in determining the criteria for repeat monitoring locations and selecting repeat monitoring locations, all of whom may have no "operating" responsibilities, or be certified operators. Water systems need to have the authority and flexibility to determine what personnel are best utilized in making the best selection of repeat monitoring locations that best protect public health. (8)

**Response:**

See response to Comment #9.

**76. Comment:**

WWOAP Responses to the Board's request for Comments on the following Questions:

Question - "Whether alternative repeat monitoring locations must be submitted under the seal of a professional engineer"

WWOAP Response: WWOAP strongly disagrees with requiring a professional engineer to submit the alternative repeat monitoring locations. WWOAP believes that the best interests of public health protection are served when the water systems have the authority and flexibility to utilize the most appropriate personnel to identify repeat alternative sample monitoring locations. Every water system does not have an engineer on staff nor does every engineer have the expertise and distribution system familiarity needed to assess the most valid alternative repeat monitoring site locations. WWOAP recommends that alternate repeat sampling locations be submitted and approved by personnel deemed qualified by the water system. Requiring a professional engineer to submit alternative repeat sampling locations puts unjustified time and financial burdens on water systems with no qualitative benefit to public health. (8)

**Response:**

See response to Comment #10.

**77. Comment:**

WWOAP Responses to the Board's request for Comments on the following Questions:

Question - "Whether alternate locations should only be allowed for systems serving greater than 9,999 people"

WWOAP Response: WWOAP as stated in Comment # [65] and as noted above, strongly recommend that water systems, regardless of size, have the authority and flexibility to assess the real-time situation and then utilize alternative repeat sampling plans and/or default to +/- 5 upstream and downstream service connections, whichever is appropriate and will best identify any contamination and/or any sanitary defect. Water systems should be able to utilize available resources, including personnel with varying expertise, to best determine the selection of repeat monitoring locations to protect public health. (8)

**Response:**

See response to Comment #11.

**78. Comment:**

PA DEP: 109.301(3)(ii)(E) A community water system serving 1,000 people or fewer or a noncommunity water system may be required to begin monitoring on an alternate schedule established by the Department. This determination will be made based on the results of a special monitoring evaluation performed during a sanitary survey. The system shall continue monitoring on the alternate schedule until otherwise notified by the Department.

LCA: The summary of regulatory requirements notes that this proposed addition reflects 40 CRF 141.854(c)(2), however this is what is written in 40 CFR, § 141.854 *Routine monitoring requirements for non-community water systems serving 1,000 or fewer people using only ground water*. As you can see, the federal regulation does not apply to community water systems. We suggest the federal rule be followed. (9)

**Response:**

This language is consistent with the federal language for community water systems. The Department inadvertently missed providing the additional federal citation that applies to community water systems serving 1,000 people or fewer. The federal citation that should have been included as part of this reference is: 40 CFR 141.855(c)(2).

**79. Comment:**

PA DEP: 109.701(a)(5) Siting Plan.

LCA: There is no mention of flexibility or allowing a standard operating procedure to determine the best location for check samples. In large water systems with multiple sources and storage facilities, the most representative upstream and downstream sample locations may not be as simple as counting five connections on either side of the original sample site. The federal rule allows the states to accept alternate repeat sample locations. We urge PA

DEP to grant water suppliers this option, if they have the capability *to best verify and determine the extent of potential contamination of the distribution system area based on specific situations (from 141.853(a)(5)(i)). (9)*

**Response:**

See responses to Comment #5, #15, #24, #26 and #97.

**80. Comment:**

Response to EQB Questions

**Why alternative repeat monitoring locations should be allowed.**

We are in favor of plan flexibility, including the use of an SOP. We support the utilization of available technology to determine the most representative check sample locations for larger water systems with more complex distribution systems. (9)

**Response:**

See responses to Comment #5, #15 and #97.

**81. Comment:**

Response to EQB Questions

**How a PWS would demonstrate that an alternative repeat monitoring location represents the pathway for contamination that led to the original coliform-positive sample in the distribution system.**

LCA: Proof would be a positive check sample or data that demonstrate a compromised system at the collection time of the positive sample. (9)

**Response:**

The Department appreciates the commentator's response.

**82. Comment:**

Response to EQB Questions

**Whether only fixed alternative repeat monitoring locations should be allowed or if a standard operating procedure for choosing locations may also be allowed and why.**

LCA: We believe a standard operating procedure should be allowed for repeat monitoring location selection. It would allow the flexibility needed by suppliers to find the most representative sample site locations. (9)

**Response:**

See responses to Comment #5, #15 and #97.

**83. Comment:**

Response to EQB Questions

**Whether alternative repeat monitoring locations must be submitted under the signature of a certified operator.**

LCA: We suggest a qualified system official typically responsible for ensuring the proper collection of samples. That person could be an operator, system manager, engineer, laboratory manager or quality manager. (9)

**Response:**

See response to Comment #9.

**84. Comment:**

Response to EQB Questions - Whether alternative repeat monitoring locations must be submitted under the seal of a professional engineer.

LCA: No, we do not believe this is necessary. However, if a system has the resources, a PE's seal of approval would be a plus. In addition, if a system has a model, undoubtedly engineers were involved with the creation and use of the model. In essence, their approval has already been given for the accuracy of the model. (9)

**Response:**

The Department appreciates the commentator's response. See response to Comment #10.

**85. Comment:**

Response to EQB Questions - Whether alternative locations should only be allowed for systems serving greater than 9,999 people.

LCA: Perhaps a limitation isn't needed. Logic dictates that larger systems would have the reason—complex distribution systems—and the resources to obtain technology to assist in the selection of best possible locations to collect repeat samples which may be out of the realm of the typical 5 upstream/5 downstream locations. These samples would be alternate repeat sample locations. (9)

**Response:**

The Department appreciates the commentator's response. See response to Comment #11.

**86. Comment:**

Response to EQB Questions - Electronic reporting of assessment forms

Section 109.705(b)(2) is proposed to be replaced with language requiring a PWS to complete a Level 1 or a Level 2 assessment and submit it to the Department within 30 days of triggering the assessment. This proposed amendment reflects 40 CFR 141.859(b)(3)(i). The Board would like to receive comments regarding interest in submitting these forms electronically.

LCA: Electronic submission of assessment forms would be preferred because it can speed up the process and provide easy access to data for all parties. Greenport is fast becoming a much utilized vehicle for managing data requiring submission to the Department. Adding the assessment forms through Greenport seems like a logical decision that would allow for efficient tracking. (9)

**Response:**

The Department appreciates the commentator's response.

**87. Comment:**

Comments on Regulatory Analysis Form, Paragraph 9. Should be amended to include reference to the FDA Final Coliform Rule as the FDA has expressed its intent that certain portions of the Rule, specifically Sec.165.110(b)(2), Preempts state regulations for bottled water. (10)

**Response:**

The Food and Drug Administration regulations do not preempt the Department from regulating bottled water systems in the manner set forth in these regulations. As noted in testimony presented to a Congressional Subcommittee by a Deputy Commissioner of the FDA, “[i]n addition to FDA, state and local governments also regulate bottled water. FDA relies on state and local government agencies to approve water sources for safety and sanitary quality, as specified in [21 CFR] 129.3(a).” See Statement of Joshua M. Sharfstein, M.D., Principal Deputy Commissioner of Food and Drugs, Food and Drug Administration before the Subcommittee on Oversight and Investigations of the House Committee on Energy and Commerce, July 8, 2009. The cited regulation, 21 CFR 129.3(a), provides that an “[a]pproved source . . . means a source of water and the water therefrom , , , that has been inspected and the water sampled, analyzed, and found to be of a safe and sanitary quality according to applicable laws and regulations of State and local government jurisdictions having jurisdiction.” The Department has, over the years, worked closely with the FDA and the Pennsylvania Department of Agriculture in the administration and enforcement of laws and regulations relating to the provision of bottled water.

The Pennsylvania Safe Drinking Water Act, 35 P.S. 721.1 *et seq.*, authorizes the Department to regulate public water systems within the Commonwealth. The Act defines a “public water system” as including “a system which provides water for bottling or bulk hauling for human

consumption.” As stated in the Preamble to the April 24, 1999 Permit by Rule for Bottled Water Systems, systems providing water for bottling include:

1. Bottled water systems, which provide water for bottling in sealed containers.
2. Vended water systems, which provide water for bottling through the use of water vending machines.
3. Retail water facilities which provide water for bottling by dispensing, at a store, unit servings of water in a customer’s or the system’s containers.

See 29 Pa.B. 2231 (April 24, 1999).

Bottled water is regulated at the Federal level as a food product by the Food and Drug Administration (FDA) under the Federal Food, Drug and Cosmetic Act (FFDCA) (21 U.S.C.A. §§ 301 – 397). The FDA requirements applicable to bottled water include: food adulteration and misbranding provisions, general food and specific Current Good Manufacturing Practice (CGMP) regulations and standards of identity and quality for bottled water. *Id.*

**88. Comment:**

Comments on Regulatory Analysis Form, Paragraph 12. Appears inconsistent when applied to the bottled water industry. No other state is required to adopt the RTCR for the bottled water industry. (10)

**Response:**

Bottled water is regulated differently in each state. In Pennsylvania, bottled water is regulated under the Safe Drinking Water Act. See response to Comment #87.

**89. Comment:**

Comments on Regulatory Analysis Form, Paragraph 14. Please note that the bottled water industry is not represented at the TAC Board. (10)

**Response:**

So noted. The make-up of the TAC Board was established by law. The Board is organized pursuant to the Pennsylvania Small Water Systems Assistance Act (35 P.S. § 724.6). The TAC Board allowed, and actively solicited, comments from members of the public that attended the meetings. The dates, agendas and supplemental materials for each meeting are posted on DEP’s website at the following link and in accordance with Sunshine Act requirements.

