

Background on Stage 2 Disinfectants and Disinfection Byproducts Rule (Stage 2 DBPR)

On January 4, 2006 the US Environmental Protection Agency (EPA) published the Stage 2 Disinfectants and Disinfection Byproducts Rule (Stage 2 DBPR) in the Federal Register as part of the National Primary Drinking Water Regulations. The new rule requires compliance with Maximum Contaminant Levels (MCLs) for total trihalomethanes (TTHM) and haloacetic acids (HAA5) as a location running annual average at each monitoring location.

TTHM and HAA5 are disinfection byproducts controlled under 40 CFR 141 for Subpart H systems (public water systems using surface water or ground water under the direct influence of surface water as a source) utilizing chlorine as the disinfectant. The MCLs for TTHM and HAA5 are 0.080 mg/L and 0.060 mg/L respectively (40 CFR 141.64). Under the Stage 1 Rule (Subpart L – 40 CFR 141) water systems are required to comply with these levels as a running annual average for all monitoring sites. In other words the results of all the monitoring sites are averaged together so if a particular monitoring site exceeds the MCL in a given quarter, the water system can still be in compliance by averaging all sites together.

The new Stage 2 Rule will require water systems to maintain compliance for TTHM and HAA5 as a locational running annual average at each monitoring location. This means that the results for an individual monitoring site must be averaged with the results of the previous three quarters for that particular site (an average of four quarters per monitoring site). The average of the four quarters must be at or below the MCL for TTHM and HAA5.

Summary of Impacts and Next Steps

Water systems will be required to test for TTHM and HAA5 for Stage 2 compliance. This means that water system providers must determine what sites are to be monitored. This can be done 1) by reviewing existing Stage 1 data, 2) by reviewing results of a 1-year monitoring program, 3) by use of a hydraulic model of the water system, or 4) by a combination of all three.

Municipalities should verify receipt of a letter from the EPA and/or NCDENR notifying water providers of the new rule, submittal requirements, and deadlines. Systems supplying water to between 10,000 and 49,999 people should have received written notification in July of 2006.

The new rule is complex and affects water providers of all sizes. The specific requirements for each provider are generally dependent on the size of the water system and the amount of existing available sampling data.

The EPA has developed an excellent website for reviewing and understanding the new rule. There are summary sheets and guidance documents to help those affected by the new rule at <http://www.epa.gov/safewater/disinfection/stage2/index.html>.

We encourage you to verify the following information regarding your water system:

- Water system category
- Population supplied with water
- Schedule for compliance
- Next Steps (for most next steps will consist of the following):
 1. Prepare and submit Initial Distribution System Evaluation¹ (IDSE) Plan
 2. Conduct Standard Monitoring or Additional Monitoring
 3. Select Stage 2 Compliance Monitoring Sites and prepare and submit Final IDSE Report
 4. Make Needed Improvements to Distribution System
 5. Begin Stage 2 Compliance Monitoring

Notes

1. An important part of the new rule is the **Initial Distribution System Evaluation (IDSE)**. An IDSE is a one time study conducted by water system providers to identify distribution system locations with high concentrations of trihalomethanes (THMs) and haloacetic acids (HAAs). The water system provider will use results from the IDSE, in conjunction with their Stage 1 DBPR compliance monitoring data, to select compliance monitoring locations for the Stage 2 DBPR.

1. Prepare and Submit IDSE Plan to EPA/State for Approval **Due: October 1, 2007**

There are four options systems can use to comply with the IDSE requirements of the Stage 2 DBPR:

- Qualify for a Very Small System (VSS) Waiver
- Meet 40/30 Certification requirements
- Conduct Standard Monitoring
- Conduct a System Specific Study (SSS) using existing monitoring results or a distribution system hydraulic model

Assuming that the system does not qualify for a VSS Waiver or 40/30 Certification, a plan will need to be submitted to the State which indicates one of the following:

- That you propose to conduct standard monitoring in order to determine acceptable sampling locations for actual Stage 2 DBPR compliance, or
- That you propose to use a hydraulic model in conjunction with Stage 1 DBPR compliance monitoring data to determine acceptable sampling locations (referred to as the System Specific Study)

2. Conduct Standard Monitoring **Oct. 1, 2008 – Sept. 30, 2009**

Based on your IDSE Plan submitted under Item No. 1 above, you will need to:

- Begin your standard monitoring plan, or
- Address additional SSS requirements and/or perform additional monitoring

3. Select Stage 2 Compliance Monitoring Sites and Prepare Final IDSE Report **Due: January 1, 2010**

The report submitted here will identify your system's proposed sampling locations for Stage 2 compliance and will need to be based on one of the following:

- Sampling data collected in accordance with your Standard Monitoring Plan and existing Stage 1 compliance data (if available)
- Results of the Extended Period Simulation (EPS) analysis of your water distribution system by use of the hydraulic model and Stage 1 compliance data

4. Make Needed Improvements to Distribution System **By: October 1, 2013**

If sampling results of the Standard Monitoring Plan indicate high levels of disinfection byproducts (DBPs), or hydraulic modeling results indicate the potential for high levels of DBPs, you may need to make system changes before beginning Stage 2 compliance monitoring.

5. Begin Stage 2 Compliance Monitoring **Begin: Oct. 1, 2013**