United Water PA

Impact of the Proposed Chapter 109 Update to Disinfectant Residual Requirements

United Water Pennsylvania

- **Service Area**
  - 5 Geographically separate water utilities
  - Serving 9 counties
  - 165,000 people in 40 communities
  - 18 MGD Average Daily Delivery

- **System Types**
  - 5 water treatment plants
    - 4 surface water, 1 GUDI
  - 28 wells
  - 1 consecutive system
  - 850 miles of water main
  - 36 Storage facilities
  - 30 booster stations

United Water Pennsylvania
15 Public Water Systems

- **1 Large Community Water Systems**
  - Harrisburg

- **3 Medium Community Water Systems**
  - Mechanicsburg
  - Bloomsburg
  - Dallas
  - Bethel

- **11 small Community Water Systems**

•Newberry
•Grantham
•Center Square
•Business One
•CCIP

•Nuremburg
•Shavertown
•Harvey's Lake
•Brown Manor
•Noxen

Large Water System Current Compliance Record Harrisburg, PA

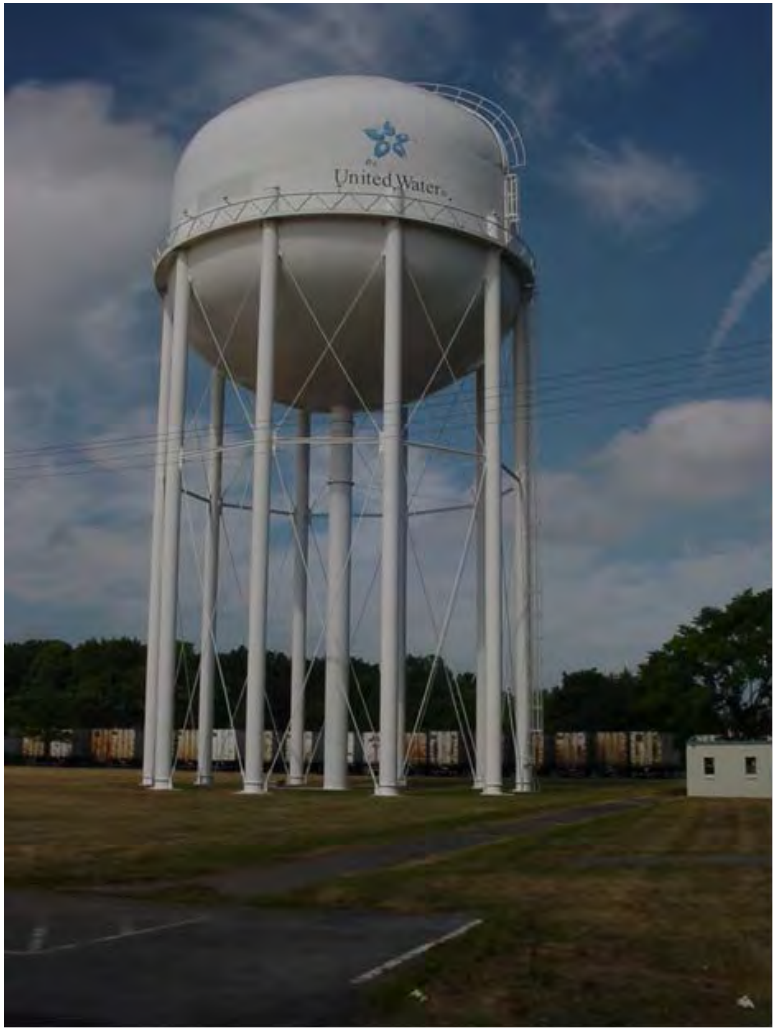
- **Analysis of Large Community Water System**
  - In the last 5 years we have had 14 positive Total Coliform samples
  - All check samples were negative for Total Coliform
  - All 14 samples had a detectable chlorine residual
    - Residual ranges form 0.02 – 1.35 mg/L
    - Average chlorine residual was 0.67 mg/L
- **DBPs are currently in compliance**
  - Compliance is due to years of modeling and scientific analysis based on careful management of chlorination under the current regulatory constraints
  - DBP modeling shows that in some areas low chlorine contributed to this compliance, without impacting bacteriological quality

Compliance with Proposed 0.3 mg/L Chlorine Residual Requirement for Distribution Systems

- Minimum of 25 noncompliant sample sites throughout PA systems
- Most vulnerable April through October
- Many sites likely to be in violation in consecutive months
- The number of noncompliant sites will increase as monitoring plans are revised for RTCR
- The possibility of up to 300 violations per year and continuous PNs degrading consumer confidence

Impacts on Competing Regulatory Requirements

- DBP compliance
- System Storage Capacity (pressure, fire protection and 24 hour emergency supply)
- Increased Non-revenue water from flushing programs
- Corrosion Control and Lead and Copper Compliance
- Increased number of PN when RTCR was written with the intent to reduce unnecessarily alarming PN



Cost of Proposed Regulation to the Customers

- **Loss of confidence in drinking water**
- **Increased OPEX**
  - Increased nonrevenue water
  - Additional staff and overtime for O&M of system
  - Chemical Costs
  - PN publishing
- **Increased CAPEX**
  - Auto flushers ~$10K each
  - Booster stations w/ chlorination ~$150K each
  - Resizing storage facilities $500K - >$2 MIL

How do the more stringent States calculate compliance for disinfectant residual in the distributions system?

- **Delaware**
  - **0.3 mg/L is the standard for entry point to distribution system and may not go below this level for more than 4 hours**
  - **Standard for the distribution systems detectable which is defined as <0.04 mg/L**
  - **Chlorine residuals for distribution are reported to the state as a monthly average**

SDWA Criteria to Regulate (1412(b)(1)(A))

Publish MCLG and promulgate NPDWRs if the Administrator determines that:

(i) The contaminant may have an adverse effect on the health of persons;
(ii) The contaminant is known to occur or there is substantial likelihood that the contaminant will occur in public water systems with a frequency and at levels of public health concern; and
(iii) Regulation of the contaminant presents a meaningful opportunity for health risk reduction for persons served by public water systems.

UWPA Final Comments

- **This proposed regulation has too many unknowns to move forward:**
  - How many violations after RTCR revised monitoring plans in place?
  - How will we mitigate DBPs when Chlorine residuals are increased?
  - How will we manage distribution system for corrosion control and lead and copper?
  - Total cost to infrastructure improvements ?
  - Does the science show an overall health benefit to an increase of chlorine in the distribution system?

- **RTCR should move forward on a separate timeline to the Chapter 109 Revisions to Disinfectant Residual to allow for further analysis of impacts.**
  - **In the future we would like to be a stakeholder in a FACA type process that would fully vet any proposed drinking water regulation that is more stringent than federal regulations.**