[http://www.dep.pa.gov/PublicParticipation/AdvisoryCommittees/WaterAdvisory/TAC/Pages/default.aspx#.Vry\\_FfMo69K](http://www.dep.pa.gov/PublicParticipation/AdvisoryCommittees/WaterAdvisory/TAC/Pages/default.aspx#.Vry_FfMo69K)

**90. Comment:**

Comments on Regulatory Analysis Form, Paragraph 15. The NAICS Code for Bottled Water is 312112, and the definition is 500 employees. (10)

**Response:**

The Department acknowledges this comment.

**91. Comment:**

Comments on Revisions to Subchapter J

Generally, the department inadvertently cites 40 CFR 141 et al. as a federal mandate for the regulation of bottled water. Since FDA sets the regulatory mandates for bottled water, the reference would likely be 21 CFR 165 or 210. (10)

**Response:**

See response to Comment #87.

**92. Comment:**

Comments on Revisions to Subchapter J

Specifically, Section 109.1003 (a)(1) should be amended to be consistent with the FDA's preemptive language for bottled water systems. Entry point sampling, currently interpreted by the department as at the filler; is not the same as a representative sample of primary containers of product. See generally 165.110(b)(2) (10)

**Response:**

The definition of an entry point for bottled water systems is not the subject of this rulemaking. Section 109.1003(b)(1)(i) of the regulations states that "[f]or bottled water systems, each entry point means each finished bottled water product." This provision has been in effect since at least 1992. No amendments or changes to Section 109.1003(b)(1)(i) were proposed during this rulemaking.

**93. Comment:**

Comments on Revisions to Subchapter J. Section 109.1003(a)(3) appears to be inconsistent with FDA regulations. (10)

**Response:**

Section 109.1003(a)(3) is consistent with 40 CFR Part 141, Subpart Y. In addition, see the response to Comment #87.

**94. Comment:**

Comments on Revisions to Subchapter J

109.1008(g) perhaps the Department would consider including licensed Geologists, engineers and hydrogeologists to perform assessments, particularly as it relates to watershed evaluations and source construction and protection. Experience indicates these fields of expertise provide the best insight into risk and failure in these two areas. NSF and related entities provide second to none value in the facility operation and sanitation arenas. (10)

**Response:**

Section 109.1008(g) establishes the minimum requirement for conducting assessments. As noted in the response to Comment #16, public water systems are encouraged to have other knowledgeable persons assist in completion of assessments.

**95. Comment:**

Background and Purpose Section (Section D)

In this section of the Preamble, DEP includes “the lack of a disinfection residual” as a sanitary defect, referencing the EPA RTCR Assessment and Corrective Action Manual. However, the referenced manual does not identify lack of disinfection residual alone as being a pathway for contamination, which is the requirement for a sanitary defect. Aqua recommends that this inaccurate language be corrected or deleted. (11)

**Response:**

See response to Comment #1.

**96. Comment:**

Alternative Repeat Sample Locations

Consistent with the TAC recommendation, Aqua believes that alternative sites should be allowed when selecting repeat sample locations. Having specific repeat/check samples locations identified in advance for each routine TCR site ignores the practical realities of collecting bacteriological samples in many water systems. Having alternative check sample locations provides the flexibility that water systems need to adequately comply with the RTCR.

Because no two water systems are exactly alike, the Revised Total Coliform Rule should allow a range of options to account for those variations and for the possibility of unusual circumstances that might affect compliance sampling.

Justifications for allowing flexibility include two major themes; logistics and hydraulics:

### Logistics

- Specific conditions on a given day. Things change. Because most TCR samples are negative for coliform bacteria, chances are high that check samples would be needed infrequently at a given location. Plans that were made initially might have changed in the months or years since they were developed.
- Access to sample location. In the case of distribution system samples, many of the coliform samples are collected on private property. Unlike municipal water systems, Aqua is a private water company, without special access to public buildings such as libraries, fire houses, police stations, etc. In systems with little or no commercial structures, water samples are often collected at private homes. This makes for the possibility of complicated access to the home or hose bib at a private residence.
- Homes are sold and agreements with a homeowner may not be known to a new homeowner.
- Treatment, such as a softener or filter, could be installed a homeowner.
- Plumbing fixtures or pipe within the premise could be changed without the knowledge of the water system. Although treatment devices and/or plumbing modification has the potential to affect coliform samples, homeowners are under no obligation to inform the water utility.

### Hydraulic flow considerations

- Because of the dynamic nature of water distribution systems, flow in a given pipe is not always consistent. The filling or draining of storage tanks, valve operations, main breaks, maintenance of valves, use of hydrants, alternate water sources and flow rates, etc. all affect the flow of water in a given length of pipe. What is considered “upstream” one day may actually be “downstream” on another day or set of conditions. A distribution sample point near a tee might flow one way on a given day, and the other the next. The water system needs the flexibility in check sample locations to allow for the possibility of changing conditions.
- Some of the hydraulic features to be considered are under the control of the water system. However, for a larger utility, coordination between departments may be relevant so that routine maintenance or inspection does not alter flow in the area of check sample locations.
- Some hydraulic features, such as the operation of storage tanks and pressure zones, may have a direct impact on the collection of repeat samples. Tanks that are draining during a certain time of the day may be filling while check samples are being collected. Being locked into fixed check sample sites would not allow the flexibility that is needed to collect appropriate repeat samples.

These provisions for alternative repeat sample locations should extend to systems of all sizes- not just for systems serving greater than 9,999 people. **(11)**

**Response:**

See responses to Comment #5, #6, #11 and # 85.

**97. Comment:**

**Use of Standard Operating Procedure for Selection of Repeat Sample Locations**

A requirement for the use of only fixed repeat sample sites ignores the practical realities of water system operation. Having alternative methods to define repeat sample locations provides the flexibility that water systems need to adequately comply with the RTCR. Justifications for allowing flexibility include two major themes: logistics and hydraulics. An SOP approach represents a scenario that best demonstrates an ability to seek pathways for contamination. Reliance only on fixed repeat sample locations would ignore the possibility of variation in operations and/or customer base.

It has been Aqua's experience that the predefined locations are rarely available the day they are needed. Utilizing an SOP for identifying repeat sample locations as they are needed reduces the burden of identifying and maintaining fixed repeat sample locations for all sample points. Most locations are not likely to ever require a set of repeat samples. While Aqua has historically defined repeat locations, we have found that more often than not, we had to follow the criteria below to identify a new point. This is particularly true for samples in a residential community where most people are at work during the day.

Aqua recommends that the Department allow the use of an SOP to assist with the selection of sample locations, including repeat sample locations that are supposed to represent a "pathway for contamination." Such an SOP developed by the water system would allow staff to use their professional judgement to determine appropriate sample sites for repeat samples. For example, water utility personnel could consider the following items when confronted with the need for collecting check samples.

Criteria for Selection of Repeat Sample Locations

- Site-specific information from sample person in the field
- Confirmation that site is a customer and is on an appropriate length of pipe relative to the Total Coliform positive site.
- Configuration of pipes after review of GIS / plate book
- Confirmation that the customer has been contacted and has approved collection of sample(s)
- Information on treatment within site; do not select sites with any type of treatment within the premise (filter, softener, etc.)
- Direction of flow / hydraulics of system in the area
- Proximity to dead end(s)

- Proximity to storage tank(s)
- Pressure zone(s)
- Access to potential sites
- Sanitary conditions of site and tap.
- Preference for single tap served by cold water only; preference to avoid blended taps (hot & cold water flowing through the same spigot)
- Avoid leaky faucet.
- Preference to avoid outside hose bibs (11)

**Response:**

See response to Comment #5. In addition, the Department agrees that all of the listed items are important when selecting an adequate tap for repeat monitoring. The Department encourages systems to provide a range of available sample locations within 5 service locations on either side of the routine location. Then, when faced with collecting check samples, the system should employ an SOP as outlined above in selecting from the available range listed in the sample siting plan. The Department intends to add these recommendations to the RTCR Technical Guidance document.

It should also be noted that because a system only has 24 hours in which to conduct repeat monitoring, the advanced planning required to identify locations within 5 service connections on either side of the routine sample in the sample siting plan helps for that deadline to be met.

**98. Comment:**

**Qualifications for Submitting Alternative Sample Locations**

The Department requested comment on whether alternative repeat monitoring locations must be submitted under the signature of either a certified operator or professional engineer.

Aqua recommends that the Department allow for flexibility by not requiring that either a certified operator or PE must sign a submittal to DEP. Although Aqua is blessed with many certified operators and a number of Professional Engineers on staff, the same is not true for all water systems. Many smaller water systems may not have access to such personnel on a daily basis. Aqua recommends that the Department allow qualified people to submit plans for alternative sample locations but not require specific accreditation, such as being a certified operator or PE.

Aqua has had many meetings to discuss the RTCR and distribution system issues over the last few years. While people attending those meetings have a variety of backgrounds and areas of expertise, some of the people that are most knowledgeable about these systems do not hold either a PE or operator license.

Although the possibility of allowing a person that is “acceptable to the Department” or by “competent personnel” may make it more difficult for DEP to implement, that provision appears to be consistent with existing rules and/or guidance. (11)

**Response:**

See responses to Comment #9 and #10.

**99. Comment:**

**Electronic Submission of Level 1 and Level 2 Assessments**

In general, Aqua supports the concept of electronic reporting. The assessment forms will need to be uploaded in a convenient format. This format or DEP form needs to be accessible to a wide variety of water systems as well as to appropriate personnel within DEP. However, we have questions with the intent of the electronic reporting. The Department should provide an explanation as to the purpose of electronic reporting. Is the purpose to provide easy upload for the water systems, easy review by the regional offices, or to provide public information available to anyone?

Aqua feels that the Level 1 and 2 assessments should not be made publically available since there are likely to be security-sensitive topics detailed in the assessments. Our feeling is that the assessments should be made available to anyone in the Department that needs to know the content. The Department should then have the ability to review, critique, and document that the assessment took place within the prescribed time frame.

