



# Stage 2 DBPR IDSE Standard Monitoring Factsheet

## WHAT IS THE STAGE 2 DBPR?

The U.S. Environmental Protection Agency (EPA) published the Stage 2 Disinfectants and Disinfection Byproducts Rule (Stage 2 DBPR) on January 4, 2006. The Stage 2 DBPR builds on existing regulations by requiring water systems to meet disinfection byproduct (DBP) maximum contaminant levels (MCLs) at each monitoring site in the distribution system to better protect public health.

## WHAT IS THE IDSE PROVISION OF THE STAGE 2 DBPR?

The Stage 2 DBPR includes a provision requiring all community water systems (CWS) and only nontransient noncommunity water systems (NTNCWS) serving more than 10,000 people to conduct an initial distribution system evaluation (IDSE). NTNCWS serving less than 10,000 are exempted from IDSE requirements, but will need to comply with the Stage 2 DBPR compliance monitoring requirements. The goal of the IDSE is to characterize the distribution system and identify monitoring sites where customers may be exposed to high levels of total trihalomethanes (TTHM) and haloacetic acids (HAA5). There are four ways to comply with the IDSE requirements: Standard Monitoring, System Specific Study, 40/30 Certification (40/30), and Very Small System (VSS) Waiver. The Standard Monitoring option requires the system to collect 1 year of TTHM and HAA5 data at a specified frequency and locations to characterize TTHM and HAA5 levels in the distribution system. In addition to this data, the system must use available Stage 1 DBPR compliance data to determine the best locations for Stage 2 DBPR compliance monitoring. Any system may conduct Standard Monitoring to meet the IDSE requirements of the Stage 2 DBPR. This factsheet only provides information regarding the Standard Monitoring option.

## STANDARD MONITORING REQUIREMENTS

Systems opting to conduct Standard Monitoring will need to:

- Step 1: Prepare and submit a Standard Monitoring Plan by the date specified in Table 1 (below).
- Step 2: Conduct one year of Standard Monitoring in the distribution system.
- Step 3: Prepare and submit the IDSE Report.
- Step 4: Prepare a Stage 2 DBPR compliance monitoring plan.

Table 1: Standard Monitoring Compliance Dates

If you are a system serving:	Schedule: <sup>1</sup>	Standard Monitoring Plan Due Date:	Complete Standard Monitoring by:	Submit IDSE Report By:	Begin Compliance Monitoring by:
At least 100,000 people or part of a combined distribution system serving at least 100,000 people	Schedule 1	October 1, 2006	September 30, 2008	January 1, 2009	April 1, 2012
50,000 to 99,999 people or part of a combined distribution system serving 50,000 to 99,999 people	Schedule 2	April 1, 2007	March 31, 2009	July 1, 2009	October 1, 2012
10,000 to 49,999 people or part of a combined distribution system serving 10,000 to 49,999 people	Schedule 3	October 1, 2007	September 30, 2009	January 1, 2010	October 1, 2013
Less than 10,000 or part of a combined distribution system serving less than 10,000	Schedule 4	April 1, 2008	March 31, 2010	July 1, 2010	October 1, 2013 <sup>2</sup>

<sup>1</sup> Your schedule is defined by the largest system in your combined distribution system.

<sup>2</sup> Systems not conducting *Cryptosporidium* monitoring under 40 CFR 141.701(a)(4) must begin Stage 2 DBPR compliance monitoring by this date. Systems conducting *Cryptosporidium* monitoring under 40 CFR 141.701(a)(4) or 141.701(a)(6) must begin Stage 2 DBPR compliance monitoring by October 1, 2014.

# STEP 1: PREPARE & SUBMIT STANDARD MONITORING PLAN

## THE REQUIRED ELEMENTS OF A STANDARD MONITORING PLAN ARE:

- Population served by your system.
- System Type: Subpart H (surface water or ground water under the direct influence of surface water) or Ground Water.
- Distribution System Schematic showing:
  - Entry points.
  - Sources.
  - Locations and dates of all projected standard monitoring and Stage 1 DBPR compliance samples.
  - Locations of tanks, booster chlorination and water mains.
  - Justification of Standard Monitoring site selection and a summary of additional data used to support standard monitoring site selection.

**HOW TO SELECT STANDARD MONITORING SITES** - Your standard monitoring plan must include the locations and dates for one year of monitoring. The monitoring frequency and number of sites required is based on your system's source water and population as shown in Tables 2. These sites are in addition to your Stage 1 DBPR compliance monitoring sites; therefore, you may not use Stage 1 DBPR monitoring locations as standard monitoring sites. In addition, the system will need to determine and monitor during the peak historical month.

**Peak Historical Month:**  
Is the month with the highest TTHM or the highest HAA5 levels or the warmest water temperature. It is meant to represent the "worst case" scenario for DBP formation.

