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The York Water Company
Public Comments to the Environmental Quality Board
Regarding Proposed Rulemaking
(25 Pa. Code Chapter 109)
Safe Drinking Water, Revised Total Coliform Rule
(45 Pa. B. 5943)
November 19, 2015

The York Water Company supports the Pennsylvania Department of Environmental Protection (PADEP) in improving public health protection via the rollout of the Revised Total Coliform Rule (RTCR). However, there are certain areas of concern to The York Water Company that are noted in the following comments.

- 1) *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) 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.

- 3) *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.

- 4) *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 and MCL violation, and therefore would only require public notification when the MCL is exceeded.

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 RTRC 40 CFR 141.853 (a)(5)(i). As stated in comment #1 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) 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.

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.

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.

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.

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.