Details of the assessment, however, should remain confidential and would not be made generally available. For security reasons, it is important that exact locations of valves, size of pipes, sample locations, pressure zones, well stations, interconnects, production facilities and monitoring schedules would remain out of the public domain. (11)

**Response:**

The Department appreciates the commentator’s response. In addition, regarding sensitive information, see the response to Comment #40.

**100. Comment:**

**Public Notices**

As mentioned in our General Comments, Aqua is concerned with the overuse of Public Notices in Pennsylvania for issues that are not in themselves a public health threat. These notices are apparently meant to be punitive to water systems, but they result in the erosion of trust by consumers in the drinking water quality. This erosion of trust is not just limited to a few water systems, but to the entire drinking water community, including the regulatory agencies. An example is here in this proposal: §109.409(a)(3) is requiring a Tier 2 (30 day) Public Notice for a failure to report a single occurrence of a positive E.coli result within 1 hour to the state. A single occurrence of an E.coli result, absent a preceding or subsequent

total coliform result is not a Safe Drinking Water Act violation. DEP is requiring water systems to inform the state within 1 hour of an event that is not a violation, with no explanation of why it is necessary. What is DEP going to do with this information other than tell the utility what it is already required to be doing? This has the potential to distract the water system from its own investigation and follow up. In addition, this could result in public notices that erode the public's confidence in their water supply. By contrast, the federal rule allows for notification by the end of the day. We recommend DEP follow the federal requirements for E.coli notification. (11)

**Response:**

See response to Comment #14.

**101. Comment:**

**Sample Site Plans - Section 109.701(a)(5)**

The proposed regulation requires that sampling site plans include higher level of detail than required by the federal RTRC which will significantly increase the burden of implementing and administering this regulation. In addition to revising all sampling site plans to be representative of water throughout the distribution systems per the federal rule, the proposed rule requires PWS to identify all repeat samples on the sample site plans instead of developing a Standard Operating Procedure (SOP) as allowed by the federal rule [40CFR 141.853(a)(5)(i)]. This requirement triples the amount of work required to field survey, identify and validate new sample locations. In addition the proposed rule requires that the PWS provide a description of the accessibility of all sampling sites and a sampling schedule. Suez Water proposes that these items should be addressed through the submittal of an SOP along with the sample site plan which identifies all routine sampling locations. This SOP would identify how repeat samples and alternate repeat sample locations are selected, standards for sampling accessibility, and an explanation of the sample collection schedule.

To give an example of how the proposed regulations create an unnecessary administrative burden, in the Suez Water's Harrisburg System we are required to take 100 samples per month. Since the proposed regulation allows for sample locations to be sampled more than once in a month we currently have 50 sample locations on the proposed RTRC. If we are required to identify the upstream and downstream repeat sample locations for each routine sample location it will triple the number of sample locations that must be located, verified and submitted to by DEP. Each sampling location must be carefully selected and inspected to verify reliable sampling taps and determine accessibility. This is a very time consuming process for a sample location that has a low probability of ever being used. For this one system alone we will be required to maintain a sampling plan with a total of 150 sample locations and each time there is a change due to accessibility we will have to submit a revised sampling plan to DEP. This proposed change will increase both the PWS and DEP's administrative burden for sampling locations burden three fold.

An analysis of the TCR data for the Suez Water Harrisburg system from 2010 through 2014 demonstrated that out of 6,000 required total coliform samples only 19 or 0.32% of the samples were positive for bacti and none of these samples were E.coli positive. This data

demonstrates that the frequency, in which repeat sample locations must be identified, approximately a few times a year, lends itself to an SOP approach rather than detailed sampling location plan that would have a high likelihood of being out of date by the time the sampling location is needed.

An SOP approach is more efficient for both the PWS and the DEP as it would clearly identify the standards for selecting repeat sampling locations while allowing the PWS the flexibility to use to choose the most representative sites available at the point in time that the repeat samples are needed. The SOP would also identify the schedule for collecting routine samples and standards for sampling accessibility. Finally sampling site plans must be flexible and may need to be updated frequently. Therefore, we recommend that the sampling site plans be kept in electronic format to prevent the need to distribute multiple copies of the plan and create unnecessary waste. In addition, we recommend that the word "available" should remain in the regulation language regarding check sample locations, Section 109.701(a)(5).

Finally any necessary changes made to DWELR to make accommodations for this new rule should not impact existing three digit sample site IDs. Maintaining current sample site IDs is necessary for consistent recordkeeping and analyzing historical data (12)

**Response:**

See responses to Comment #5, #15, #24, #26 and #97.

**102. Comment:**

Alternate Repeat Sample Locations - Preamble Section I.

As recommended by TAC, we concur that DEP should allow alternate repeat sample locations. Alternate repeat sample locations will allow for more representative repeat sampling plans than the 5 upstream/downstream requirement. As stated in TACs comments, the 5 upstream/downstream rule never had any scientific background and many PWS's have the ability to use technically valid approaches such as hydraulic modeling to identify the most representative sampling location based on real time operation of the system. These tools available to PWS would be able demonstrate that the alternate repeat monitoring location is representative the area of the distribution systems that led to the original coliform-positive sample. Suez Water does not recommend that the submittal of SOPs for alternate repeat monitoring be certified by a professional engineer or a certified operator as the PWS should have the ability to assign their own designee for these situations.

Suez Water proposes that a SOP should be used to identify the location of repeat samples as well as alternate repeat sample locations as needed. An SOP as allowed by the federal rule [40CFR 141.853(a)(5)(i)] will provide a sound framework for public water systems to comply with RTCR without dramatically increasing the time spent on developing sampling sites plans and administrative burden for maintaining these plans. (12)

**Response:**

See responses to Comment #5 and #97.

**103. Comment:**

Level 1 Assessment Triggers -Section 109.202(4)(iii)

Per federal regulation 40 CFR Section 141.859 Coliform Treatment Technique Triggers and Assessment Requirements for Protection against Potential Fecal Contamination, these assessments have been developed in order to identify the possible presence of sanitary defects and defects in distribution system coliform monitoring practices. However, the proposed regulations 109.202(4)(iii) states that the Department may direct a system to conduct a Level 1 or Level 2 assessment if circumstances exist which may adversely affect drinking water quality. Although examinations of the circumstances surrounding other water quality issues are warranted, it could be confusing for suppliers and possibly regulators to use the same assessments for multiple situations not associated with this regulation. (12)

**Response:**

The Department has deleted proposed subparagraph §109.202(c)(4)(iii).

**104. Comment:**

Public Notification of MCL Violation -Section 109.409(b)(1)

As recommended by the TAC, we would prefer that the notification requirement to DEP regarding an E. coli positive result reflect the notification by the end of the day requirement in the federal rule. In addition, we would like the ability to use DEP's 24 hour emergency number to meet this notification requirement. (12)

**Response:**

See response to Comment #14.

**105. Comment:**

Level 1 and Level 2 Assessments - Section 109.705(b)(2)

Suez Water would like to be able to submit level 1 and level 2 assessments to DEP electronically. (12)

**Response:**

The Department appreciates the commentator's response and agrees that electronic submissions of Assessment forms may be appropriate. The Department will add details for electronic submission of Assessment forms to the RTCR Technical Guidance document.

Until this guidance is finalized, water systems will need to discuss with the local DEP office the preferred method of electronic submission.

**106. Comment:**

Compliance Cost - Preamble Section F.

As stated in preamble to this rule compliance cost for monitoring requirements are insignificant. However what has not been quantified is the PWS staff time required to implement and maintain the administratively burdensome sampling site plans. (12)

**Response:**

Compliance costs were derived from the EPA's economic analysis. Monitoring costs were one part of EPA's calculation; however, all parts of the RTCR were included in EPA's analysis including assessments and sample siting plans.

**107. Comment:**

This letter is to provide comments in regards to the proposed rulemaking for 25 PA Code Ch. 109 for Safe Drinking Water; Revised Total Coliform Rule. Mahaffey Laboratory provides coliform analysis for approximately thirty five different drinking water facilities.

Mahaffey Laboratory would like to express concern about the apparent discrepancy between the language in § 109.303.(a)(2) Sampling requirements. which states "Samples...shall be taken at regular intervals throughout the monitoring period" and the sample siting plans requiring that a specific week of the month be designated for sample collection. The intent of this wording appears to ensure that samples are not taken inconsistently, for example, at the end of one month and the beginning of the next. However, the sample siting plans appear to be restricting sampling events to a particular week each month which could become cumbersome for our laboratory due to staff availability, weather, and holidays. The laboratory may provide advice/guidance to Community Water Supply (CWS) clients but will most likely not fill out the sample siting plans for most of our clients. We schedule each of our drinking water sample collection events to coincide with other sampling in the same area. If CWS clients write their sample siting plans so that collection of their sample cannot be coordinated with other sample events, then the CWS may incur addition costs in the amount of \$45/hour. This additional cost could become financially burdensome to water suppliers and in turn the general public.

It is not possible or convenient to list all of the things that could potentially prevent samples from being collected and analyzed within a specified time frame, however the sample date +/- 3 days that has been in effect for Stage 2 Disinfection By-Products Rule has proven to be quite challenging and this is reminiscent of those sampling plans. Mahaffey Laboratory would suggest that, for example, it is stated, monthly samples be collected at a minimum of one week apart rather than during a specific week each month. (13)

**Response:**

See response to Comment #39.

**108. Comment:**

Section 109.1. Definitions. — Clarity.

This rulemaking incorporates regulations adopted by the United States Environmental Protection Agency (EPA) that amended 40 CFR Part 141, relating to National primary drinking water regulation. This federal regulation is referred to as the Revised Total Coliform Rule (RTCR). The rulemaking is necessary for the Commonwealth to retain primacy with respect to EPA's RTCR.