**Table 2: Standard Monitoring Requirements for Subpart H Systems**

Source Type	Population Size Category	Monitoring Periods and Frequency of Sampling	Distribution System Monitoring Locations <sup>1</sup>				
			Total per monitoring period	Near Entry Points <sup>2</sup>	Average Residence Time	High TTHM Locations	High HAA5 Locations
Subpart H	<500 consecutive	one (during peak historical month)	2	1	-	1	-
	<500 non-consecutive		2		-	1	1
	500-3,300 consecutive	four (every 90 days)	2	1	-	1	-
	500-3,300 non-consecutive		2	-	-	1	1
	3,301-9,999		4	-	1	2	1
	10,000-49,999	six (every 60 days)	8	1	2	3	2
	50,000-249,999		16	3	4	5	4
	250,000-999,999		24	4	6	8	6
	1,000,000-4,999,999		32	6	8	10	8
	≥5,000,000		40	8	10	12	10
Ground	<500 consecutive	one (during peak historical month)	2	1	-	1	-
	<500 non-consecutive		2	-	-	1	1
	500-9,999	Four (every 90 days)	2	-	-	1	1
	10,000-99,999		6	1	1	2	2
	100,000-499,999		8	1	1	3	3
	≥500,000		12	2	2	4	4

<sup>1</sup> When choosing sites consider TTHM and HAA5 Levels, Residence Time, Water Age, Disinfectant Residual, Geographic Coverage of Distribution System, and Hydraulic Representation.

<sup>2</sup> Near Entry Points: If you have more sites than required: choose entry points with the highest flows. If you have fewer sites than required: replace additional sites with TTHM and HAA5 sites.

## HOW TO SUBMIT A STANDARD MONITORING PLAN:

### Submit Electronically:

- Go To: [www.epa.gov/safewater/disinfection/tools](http://www.epa.gov/safewater/disinfection/tools) and access the IDSE Tool, Plan/Report Entry.
- Create an electronic Standard Monitoring Plan using the template provided in the IDSE Tool.
- Attach schematic and additional information.
- Submit by the Due Date presented in Table 1 (above).
- Keep the confirmation number and copy of your plan for your files.

### Submit By Mail:

- Create a Standard Monitoring Plan. A template can be found in the IDSE Guidance Manual.
- Attach schematic and additional information.
- Mail submission to the IPMC:  
US EPA-IPMC  
PO Box 98  
Dayton, OH 45401-0098

## STEP 2: CONDUCT STANDARD MONITORING

Once EPA or the state approves your plan, you must conduct standard monitoring at each of the monitoring locations and dates listed in your standard monitoring plan. If you deviate from the approved plan for any reason, you must include an explanation for the deviation in your IDSE Report. During each sample event, you must collect a dual sample set at each location. A dual sample set consists of analyzing one sample for TTHM and another one for HAA5. You must use a certified laboratory and EPA-approved methods for analysis of your TTHM and HAA5 samples.

## STEP 3: PREPARE AND SUBMIT IDSE REPORT

The required elements of the IDSE Report are:

- TTHM and HAA5 analytical results from all Stage 1 DBPR and Standard Monitoring conducted during the period of standard monitoring, provided in a tabular or spreadsheet format.
- Explanation of any deviations from the approved standard monitoring plan.
- Recommendations and justification for Stage 2 DBPR compliance monitoring sites and dates.
- If the following information changed from the approved standard monitoring plan, also include:
  - Distribution system schematic.
  - Population served by the system.
  - System type (subpart H or ground water).

**HOW TO SELECT STAGE 2 DBPR COMPLIANCE MONITORING SITES AND DATES** - You will use results from standard monitoring and Stage 1 DBPR compliance monitoring to select Stage 2 DBPR compliance monitoring sites. The Stage 2 DBPR provides a specific protocol for selecting these sites based on ranking the TTHM and HAA5 locational running annual average (LRAA) for each standard monitoring and Stage 1 DBPR compliance monitoring site. This protocol is summarized in Table 3. If the system decides to recommend an alternative Stage 2 DBPR compliance monitoring site, a justification must be included in the report.

**Table 3: Protocol to Select Stage 2 DBPR Compliance Monitoring Locations**

Select the location with:	
1 Highest TTHM LRAA	5 Next highest TTHM LRAA
2 Highest HAA5 LRAA	6 Next highest HAA5 LRAA
3* Highest HAA5 LRAA from Stage 1 DBPR sites (Average residence time if surface water, maximum residence time if ground water system)	7* Highest TTHM LRAA from Stage 1 DBPR sites (Average residence time if surface water, maximum residence time if ground water system)
4 Next highest TTHM LRAA.	8 Next highest HAA5 LRAA
*skip this step if you have no more Stage 1 DBPR sites	

As with standard monitoring, you will select your peak historical month and sampling frequency. You should use the peak historical month selected in your standard monitoring plan unless new data suggest another month. The number of sites you select as well as the monitoring frequency is based on your source water type and population, as listed in Table 4. If you sample more than annually, you will conduct Stage 2 DBPR compliance sampling at equal intervals around the peak historical month, based on your required sampling frequency.

