Appendix C

Chapter 10: Disinfectants and Disinfection Byproduct Rule

Compliance Monitoring Plan Resubmittal

- Resubmittal Instructions
- Compliance Monitoring Plan

If a system makes any changes in treatment, distribution system operations and layout, or other factors that may affect TTHM and HAA5 formation, these changes may warrant a modification to their monitoring locations. In this case the system must revise their compliance monitoring plan. The system must consult with the IEPA regarding the need for changes and the most appropriate modifications. Modifications may be initiated by the water system or IEPA.

Compliance Monitoring Plan

General Information

IL_____

Water System Name:_____

Direct Population: _____

Source Type: _____

Contact (Sample Collector) NAME:_____

ADDRESS:_____

CITY:_____, IL ZIP CODE:_____

Who to Call Regarding this Report: _____

telephone: _____

email address: _____

Signature (Water System Official): _____ Date: _____

I Required Stage 2 Compliance Monitoring Frequency and Locations :

IL_____.

Number / Frequency (during Peak Historical Month) NUMBER FREQUENCY

High THM Sites Required: X # High HAA Sites Required: X # Stage 1 Sites Required: X

II Information Below is used to Assist in Site Selection:

Indicate the peak historical month, the month with the warmest water temperature, or if on quarterly monitoring, the month of the highest sample results.

Peak Historical Month (PHM)	Basis for PHM Selection

Compliance Monitoring Plan

Review your current Stage 1 DBPR monitoring location with the following guidance to verify whether this location is adequate for Stage 2 DBPR compliance monitoirng:

What makes a good Total Trihalomethanes (TTHMs) Site ---

TTHM formation is strongly influenced by residence time. In addition, TTHM formation generally increases with increasing pH. TTHM sites should not be located at dead ends with no users. The sampling should be representative of water that is being consumed, not stagnant water. In addition, sites should be upstream of booster chlorination and after the last hydrant or blowoff.

- Excellent sites for high TTHM include: Tanks – down-gradient of storage facilities, which have increased residence time;
- Low flows – sparsely populated areas with low flows;
- Geographic dead ends – areas that are physically located at the end of a water main or group of water mains without looping back to the main portion of the distribution system. However, do not sample stagnant water after the last customer. The purpose is to sample water that customers are consuming.
- Hydraulic dead ends and mixing zones – areas in which there is little movement of water. After booster chlorination – where formation will have increased due to more available disinfectant.
- Low or no residual (i.e., relative to initial disinfectant levels) – likely advanced residence time.
- Low water use in general – lightly developed areas where water is allowed to age.
- Areas with high historic TTHM levels

What makes a good High Haloacetic Acid (HAA) Site ---

Different systems may find high HAA5 sites in locations with different characteristics. HAA5 formation and decomposition seems to follow a pattern that is different from that of TTHM in the distribution system. While TTHM concentrations are generally highest at the points in the system with the longest residence times, research suggests that HAA5 seem to form and then decompose. The consumption of HAA5 by microorganisms is known as biodegradation, which is more likely to occur when disinfectant residual levels are low or non-existent, particularly in warmer months. Therefore, a high HAA5 site will not necessarily be the site with the longest residence time, and may even be at a site with shorter residence time.

- Low but detectable residual (i.e., relative to initial levels) – likely advanced residence time but not sites likely to have biofilm.
- After booster chlorination – where formation will have increased due to more available disinfectant and where any biodegradation will be halted.
- Areas with high historic HAA5 levels
- Tanks – increased residence time.
- Dead ends – low flows. However, do not sample stagnant water after the last customer. The purpose is to sample water that customers are consuming.
- Hydraulic dead ends and hydraulic mixing zones.

Compliance Monitoring Plan

Compliance Calculation Procedures:

- The Stage 2 DBPR changes the way compliance is determined with MCLs by changing the way sampling results are averaged. Stage 2 DBPR determines compliance with the MCL on an Locational Running Annual Averages. LRAA instead of the system-wide RAA as is used under the Stage 1 DBPR. The primary objective of the LRAA is to reduce exposure to high DBP levels. For an LRAA, an annual average is calculated at each monitoring site.

  The Illinois EPA's State / Safe Drinking Water Information System (SDWIS) calculates LRAA.

Compliance Monitoring Plan

IV Please indicate site selection and rationale for site selection and monitoring date below: see page 1, section I to determine # of sites needed

Make copies of this sheet, if additional spaces are needed. Must have rationale for each site selected for Stage 2 compliance monitoring.

Site Type	Site Address, Justification for Selection, and Monitoring Date
☐ Highest TTHM ☐ Highest HAA5	
☐ Highest TTHM ☐ Highest HAA5	
☐ Highest TTHM ☐ Highest HAA5	
☐ Highest TTHM ☐ Highest HAA5	
☐ Highest TTHM ☐ Highest HAA5	
☐ Highest TTHM ☐ Highest HAA5	
☐ Highest TTHM ☐ Highest HAA5	
☐ Highest TTHM ☐ Highest HAA5	

V

A Distribution Schematic is required to be submitted. This a map of the distribution system showing-- coliform sites, water flow, booster chlorination stations, pressure zones, storage tanks, entry point(s), water source and your chosen Stage 2 sampling sites.