According to the Preamble, the proposed definitions of "Level 1 assessment" and "Level 2 assessment" reflect the new definitions of the RTCR. Both of the definitions require evaluations, and "when possible," the likely reason that triggered the required assessment. Does the Department of Environmental Protection (DEP) or the public water system (PWS) determine when something is possible? This should be clarified in the final-form regulation.

(14)

**Response:**

PWS are responsible for having assessments conducted; and therefore, PWS are responsible for identifying the likely reason that an assessment is triggered. The rule acknowledges that it's not always possible to identify a likely reason; however, the Department is responsible for reviewing assessments.

When the Department determines that an assessment is not sufficient in accordance with § 109.705(b)(7) consultation occurs and revisions to the assessment by a PWS may be necessary. This review process will help to determine whether an adequate assessment was conducted. If an adequate assessment is conducted and does not identify a likely reason, then that determination stands. If a likely reason is not identified, but an assessment is not sufficient, then a PWS will need to revise the assessment and continue to look for the likely reason. The Department's RTCR Technical Guidance document will provide additional clarification of this process.

**109. Comment:**

Section 109.202. State MCLs, MRDLs and treatment technique requirements. — Clarity; Implementation procedures.

Subsection (c)(4)(ii) requires a Level 2 assessment if certain conditions occur. Commentators expressed concern with the clarity of Subsection (c)(4)(ii)(B) and how it will be implemented. They suggest that assessments should be limited to reasons associated with the RTCR and note that DEP has the authority to do other investigations as needed. In the Preamble to the final form rulemaking, we ask EQB to explain how it will implement this subsection as it relates to the issue raised by commentators. (14)

**Response:**

In regards to Section 109.202(c)(4)(ii)(B), see the response to Comment #3.

Regarding DEP's authority to conduct other inspections as it relates to the comments on Section 109.202(c)(4)(iii) this subparagraph is being deleted per the response to Comment #4.

**110. Comment:**

3. Section 109.301. General monitoring requirements. — Clarity; Implementation procedures; Possible conflict with or duplication of statutes or existing regulations.

Paragraph (3)(i)

This paragraph pertains to the frequency of monitoring requirements for coliforms. Commentators have asked for the flexibility to collect more samples than required under Paragraph (3)(i)(D) in unusual circumstances, such as following positive samples. Would the collection of more samples be allowed? If so, what procedures would a PWS have to follow after collection of additional samples? This should be explained in the final-form regulation.

According to the Preamble, Paragraph (3)(i)(E) reflects the requirements of 40 CFR 141.854(c)(2). A commentator has noted that the first sentence of this paragraph does not accurately reflect the Federal rule because it fails to specify that it applies only to noncommunity water systems "using only groundwater." We suggest that the final-form regulation be amended to include this terminology.

Paragraph (3)(ii)

Repeat monitoring requirements are outlined in this paragraph. This proposed rulemaking deletes existing Paragraph (3)(ii)(B), which required systems collecting only one routine coliform sample per monitoring period to collect four check samples because 40 CFR 141.858(a)(1) requires all PWSs to collect a minimum of three check samples instead of four.

According to the Preamble, the RTCR gives states an option to allow alternative sampling locations under certain circumstances. The Small Water Systems Technical Assistance Center (TAC) Advisory Board to DEP recommended EQB allow alternate check sample locations. In the Preamble, EQB is specifically requesting comment on TAC's recommendation and commentators have provided feedback on this topic. We will review EQBs responses to the suggestions of commentators and any changes made to this paragraph in our review of the final form regulation to determine whether it is in the public interest.

Paragraph (3)(iii)

This paragraph pertains to the invalidation of total coliform samples. According to the Preamble, the amendments being made to Paragraph (3)(A)(III) include E. coli MCL and assessment language to clarify how compliance is determined for the RTCR. Commentators have suggested the invalidation procedures outlined in all of Paragraph (3)(iii) should be

applied to both total coliform and E. coli. We ask EQB to review the entirety of this paragraph to ensure all of the changes are consistent with the RTCR. (14)

**Response:**

Regarding Paragraph (3)(i), additional samples are allowed as specified in §109.301(3)(v), but these samples are not to be used to determine whether the coliform treatment technique trigger has been exceeded. This amendment is consistent with and reflects the federal requirement under 40 CFR 141.853(b). Regarding Paragraph (3)(i)(E), the Preamble missed the additional federal citation which supports Paragraph (3)(i)(E) as noted in the response to Comment #78.

Regarding Paragraph (3)(ii), details will be provided in the Order. In addition, see the responses to Comment #5, #9, #10, #11 and #15.

Regarding Paragraph (3)(iii), refer to the response to Comment #22.

**111. Comment:**

Possible conflict with or duplication of statutes or existing regulations.

A commentator has asked if EQB has reviewed the effect the changes being proposed under this rulemaking will have on EQB's existing regulations on public notification requirements. We ask EQB to review its public notification regulations to ensure that the proposed changes do not create conflicts with existing regulations. (14)

**Response:**

Revisions to the public notification requirements have been made. See the response to Comment #62.

**112. Comment:**

Section 109.409. Tier 2 public notice — categories, timing and delivery of notice. — Reasonableness; Need; Fiscal impact.

Subsection (a) addresses general violation categories and other situations requiring a Tier 2 public notice. New Subsection (a)(3) will require a Tier 2 public notice for any failure to report an E. coli MCL violation or E. coli-positive routine or check sample. Commentators disagree with the requirement for a notice that does not relate to an MCL violation. They believe additional notification could lead to overuse of public notifications. In the Preamble to the final form rulemaking, we ask EQB to explain why public notification is needed for E. coli-positive samples and why the benefits of such a notice outweigh any potential costs associated with such a notice. (14)

**Response:**

As noted in the response to Comment #14, this violation is a reporting violation. The public notification text has been moved from § 109.409(a)(3) to § 109.410(a)(5) as suggested, which makes failure to report an *E. coli* MCL violation or an *E. coli*-positive routine or check

sample a Tier 3 violation. This change mirrors the federal PN Tier as detailed in 40 CFR § 141.204(a)(6) and 40 CFR § 141.860(d)(2).

**113. Comment:**

Section 109.701. Reporting and recordkeeping. — Reasonableness; Implementation procedures; Possible conflict with or duplication of statutes or existing regulations.

Subsection (a)(3)

This subsection relates to reporting requirements for PWSs. EQB is adding a requirement that any sample result that is E. coli positive be reported to DEP within one hour of discovery. Commentators have requested that the reporting requirement be changed from one hour to the end of the day. What is the need for the one hour reporting requirement and why is it more reasonable than the suggestion of the commentator? In the Preamble to the final-form rulemaking, we ask EQB to explain its rationale for this provision.

Subsection (a)(5)

This subsection addresses the content of a written sample siting plan, submittal of the plan to DEP and revisions to the plan. According to the Preamble, many of the changes being proposed reflect amendments to the RTCR. Commentators have expressed concern that some of the proposed changes would be difficult to implement and do not provide the flexibility that the RTCR allows. As EQB develops the final-form regulation we ask that it work with the regulated community to provide flexibility, when allowed by the RTCR, while at the same time, ensuring that primacy requirements are met. (14)

**Response:**

Regarding Subsection (a)(3), rationale will be provided in the Order as given in the response to Comment #14.

Regarding Subsection (a)(5), refer to the responses to Comment #5, #9, #10, #11, #15 and #97.

**114. Comment:**

Section 109.705. System evaluations and assessments. — Clarity; Implementation procedures.

Subsection (b) requires a PWS to conduct Level 1 and Level 2 assessments and to comply with any expedited or additional actions required by DEP in case of an E. coli MCL violation. EQB has asked for input on whether the report required under Subsection (b)(2) should be submitted to DEP electronically. We will review EQBs responses to the suggestions of commentators and any changes made to this paragraph in our review of the final-form regulation to determine whether it is in the public interest.

In addition, Subsection (b)(3) requires a Level 1 assessment to be conducted by “competent personnel qualified to operate and maintain the water system’s facilities.” We believe the

term “competent personnel” is vague. Who would make the determination that the person conducting the assessment is competent? We recommend that this be clarified in the final-form regulation.

Finally, Subsections (b)(3) and (b)(4) require Level 1 and Level 2 assessments to be “conducted” by certain personnel. Commentators have suggested that instead of the specified personnel conducting the required assessments, the personnel could review and approve the results of the assessments performed by others. This suggestion would provide a cost savings to the regulated community. If this suggestion is reflective of the RTCR and protective of the public health, we ask EQB to adopt it. (14)

**Response:**

“Competent personnel qualified to operate and maintain the water system’s facilities” is based on an existing requirement in § 109.704(b). Competent personnel can be further clarified in the Department’s RTCR Technical Guidance document. For additional information see the response to Comment #16.

**115. Comment:**

Possible conflict with or duplication of statutes or existing regulations.

A member of the regulated community that provides spring water to the bottled water community submitted comments stating that the Food and Drug Administration (FDA) sets regulatory mandates for bottled water. The commentator notes that the Regulatory Analysis Form should be amended to include the appropriate federal references and believe that there is a potential conflict between the FDA’s regulations found at 21 CFR 165.110(b)(2) and § 109.1003(a)(1) of this proposed rulemaking. We note that EQB’s existing Subchapter J regulations on bottled water include references to both EPA and FDA regulations. In the Preamble to the final-form regulation, we ask EQB to explain how DEP’s regulation of bottled water fits into the regulatory framework of EPA’s RTCR and the FDA’s regulations on bottled water. (14)

**Response:**

See the responses to Comment #87, #91, #92 and #93. This framework is also explained in the Preamble to the final rule.