**Table 4: Stage 2 DBPR Compliance Monitoring Requirements**

Source Water Type	Population Size Category	Monitoring Frequency <sup>1</sup>	Distribution System Monitoring Location			
			Total per monitoring period <sup>2</sup>	Highest TTHM Locations	Highest HAA5 Locations	Existing Stage 1 DBPR Compliance Locations
Subpart H	<500	per year	2	1	1	-
	500-3,300	per quarter	2	1	1	-
	3,301-9,999	per quarter	2	1	1	-
	10,000-49,999	per quarter	4	2	1	1
	50,000-249,999	per quarter	8	3	3	2
	250,000-999,999	per quarter	12	5	4	3
	1,000,000-4,999,999	per quarter	16	6	6	4
	≥5,000,000	per quarter	20	8	7	5
Ground	<500	per year	2	1	1	-
	500-9,999	per year	2	1	1	-
	10,000-99,999	per quarter	4	2	1	1
	100,000-499,999	per quarter	6	3	2	1
	≥500,000	per quarter	8	3	3	2

<sup>1</sup> All systems must monitor during the month of highest DBP concentrations.

<sup>2</sup> Systems on quarterly monitoring must take dual sample sets every 90 days at each monitoring location, except for Subpart H systems serving 500-3,300. Systems on annual monitoring and Subpart H systems serving 500-3,300 are required to take individual TTHM and HAA5 samples (instead of a dual sample set) at the locations with the highest TTHM and HAA5 concentrations, respectively. Only one location with a dual sample set per monitoring period is needed if highest TTHM and HAA5 concentrations occur at the same location, and month, in monitored annually.

## STEP 4: PREPARE STAGE 2 DBPR COMPLIANCE MONITORING PLAN

The required elements of the Stage 2 DBPR compliance monitoring plan are the compliance monitoring locations, dates, and compliance calculation procedures. If you decide to include the compliance calculation procedures in your IDSE Report, you will not have to prepare a separate Stage 2 DBPR compliance monitoring plan. However, if you did not include the information required for the Stage 2 DBPR compliance monitoring plan as part of your IDSE Report, your next step will be to prepare this plan before beginning Stage 2 DBPR compliance monitoring. If you are a Subpart H system serving more than 3,300 people, you must submit a copy of the monitoring plan to your state before Stage 2 DBPR compliance monitoring begins. Also, systems should check with their states in case there are state requirements, in addition to the Federal requirements, that need to be included in the IDSE Report.

## ADDITIONAL GUIDANCE MATERIALS

The following guidance materials address the IDSE requirements for the Stage 2 DBPR:

- *Initial Distribution System Evaluation Guidance Manual for the Final Stage 2 Disinfectants and Disinfection Byproducts Rule* (EPA 815-B-06-002) - This manual is a comprehensive technical guidance document for all system sizes and types and all IDSE options.

- *Initial Distribution System Evaluation Guide for Systems Serving < 10,000 People For the Final Stage 2 Disinfectants and Disinfection Byproducts Rule* (EPA 815-B-06-001) - This manual focuses on information that systems serving less than 10,000 are most likely to use. It does not discuss the IDSE system specific study option.
- *IDSE Tool* - Is a web-based tool that walks the user through the IDSE process. A Wizard determines IDSE requirements and selects the best IDSE option for your system. The tool creates Custom Forms your system (based on population served and system type) can submit electronically to EPA's Information Processing and Management Center for EPA/state review. (Available on-line at [www.epa.gov/safewater/disinfection/tools](http://www.epa.gov/safewater/disinfection/tools).)

For additional guidance on the Stage 2 DBPR, you may refer to the following existing and future EPA materials:

- Stage 2 DBPR Quick Reference Guides (Schedules 1 - 4).
- Simultaneous Compliance Guidance Manuals for the Stage 2 Rules (draft version anticipated mid-2006).
- Stage 2 Disinfectant and Disinfection Byproducts Rule: Small Entity Compliance Guide - One of the Simple Tools for Effective Performance (STEP) Guide Series (draft version anticipated late 2006).
- Consecutive System Guidance Manual for the Final Stage 2 Disinfectants and Disinfection Byproducts Rule (draft version anticipated late 2006).
- Operational Evaluation Guidance Manual for the Final Stage 2 Disinfectants and Disinfection Byproducts Rule (draft version anticipated late 2006).

Materials can be downloaded from [www.epa.gov/safewater/disinfection/stage2](http://www.epa.gov/safewater/disinfection/stage2), as they become available.

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For additional information, please contact the Safe Drinking Water Hotline at 1-800-426-4791, send an email to [stage2mdbp@epa.gov](mailto:stage2mdbp@epa.gov), or visit [www.epa.gov/safewater/disinfection/stage2](http://www.epa.gov/safewater/disinfection/stage2).