## Chester Water Authority

### RE: Summary of Testimony to the Proposed Revised Total Coliform Rule (RTCR)

Public Hearing, November 5, 2015

#### General Comments

1. Chester Water Authority (CWA) is supportive of the Pennsylvania Department of Environmental Protection's (DEP) efforts to increase public health protection by adopting revisions to the Total Coliform Rule (TCR).
2. There are Public Notification (PN) and Consumer Confidence Report (CCR) reporting requirements that must be addressed for subsequent and/or concurrent changes to support the revisions to the TCR. CWA is uncertain if DEP has reviewed and drafted revisions to these requirements.
3. CWA notes that the term "check" is used extensively throughout Chapter 109.301, Chapter 109.409 (and other sections) to refer to "repeat" monitoring and suggest that "check" sample be changed to "repeat" sample to be consistent with EPA's terminology.
4. DEP noted in the Proposed Rulemaking that, "Section 109.701(a)(5)(i)(D) is proposed to be added to clarify that repeat coliform monitoring locations must be included in sample siting plans. This amendment reflects 40 CFR 141.853(a)(1). The TAC noted that identifying specific addresses for check samples is unworkable for some water systems. However, this proposed amendment reflects 40 CFR 141.853(a)(1)." CWA believes that DEP failed to provide the regulatory language in 40 CFR 141.853(a)(1) for transparency and comparison and that DEP also failed to acknowledge that the Federal rule allows flexibility for PWSs to select repeat monitoring locations. Per 40 CFR § 141.853 (a)(5)(i) General Monitoring requirements for all public water systems Sample Siting Plans states, "Systems may propose repeat monitoring locations to the State that the system believes to be representative of a pathway for contamination of the distribution system. A system may elect to specify either alternative fixed locations or criteria for selecting repeat sampling sites on a situational basis in a standard operating procedure (SOP) in its sample siting plan." CWA, therefore, would appreciate the Board's re-consideration of the proposed amendment by DEP based on the full citation from 40 CFR.

#### Specific Comments

1. § 109.202. State MCLs, MRDLs and treatment technique requirements (Section (c)(4)(i),(ii),(iii))

CWA Response: CWA disagrees with DEP directing a system to conduct an assessment if other situations outside § 109.701(a)(3)(iii) arise for any particular water quality situation. Assessments are designed to be applied for specific response to Total Coliform and *E. coli*. While CWA agrees that DEP may have other water quality concerns where other "investigations" may be warranted, these should not be incorporated here or referred to as "assessments" to prevent confusion.

2. § 109.301. General monitoring requirements – *Monitoring requirements for coliforms* (Section 3)

CWA Response: CWA believes the PN requirement as stated is incorrect and is not required for every single *E. coli* positive sample. If a system foregoes *E. coli* testing on a positive total coliform sample, this does not always result in a violation of the MCL. If, for example, this is the original-routine sample, then the system must collect a set of repeat samples prior to making an MCL determination. CWA agrees that the sample must be counted as *E. coli* positive used to determine MCL compliance and that DEP must be notified of the positive sample result within 1 hour.

3. § 109.301. General monitoring requirements – *Monitoring requirements for coliforms, Frequency* (Section 3(i)(D))

CWA Response: CWA agrees with DEP in allowing PWSs to collect more than the required number of samples for compliance with the TCR as explained in the sample siting plan. However, CWA recommends that PWSs be allowed to collect more samples than required in unusual circumstances, such as following positive total coliform samples, when the PWS believes there is reason to collect more samples to ensure public health protection. This flexibility should be noted in the sample siting plan.

4. 109.301. General monitoring requirements – *Monitoring requirements for coliforms, Compliance determinations Section* (Section 3(iv))

CWA Response: CWA supports the MCL compliance determinations based on *E. coli* and sub-clauses I-IV of this section. CWA notes that sub-clauses I-IV support CWAs comment "2" above when not every *E. coli* positive result generates an MCL violation requiring PN.

5. § 109.303. Sampling requirements (Section a(2))

CWA Response: CWA agrees with representative TCR sampling locations and collection at regular intervals. However, CWA advocates that sampling plans be flexible such that the plan allows and supports operational/business efficiencies, customer service demands, special projects and other unusual circumstances.

6. § 109.409. Tier 2 public notice – *Categories, Timing and Delivery of notice* (Section a(3))

CWA Response: CWA disagrees with requirement for Tier 2 PNs for failure to report an *E. coli*-positive routine sample. Since the routine *E. coli* positive sample requires repeat sampling, a failure to report the routine positive sample does not pose risk to public health itself. CWA suggests clarification as this should be a Tier 2 reporting violation to be consistent with the Federal RTCR reporting requirements.

7. § 109.701. Reporting and recordkeeping - *Siting plan* (Section a(5))

CWA Response: CWA agrees that PWSs should have written or electronic sample siting plans, yet plans need to be flexible to accommodate for business/operational efficiency, customer service, sampling personnel availability and unusual events or situations etc. However, CWA strongly discourages incorporation of clauses (D) and (G) as they are more stringent than requirements of the Federal RTCR, have no benefit to public health protection, are overly time-consuming and burdensome to PWSs and do not allow for the flexibility needed to assess positive total coliform or *E. coli* results on a case-by-case or situational basis. Please refer to General Comment #4 above.

8. § 109.705. System Evaluations and Assessments (Section b(3),(4))

CWA Response: The Level I assessment should be conducted and approved by persons appropriate within or to the PWS (e.g. an engineer or water quality person). The Level 2 assessment does not have to be fully "conducted" by someone meeting the qualifications (certified operator or administrator) as other personnel may assist in the assessment, however, the assessment should be reviewed and approved by this qualified person. CWA recommends that the language be clarified to reflect these comments.



# Columbia WATER Company



## Columbia Water Company's comments to the Environmental Quality Board

Proposed Rulemaking  
[25 Pa. CODE Ch. 109]  
Safe Drinking Water; Revised Total Coliform Rule  
[45 Pa. B. 5943]

November 20, 2015

### Summary Comments

1. The Columbia Water Company supports the Pa. Department of Environmental Protection's (PaDEP) actions to improve public health by adopting revisions to the Total Coliform Rule (TCR).
2. The Columbia Water Company believes the language in 109.202 (c) (4) (iii) allowing PaDEP to require a Level 1 or Level 2 assessment "... if circumstances exist which may adversely affect drinking water quality ..." is too broad and unnecessary. The federal rule meant for these assessments to be used as a tool to address the presence of Total Coliform and E. coli. The proposed language broadens the scope greatly and opens the door for assessments completely unrelated to Total Coliform and E. coli. If PaDEP is aware of other "circumstances" that will trigger an assessment then they should be enumerated in the regulation.
3. The Columbia Water Company believes the language in 109.409 requiring a Tier 2 Public Notice for failure to report a positive E. coli. *routine* sample within one hour as excessive and unnecessary. One of the driving forces behind revisions to the TCR was to eliminate unnecessarily alarming the public. We believe requiring a Tier 3 Public Notification instead of a Tier 2 Public Notification is consistent with the Federal RTCR reporting requirements.
4. The Columbia Water Company believes the language in 109.701 (a) (5) (D) and (G) requiring the identification of specific repeat monitoring sites and a description of the accessibility of the sample sites will be overly burdensome for water systems and provides no benefit to public health protection, and in fact may jeopardize public health protection. Water systems are dynamic by nature and the direction of flowing water changes constantly based upon water demands, tank levels and treatment methods/locations. Requiring water systems to identify the specific locations for check sample locations prevents water systems from using real time data to select the best locations for check samples based upon real-time conditions. Further, the long-term suitability of check sample locations is unpredictable especially in residential areas where there is no legal or practical way for water systems to monitor changes in premise plumbing, fixtures, maintenance or uses by changing residential populations.

**Columbia Water Company**

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Water Works Operators' Association of Pennsylvania  
Comments to the Environmental Quality Board

Proposed Rulemaking  
[25 Pa. CODE, Ch. 109]  
Safe Drinking Water, Revised Total Coliform Rule  
[45 Pa. B. 5943]  
PA Bulletin, October 3, 2015

November 23, 2015

Summary Comments

1. The Water Works Operators' Association of Pennsylvania (WWOAP) supports the Pennsylvania Department of Environmental Protection's (DEP) efforts to increase public health protection by adopting revisions to the Total Coliform Rule (TCR). WWOAP participated as a member of the DEP's Advisory Committee: the Technical Assistance Center for Small Drinking Water Systems (TAC) at all meetings during the development of the RTCR regulatory package.
2. WWOAP remains concerned that DEP after substantial input from water industry professionals representing large, medium, and small water systems and a diversity of system ownership including authorities, investor-owned, municipal and private systems did not adopt the TAC recommendations in the proposed RTCR rulemaking.
3. WWOAP finds the language in 109.202 (c)(4)(iii) allowing DEP to require a Level 1 or Level 2 assessment "...if circumstances exist which may adversely affect drinking water quality..." to be beyond the intent of the RTCR. The Federal RTCR meant for assessments to be used as a tool to specifically address Total Coliform and E.coli. The proposed regulatory language unnecessarily broadens the scope and intent of assessments. While DEP may have other water quality concerns that warrant investigation, these should not be designated as assessments as defined under the RTCR but remain separate to preclude confusion between water suppliers, regulators, and the public.
4. WWOAP finds the language in 109.409 requiring a Tier 2 Public Notice for failure to report a positive E.coli *routine* sample within one hour is contrary to the intent of the Federal RTCR. One major objective of the Revisions to the Total Coliform Rule was to eliminate alarming the public unnecessarily. The Federal RTCR recognized this objective by requiring a Tier 3 Public Notification. WWOAP urges the EQB to support the change to a Tier 3 Public Notification instead of a Tier 2 Public Notification to be consistent with the intent of the Federal RTCR.
5. WWOAP finds the language in 109.701 (a)(5)(D) and (G) requiring the identification of specific monitoring sites and a description of the accessibility of the sample sites is unworkable and unduly burdensome to water systems as well as not protective of public health. DEP stated in the Proposed Rulemaking that, "Section 109.701(a)(5)(i)(D) is proposed to be added to clarify that repeat coliform monitoring locations must be included in sample siting plans. This amendment reflects 40 CFR 141.853(a)(1). TAC noted that identifying specific addresses for check samples is unworkable for some water systems. However, this proposed amendment reflects 40 CFR 141.853(a)(1)." WWOAP maintains that, in fact, this requirement will be unworkable for the majority of water systems. WWOAP further believes that DEP failed to provide the regulatory language in 40 CFR 141.853(a)(1) in its entirety for transparency and comparison and that DEP also failed to acknowledge that the Federal rule allows flexibility for water systems to select repeat monitoring locations. Per 40 CFR § 141.853 (a)(5)(i) General Monitoring requirements for all public water systems Sample Siting Plans states, "*Systems may propose repeat monitoring locations to the State that the system believes to be representative of a pathway for contamination of the distribution system. A system may elect to specify either alternative fixed locations or criteria for selecting repeat sampling sites on a situational basis in a standard operating procedure (SOP) in its sample siting plan.*" WWOAP, therefore, would recommend the EQB's re-consideration of the proposed amendment by DEP based on the full citation and intent from 40 CFR.
6. WWOAP finds that the term "check" is used extensively throughout the proposed regulation to refer to "repeat" monitoring. The term "check" should be replaced consistently with the term "repeat" to conform to the Federal RTCR terminology; Use of the terms "check" and "repeat" interchangeably is confusing for both water systems and regulators.
7. WWOAP is concerned that DEP may not have reviewed and drafted revisions to the Public Notification (PN) and Consumer Confidence Report (CCR) requirements due to the changes created by the RTCR revisions. This review is needed to preclude compliance uncertainty for both the regulated community and the regulators.



**Aqua Pennsylvania Detailed Comments to  
[ 25 PA. CODE CH. 109 ]  
Safe Drinking Water; Revised Total Coliform Rule  
[ 45 Pa.B. 5943 ]**

**One-page Summary for EQB Board:**

Aqua Pennsylvania, Inc. (Aqua) appreciates the opportunity to provide comments about the above referenced proposed rulemaking. Aqua staff provided technical expertise to the American Water Works Association (AWWA) and the National Association of Water Companies (NAWC), two organizations that were signature parties to the Federal Advisory Committee (FACA) and the resultant Agreement-in-Principle (AIP) which lays the foundation for the federal Revised Total Coliform Rule (RTCR). We believe the federal RTCR is a significant step forward in the protection of public health. We are pleased to see that the Pennsylvania Department of Environmental Protection (DEP) is essentially adopting the well-discussed and reasonable rule framework set forth in the FACA AIP.

**However, Aqua notes that the federal rule framework left many opportunities for states to define elements within the RTCR. The DEP proposal does not clearly spell out how DEP intends to define many of these elements, most notably, the content of assessment and corrective action forms. It is assumed many will be yet defined through state guidance, rather than through the established rulemaking process. This is very concerning to us. In recent years, the DEP's Bureau of Safe Drinking Water - Central Office (BSDW-CO) has appeared to drift further away from the practice of collaborating with the water industry professionals within the state in developing regulations and related guidance. Furthermore, although guidance documents "are not an adjudication or a regulation", too often, DEP has enforced policies and guidance that were developed without public participation as though they were equal.**

A result of this disengagement can be seen in the proliferation of administrative violations and public notices in Pennsylvania. While we believe Pennsylvanians' can be proud of the drinking water quality across the state, one would not believe that based on the overuse of public notifications eroding the trust of our citizens. While we appreciate DEP's recent stakeholder meetings on the minimum disinfectant residual issue and welcome DEP's recent initiative to improve public participation and transparency through a new on-line engagement system, this can only be realized if the BSDW-CO allows proposed policies, guidance documents, and "clarification" of compliance regulations (such as the so called "Use it or Lose it" policy) to be properly vetted with the public and the water industry professionals in the state.

Thus, while Aqua is pleased to see much of the federal rule framework embodied in this proposal, there is still concern with the realization that this rule can effectively become adversely modified through the subsequent guidance document(s) and internal DEP implementation policy development. Therefore, in keeping with the stated commitment of DEP Secretary John Quigley to transparency and integrity, we strongly urge DEP to engage in a collegial and transparent process for the development of all policies and guidance documents related to the RTCR, and subsequent drinking water regulations, "clarifications" of regulations, policies and guidance.



SUEZ WATER PENNSYLVANIA  
Mary Neutz  
Water Quality Manager  
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**Summary of Comments Regarding Proposed Rulemaking [25 PA Code Ch. 109]  
Safe Drinking Water Revised Total Coliform Rule**

**Sample Site Plans – Section 109.701(a)(5)**

A Standard Operating Procedure (SOP) as allowed by the federal rule [40CFR 141.853(a)(5)(i)] should be used as a more efficient method for PWS to clearly identify the standards for selecting repeat sampling locations while allowing the PWS the flexibility to use to choose the most representative sites available at the point in time that the repeat samples are needed. The SOP would also identify the schedule for collecting routine samples and standards for sampling accessibility. In Section 109.701(a)(5) the word “available” should remain in the regulation language regarding check sample locations. Sampling site plans must be flexible and may need to be updated frequently and therefore should be kept in electronic format to prevent the need to distribute multiple copies of the plan. Finally, any changes made to DWELR to make accommodations for this new rule should not impact the existing three digit sample site IDs.

**Alternate Repeat Sample Locations – Preamble Section I**

An SOP should be used to identify the location alternate repeat sample locations as needed. An SOP as allowed by the federal rule [40CFR 141.853(a)(5)(i)] will provide a sound framework for public water systems to comply with RTCR without dramatically increasing the time spent on developing sampling sites plans and administrative burden for maintaining these plans.

**Level 1 Assessment Triggers – Section 109.202(4)(iii)**

Although examinations of the circumstances surrounding other water quality issues are warranted, it could be confusing for suppliers and possibly regulators to use the same assessments for multiple situations not associated with this regulation.

**Public Notification of MCL Violation – Section 109.409(b)(1)**

The notification requirement to DEP regarding an E. coli positive result should reflect the end of the day requirement in the federal rule. In addition, the PWS should be able to use DEP’s 24 hour emergency number to meet this notification requirement.

**Level 1 and Level Assessments – Section 109.705(b)(2)**

Suez Water would like to be able to submit level 1 and 2 assessments to DEP electronically.

**Compliance Cost – Preamble Section F**

The regulations as proposed with detailed sampling plans including repeat sample locations, accessibility information, and monitoring schedules require an increased administrative burden which will impact staffing costs for PWS.





Environmental Quality Board  
P.O. Box 8477  
Harrisburg, PA 17105-8477

**Re: Philadelphia Water's Comments to the Proposed Revised Total Coliform Rule (RTCR)**

**Summary of Comments to the Environmental Quality Board (EQB)**

Dear Board Members:

Philadelphia Water (PW) hereby submits its comments to the proposed rulemaking and proposed changes to Chapter 109 relating to the implementation of the Federal Revised Total Coliform Rule (RTCR).

A brief summary of those comments are contained below. Please refer to the attached full formal comments for specific comment details and underlying support for PW's responses.

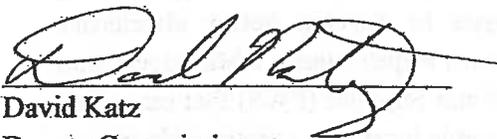
- **Remove all language that is inaccurate and inconsistent with the federal RTCR regulation language.** These inaccuracies and inconsistencies do not reflect the federal regulation and, if not removed, will foster confusion within the drinking water profession.
- **Allow flexibility in sample siting plans and incorporate the EPA's RTCR by allowing public water systems utilizing advanced technologies to develop better alternative repeat sampling plans than the 5 upstream/downstream requirement, which never had any demonstrated scientific background.** A Public Water Supplier (PWS) that can select, in real time, the most valid upstream and downstream sample locations, is better able to meet the intent of the rule and strengthen public health protection.
- **Prohibit overuse of public notification for issues that do not in themselves signify a public health threat.** This overuse will erode public trust in public water systems and could desensitize the public to the importance of notifications if they begin to hear them too often for issues that are not truly related to public health.
- **Prohibit the use of Level 1 and Level 2 Assessments outside of RTCR.** Federal regulation designed assessments to specifically respond to RTCR issues, not issues outside of RTCR.

- **Better clarify Level 1 and Level 2 Assessment Triggers through incorporating federal guidance.** There is language in the chapter 109 revisions regarding assessment triggers that does not incorporate the federal RTCR regulation.
- **Allow individuals designated by the public water system (and not necessarily “certified operators” or “professional engineers”) to be eligible to submit alternative repeat monitoring location plans and conduct RTCR assessments.** These designated individuals, such as water quality scientists and engineers, have vast experience in distribution system water quality and are well qualified to submit an alternative repeat monitoring location plan and conduct RTCR assessments.
- **Clarify which samples dictate how subsequent repeat samples under RTCR are collected.** Both EPA and PaDEP do not clearly communicate appropriate follow up requirements regarding repeat sampling under RTCR.

Philadelphia Water actively supports the EPA’s Federal Advisory Committee process, in which the federal RTCR was carefully developed. The Federal Advisory committee worked over many years and with the input of the nation’s experts on this topic, to move public water supply practice and regulatory oversight in a strong and positive direction. We strongly recommend that PaDEP’s RTCR follow as closely as possible the federal RTCR.

Thank you very much for the opportunity to comment.

Sincerely,



David Katz  
Deputy Commissioner  
Compliance  
Philadelphia Water



**pennsylvania**  
DEPARTMENT OF ENVIRONMENTAL  
PROTECTION  
BUREAU OF SAFE DRINKING WATER

March 25, 2016

Ms. Lisa Daniels, Director  
Bureau of Safe Drinking Water  
P.O. Box 8467  
Harrisburg, PA 17105-8467

Re: Comments on the Revised Total Coliform Rule (RTCR) updates to Chapter 109

Dear Ms. Daniels:

The Small Systems Technical Assistance Center (TAC) Advisory Board met on March 16, 2016 to review and discuss the Department's draft-final changes to the safe drinking water regulations, specific to the Revised Total Coliform Rule (RTCR). The following comments were approved by the TAC Board:

1. There should be a statement added to the Order of the final rule that Section 109.301(3)(i)(E) does not apply in Pennsylvania because all public water systems will be required to conduct monthly monitoring. The motion passed by a unanimous vote.
2. The RTCR technical guidance document needs to clarify that, if a check sample location for repeat monitoring is not available within 5 service connections upstream or downstream of the coliform-positive routine monitoring location, there is the flexibility to use an alternate check sample location. This clarification should also be included in the Order of the final rule. The Department also needs to explain in the guidance document the process for a water system to request using an alternate check sample location. The motion passed by a unanimous vote.
3. The RTCR technical guidance document needs to clarify that repeat monitoring and check samples are equivalent. The motion passed by a unanimous vote.
4. Section 109.301(3)(ii)(D) should be revised to include "from the same locations" for the additional sets of check samples for clarity. The suggested language is as follows:

At a minimum, the system shall collect one set of check samples for each total coliform-positive routine sample. If a check sample is total coliform-positive, the public water system shall collect an additional set of check samples from the same locations in the manner specified in this subparagraph. The system shall continue to collect additional sets of check samples FROM THE SAME LOCATIONS until either total coliforms are not detected in a set of check samples, or the system determines that an assessment has been triggered under § 109.202(c)(4).

Additionally, the RTCR technical guidance document should include the example used by the Department during the discussion. The motion passed by a unanimous vote.

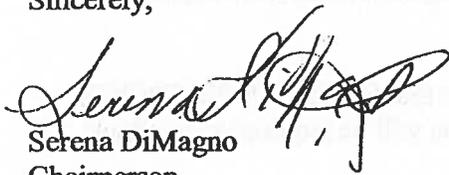
5. Section 109.301(3)(ii)(F) should be revised as follows:

If an upstream or downstream repeat monitoring location identified in the sample siting plan is not available in the timeframe specified in this subparagraph, the public water system SHALL NOTIFY THE DEPARTMENT PRIOR TO COLLECTING THE CHECK SAMPLE THAT THE CHECK SAMPLE WILL BE COLLECTED FROM A LOCATION WITHIN REASONABLE PROXIMITY TO THE ROUTINE MONITORING LOCATION.

Additionally, the RTCR technical guidance document should clarify that the Department does not need to approve the alternate repeat monitoring location prior to sample collection. The motion passed by a unanimous vote.

Thank you for the opportunity to comment.

Sincerely,



Serena DiMagno  
Chairperson

July 15, 2016

David Sumner  
Executive Director  
Independent Regulatory Review Commission  
333 Market Street, 14th Floor  
Harrisburg, PA 17120

Re: Final Rulemaking: Remining Requirements (#7-496)  
Final Rulemaking: Revised Total Coliform Rule (#7-494)  
Final Rulemaking: Control of VOC Emissions from Miscellaneous Metal Parts Surface Coating Processes, Miscellaneous Plastic Parts Surface Coating Processes and Pleasure Craft Surface Coatings (#7-491)  
Final Rulemaking: Control of VOC Emissions from Automobile and Light-Duty Truck Assembly Coating Operations and Heavier Vehicle Coating Operations (#7-490)

Dear Mr. Sumner:

Pursuant to Section 5(a) of the Regulatory Review Act, please find enclosed copies of four final-form rulemakings for review and comment by the Independent Regulatory Review Commission (IRRC). The Environmental Quality Board (EQB) adopted final-form rulemaking #7-496 at its May 17, 2016 meeting and adopted final-form rulemakings #7-490, #7-491, and #7-494 at its June 21, 2016 meeting.

The **Remining Requirements (#7-496)** final-form rulemaking updates the coal mining remining requirements for pre-existing discharges to incorporate the federal effluent limit guidelines. The regulations are authorized under the Surface Mining Conservation and Reclamation Act, The Clean Streams Law, and the Administrative Code of 1929. The existing Pennsylvania remining program is implemented through regulations at 25 *Pa. Code* Chapter 87, Subchapter F; Chapter 88, Subchapter G; and Chapter 90, Subchapter F, as well as through technical guidance documents and individual permits. The rulemaking allows for liability protection for remining operations conducted on abandoned mine lands with existing pollutional discharges by enabling the Department of Environmental Protection (DEP or Department) to determine the pollution baseline at a site and set effluent limitations accordingly.

Currently, DEP determines the pollution baseline using a single statistical method. Effluent limitations are determined on a case-by-case basis using best professional judgment. The federal requirements differ from the Pennsylvania requirements by providing the option of employing an alternative statistical method for determining the pollution baseline, depending on which method would more accurately characterize baseline levels due to site-specific factors.



This rulemaking is subject to approval by the Office of Surface Mining Reclamation and Enforcement. Amendments included in this final-form rule are therefore consistent with the federal regulations. The final-form rulemaking incorporates into the Pennsylvania regulations both statistical methods provided in the federal regulations, eliminating the need to implement the methods through individual permits and providing flexibility regarding the choice of statistical method based on site-specific factors. The final-form rulemaking further provides for remining at sites in which it is infeasible to establish pollution baselines due to the size or location of the mine discharge. These provisions have the potential to open up areas to remining where it was not previously possible. Remining typically results in substantial improvements in water quality in addition to the benefits of land reclamation.

There are approximately 500 licensed surface coal mining operators in Pennsylvania, most of which are small businesses, which will be subject to this regulation. The primary compliance costs are related to water sampling and analysis and implementation of best management practices for the abatement of abandoned mine drainage. However, these costs are part of the planning process for mine operators when they decide if an area is economically mineable. Overall, compliance costs for mine operators are reduced, as this final-form rulemaking provides for protection from long-term treatment liability. Compliance assistance for this rulemaking will be provided through DEP's routine interaction with trade groups and individual applicants.

The EQB approved the proposed rulemaking at its May 20, 2015 meeting. The proposed rulemaking was published in the *Pennsylvania Bulletin* on October 3, 2015, opening a 30-day public comment period. Comments were received from one public commentator and from the Independent Regulatory Review Commission (IRRC). The public commentator noted the omission of a subscript in one of the calculations. IRRC provided comments requesting amendments to the regulatory analysis form as well as comments requesting clarifications to the rulemaking language. The final-form rulemaking was revised to address these comments.

The **Revised Total Coliform Rule (#7-494)** final-form rulemaking amends 25 *Pa. Code*, Chapter 109 to incorporate federal requirements needed to obtain primary enforcement authority (primacy) for the Revised Total Coliform Rule (RTCR). The RTCR establishes a maximum contaminant level for *E. coli* and uses *E. coli* and total coliforms to initiate a "find and fix" approach to address fecal contamination that could enter into the distribution system. It requires public water systems (PWSs) to perform assessments to identify sanitary defects and subsequently take action to correct them. This final-form rulemaking will affect all 8,868 PWSs serving approximately 12.75 million Pennsylvanians in addition to most businesses throughout the Commonwealth.

The Pennsylvania RTCR regulations are more stringent than Federal regulations in only two ways. To be consistent with existing public notification requirements, DEP is requiring one-hour notification for several circumstances where the federal rule requires notification within 24 hours. Also, if DEP determines an assessment to be incomplete, the PWS must consult with DEP within 14 days.

The proposed rulemaking was included in a two-part proposal which was submitted to the EQB for consideration at its meeting on April 21, 2015. One part contained proposed regulations



necessary to assume primacy with respect to the Federal Revised Total Coliform Rule (Federal RTCR) and the other part of the proposal included amendments to various other portions of Chapter 109. In response to a motion made at that meeting, the Board voted to approve the portion of the proposed rulemaking regarding the Federal RTCR but to split the other proposed amendments into a separate rulemaking to provide an opportunity for further consideration by the Technical Assistance Center for Small Drinking Water Systems Advisory Board (TAC) and other interested parties. This final-form rulemaking exclusively concerns the RTCR.

After EQB adoption and requested modifications were completed, the proposal was published on October 3, 2015, opening a 60-day public comment period. Public hearings were held during the public comment period on November 3, 2015 and November 5, 2015. Thirteen public commentators and the Independent Regulatory Review Commission provided comments on the proposed rulemaking. TAC was presented with the draft final Annex on March 16, 2016. As a result of TAC meetings and public comments received both at the public hearings and in written form, several revisions were made to the rulemaking.

The majority of public comments centered on additional flexibility needed for water systems when collecting repeat samples following a routine sample testing positive for total coliform. The Federal regulation requires PWSs to collect repeat samples following a routine sample testing positive for total coliform at sites within five taps upstream and downstream of the routine site or to collect the repeat samples at fixed alternative sites or in accordance with a standard operating procedure (SOP) that the system believes to be representative of a pathway for contamination. In the preamble to the proposed regulation, DEP asked how a PWS would demonstrate that an alternative repeat monitoring location represents the pathway for contamination that led to the original coliform-positive sample in the distribution system. Proposed section 109.301(3)(ii)(B) relating to check samples was amended in response to public comments. The added language provides clarification that a PWS is not required to identify or collect a check sample at only one repeat monitoring location on either side of a routine location that tests positive for total coliform. Instead, a PWS may identify all connections within five connections upstream and five connections downstream as potentially available repeat monitoring locations and then, when needed, select from those identified sites the available taps for sampling. Further, the added language allows PWSs to obtain DEP approval of sites identified in the sample siting plan that are located outside of five connections. This language incorporates the “alternative fixed locations” allowed under the Federal rule and offers greater flexibility to PWSs.

However, language allowing a standard operating procedure has not been added. Public comments did not provide justification that an SOP could identify sites that represent a pathway for contamination. In addition, DEP believes that repeat sample sites must be properly documented in the system’s sample siting plan in order to ensure appropriate monitoring by the system and to allow for proper oversight by DEP. Therefore, the final rule does not allow systems to employ an SOP for identifying repeat monitoring locations.

DEP has a compliance assistance plan in place for implementation of this final-form rulemaking. The Commonwealth's Pennsylvania Infrastructure Investment Authority Program offers financial assistance to eligible PWSs. Also, DEP’s Safe Drinking Water Program 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. In addition to this network of training staff, DEP's Bureau of Safe Drinking Water has staff dedicated to providing both training and outreach support services to PWS operators.

**The Control of VOC Emissions from Miscellaneous Metal Parts Surface Coating Processes, Miscellaneous Plastic Parts Surface Coating Processes, and Pleasure Craft Surface Coatings (#7-491)** final-form rulemaking amends 25 *Pa. Code* Chapter 129 to add § 129.52d (henceforth referred to as MMPP) to limit volatile organic compound (VOC) emissions from miscellaneous metal parts surface coating processes, miscellaneous plastic parts surface coating processes and pleasure craft surface coatings as well as automotive/transportation and business machine plastic parts surface coatings and motor vehicle materials surface coatings. Final-form MMPP establishes VOC emission limits and other requirements consistent with the reasonably available control technology (RACT) recommendations issued by the EPA in the 2008 Control Techniques Guidelines for Miscellaneous Metal and Plastic Parts Coatings (2008 MMPP CTG).

DEP identified 160 manufacturing facilities whose owners and operators may be subject to the final-form rulemaking. The requirements of final-form MMPP apply to the owner and operator of the following: a facility that manufactures metal or plastic parts or products, including automotive and transportation plastic parts, business machine plastic parts, pleasure craft (recreational boats), or bodies or body parts for new heavier vehicles, on which subject surface coatings are applied; a separate coating line at an automobile and light-duty truck assembly coating facility, on which subject surface coatings are applied to other parts intended for use in new automobiles or new light-duty trucks or to aftermarket repair or replacement parts for automobiles or light-duty trucks; or a facility that applies subject coatings to the surfaces of metal or plastic parts or products on a contractual basis.

The owner or operator of a facility that emits 2.7 tons or more of actual VOC emissions per 12-month rolling period threshold, including VOC emissions from related cleaning activities, before consideration of controls, is required to implement the final VOC emission control measures, work practice standards, and recordkeeping and reporting requirements. The owner or operator of a facility that emits less than 2.7 tons of actual VOC emissions per 12-month rolling period threshold, including VOC emissions from related cleaning activities, before consideration of controls, are subject only to the recordkeeping requirements and, if requested by DEP, reporting requirements of the final rulemaking.

IRRC and one public commentator provided comments on the proposed rulemaking. The public commentator expressed concerns about the proposed compliance date of January 1, 2016, as well as the applicability of the proposed rulemaking measures to the use of aerosol coatings and hand-held aerosol cans. IRRC provided comments echoing the commentator's concerns as well as concerns about reasonableness and clarity. IRRC also expressed concern about the option for certain owners and operators to elect to comply with the proposed rulemaking for automobile and light-duty truck assembly coatings and recommended that the Board ensure that the two proposed rulemakings are adopted on the same date.



To address the commentator's and IRRC's comments, the compliance date was revised to January 1, 2017, in the final-form Annex A. Also, language clarifying the applicability to hand-held aerosol cans was added into the final-form Annex A. With regard to the two concurrent proposed rulemakings, DEP is submitting the two regulations for simultaneous promulgation and then publication in the *Pennsylvania Bulletin*.

A draft final-form Annex was presented to the Air Quality Technical Advisory Committee (AQTAC) on February 11, 2016, the Citizens Advisory Council (CAC) Policy and Regulatory Oversight Committee on March 2, 2016, the CAC on March 15, 2016, and the Small Business Compliance Advisory Committee (SBCAC) on April 27, 2016. AQTAC, the Policy and Regulatory Oversight Committee, the CAC, and the SBCAC concurred with DEP's recommendation to move the regulation forward in the regulatory review process.

**The Control of VOC Emissions from Automobile and Light-Duty Truck Assembly Coating Operations and Heavier Vehicle Coating Operations (#7-490)** final-form rulemaking amends 25 *Pa. Code* Chapter 129 to add § 129.52e (henceforth referred to as ALDT) to limit VOC emissions from automobile and light-duty truck assembly coating operations and heavier vehicle coating operations. Final-form ALDT establishes VOC emission limits and other requirements consistent with the RACT recommendations issued by the EPA in the 2008 Control Techniques Guidelines for Automobile and Light-Duty Truck Assembly Coatings (2008 ALDT CTG).

DEP identified 13 facilities in the Commonwealth whose owners and operators may be subject to the final-form rulemaking. The requirements of final-form ALDT apply to the owner and operator of the following: an automobile and light-duty truck assembly coating operation that applies an assembly coating to a new automobile body or a new light-duty truck body, or to a body part (or another part coated along with the body part) for a new automobile or for a new light-duty truck; an automobile and light-duty truck assembly coating operation that operates a separate coating line at the facility on which a coating is applied to another part intended for use in a new automobile or new light-duty truck or an aftermarket repair or replacement part for an automobile or light-duty truck if the owner or operator elects to comply with this section instead of MMPP; a facility that coats a body or body part for new heavier vehicles if the owner or operator elects to comply with this section instead of MMPP; or a facility that performs a coating operation subject to this section on a contractual basis.

The owner or operator of a facility that emits 15 pounds or more of total actual VOC emissions per day, including VOC emissions from related cleaning activities, before consideration of controls, is required to implement the final VOC emission control measures, work practice standards, a written work practice plan for cleaning materials, compliance monitoring and daily recordkeeping requirements, and to submit records to DEP upon receipt of a written request. The owner or operator of a facility that emits less than 15 pounds per day of total actual VOC emissions, including VOC emissions from related cleaning activities, before consideration of controls, will be subject only to the compliance monitoring and daily recordkeeping requirements and, if requested by DEP, the reporting requirements of the final rulemaking.

The owners and operators of 12 of these 13 facilities manufacture or surface coat, or both, bodies or body parts for new heavier vehicles such as fire trucks, ambulances and tow trucks and will



July 15, 2016

only be subject to this final-form rulemaking if they elect to comply with this final-form rulemaking instead of the final-form rulemaking for MMPP.

The Board did not receive any public comments on the proposal. IRRC provided comments regarding the proposed compliance date of January 1, 2016, and recommended that the Board establish a compliance date that allows for the proper development of a final-form regulation and full compliance by the regulated community. IRRC also noted that the owner or operator of a separate coating line at an automobile and light-duty truck assembly coating facility, and the owner or operator of a facility that coats a body or body part for a new heavier vehicle, have the option to be regulated under this rulemaking or under the concurrently proposed MMPP rulemaking. IRRC recommended that the Board ensure that the two rulemakings are simultaneously promulgated.

To address IRRC's comments, the compliance date was revised to January 1, 2017, in the final-form Annex A. As previously noted, with regard to the two concurrent proposed rulemakings, DEP is submitting the two regulations for simultaneous promulgation and then publication in the *Pennsylvania Bulletin*.

A draft final-form Annex was presented to the AQTAC on February 11, 2016, the CAC Policy and Regulatory Oversight Committee on March 2, 2016, the CAC on March 15, 2016, and the SBCAC on April 27, 2016. The AQTAC voted to concur with DEP's recommendation to move the draft final-form regulation forward to the Board for consideration as a final rulemaking. The Policy and Regulatory Oversight Committee, the CAC, and the SBCAC concurred with DEP's recommendation to move the regulation forward in the regulatory review process.

The Department will provide assistance as necessary to facilitate IRRC's review of the enclosed final-form rulemaking under Section 5.1(e) of the Regulatory Review Act.

Please contact me by e-mail at [ledinger@pa.gov](mailto:ledinger@pa.gov) or by telephone at 717.783.8727 if you have any questions or need additional information.

Sincerely,



Laura Edinger  
Regulatory Coordinator

Enclosures



**TRANSMITTAL SHEET FOR REGULATIONS SUBJECT TO  
 THE REGULATORY REVIEW ACT**

I.D. NUMBER: 7-494 Revised Total Coliform Rule

SUBJECT:

AGENCY: DEPARTMENT OF ENVIRONMENTAL PROTECTION

**TYPE OF REGULATION**

- Proposed Regulation
- Final Regulation
- Final Regulation with Notice of Proposed Rulemaking Omitted
- 120-day Emergency Certification of the Attorney General
- 120-day Emergency Certification of the Governor
- Delivery of Tolerated Regulation
  - a.  With Revisions
  - b.  Without Revisions

2016 JUL 15 PM 2:01

RECEIVED  
IRRC

**FILING OF REGULATION**

DATE	SIGNATURE	DESIGNATION
7/15/16	<u>DeWen Hagen</u>	Majority Chair, HOUSE COMMITTEE ON ENVIRONMENTAL RESOURCES & ENERGY <i>Representative John Maher</i>
7-15-16	<u>John K. K...</u>	Minority Chair, HOUSE COMMITTEE ON ENVIRONMENTAL RESOURCES & ENERGY <i>Representative Greg Vitali</i>
7-15-16	<u>J. B. H...</u>	Majority Chair, SENATE COMMITTEE ON ENVIRONMENTAL RESOURCES & ENERGY <i>Senator Gene Yaw</i>
7/15/16	<u>Rance Handell</u>	Minority Chair, SENATE COMMITTEE ON ENVIRONMENTAL RESOURCES & ENERGY <i>Senator John Yudichak</i>
7/15/16	<u>K Cooper</u>	INDEPENDENT REGULATORY REVIEW COMMISSION <i>David Sumner</i>
_____	_____	ATTORNEY GENERAL (for Final Omitted only)
_____	_____	LEGISLATIVE REFERENCE BUREAU (for Proposed only)

