

See information below



#### **6.6.4 Select Final Compliance Monitoring Sites**

You must first use the **site selection protocol in Exhibit 6.13** to identify Stage 2 compliance monitoring locations based on your LRAAs. The number of required Stage 2 compliance monitoring sites for your system can be found on the last page of this document. If you complete all steps in the protocol and need additional compliance monitoring sites for the Stage 2 DBPR, repeat the protocol until the required number of sites has been selected. If you arrive at Step 3 or Step 7 and have no more Stage 1 DBPR sites from which to select, continue to the next step. You can also use **Worksheet 6.1** to help you organize your data.

You should compare Stage 2 sites selected using the protocol to model results for water age. In general, TTHM and HAA5 results and modeled water age are the most important factors in site selection. You should consider both predicted average water age and the 24-hour variation in water age. If you are choosing between two sites where one has large variations in water age throughout the day and the other is relatively consistent, you should select the site with consistent water age. Sites with discrepancies between model results and SSS monitoring results can be selected as Stage 2 DBPR compliance monitoring sites if justification is provided in the IDSE report.

The Stage 2 DBPR allows you to consider additional factors when selecting Stage 2 compliance monitoring locations. As you work through the site selection protocol, you should consider other factors that may lead you to select a site with a similar or slightly lower water age and/or LRAA. For example:

- The site provides more complete geographic coverage of the entire distribution system
- The site allows you to maintain a historical record
- Sampling at that site provides the opportunity to collect other water quality or operational data (e.g., chloramine systems may want to collect nitrate or nitrite data at that site)

Your IDSE report **must** include the basis (analytical results and modeling) and justification you used to select these Stage 2 DBPR compliance monitoring sites. This is particularly important for sites where there was a discrepancy between the model and the monitoring results. You should first explain why you selected the site for SSS monitoring, and then why you selected the site for Stage 2 compliance monitoring using modeling results and sample data. An example of how you might justify a site is given below.

*This site has the highest water age of all nodes and had the highest TTHM levels of all samples collected during our SSS monitoring. Therefore, it was selected as our first high TTHM site.*

It is possible that EPA or your state may not concur with your justification and may require you to select different Stage 2 compliance monitoring sites.



**Exhibit 6.13 Protocol for Selecting Stage 2 DBPR (Subpart V) Compliance Monitoring Sites**

	<b>Steps<sup>1</sup> [required by rule]</b>	<b>Stage 2 Compliance Monitoring Sites Selected<sup>2</sup></b>
1	Select the location with the highest TTHM LRAA	1 <sup>st</sup> highest TTHM site
2	Select the remaining location with the highest HAA5 LRAA	1 <sup>st</sup> highest HAA5 site
3	<p><u>For subpart H systems:</u> Select the remaining existing Stage 1 DBPR average residence time compliance monitoring location with the highest HAA5 LRAA</p> <p><u>For ground water systems:</u> Select the remaining existing Stage 1 DBPR maximum residence time compliance monitoring location with the highest HAA5 LRAA</p> <p><i>Skip this step if you have no more Stage 1 DBPR sites</i></p>	1 <sup>st</sup> Stage 1 DBPR site
4	Select the remaining location with the next highest TTHM LRAA.	2 <sup>nd</sup> highest TTHM site
5	Select the remaining location with the next highest TTHM LRAA	3 <sup>rd</sup> highest TTHM site
6	Select the remaining location with the next highest HAA5 LRAA	2 <sup>nd</sup> highest HAA5 site
7	<p><u>For subpart H systems:</u> Select the remaining existing Stage 1 DBPR average residence time compliance monitoring location with the highest TTHM LRAA</p> <p><u>For ground water systems:</u> Select the remaining existing Stage 1 DBPR maximum residence time compliance monitoring location with the highest TTHM LRAA</p> <p><i>Skip this step if you have no more Stage 1 DBPR</i></p>	2 <sup>nd</sup> Stage 1 DBPR site
8	Select the remaining location with the next highest HAA5 LRAA	3 <sup>rd</sup> highest HAA5 site
<p><i>If you need more Stage 2 DBPR compliance monitoring locations, Go back to <b>Step 1</b> of this protocol and repeat the steps until you have selected the required number of total sites.</i></p>		

1. All steps are based on your calculated LRAAs for your SSS monitoring sites and Stage 1 DBPR compliance monitoring sites. This means that your existing Stage 1 DBPR sites can be selected in steps *other than* 3 or 7. Stop when you reach your required number of Stage 2 DBPR compliance monitoring sites.
2. You cannot select the same site as a highest TTHM and a highest HAA5 compliance monitoring site.

### 6.6.5 Determining Your Stage 2 DBPR Compliance Monitoring Schedule

The first step in determining your Stage 2 DBPR compliance monitoring schedule is to select your peak historical month. You should use the peak month for TTHM formation selected in your SSS modeling plan unless new data suggest another month. Refer to Section 6.3 for more information on determining peak historical month.

You **must** conduct Stage 2 DBPR compliance monitoring during the peak historical month. If you are a ground water system that serves more than 9,999 people or you are a surface water system that serves more than 499 people, you must also conduct Stage 2 compliance sampling at 90 day intervals before and/or after the peak historical month.

The intent of the required time interval is to ensure that samples are representative of the quality of water over an extended period and do not over-emphasize either high or low concentrations of TTHM or HAA5 that might occur seasonally. For example, a system on quarterly monitoring could sample in the **third full week of every third month**. It is not necessary to sample all sites on the same day.

### 6.7 Preparing the IDSE Report

Every system that conducts a modeling SSS **must** prepare and submit an IDSE Report. If you will have completed all requirements of the IDSE by your plan submittal deadline, you may submit completed forms or documentation for both the Modeling SSS Plan and IDSE Report for a Modeling SSS at the same time.

EPA has developed an **IDSE Report for a Modeling SSS Form (Form 5)**, presented in this section and available electronically as part of the **IDSE Tool**. You are not required to use this form; however, if you choose not to use it, refer to Exhibit 6.14 for a list of the minimum elements you must include in your IDSE report. If any information has changed since submittal of your modeling study plan, revised information must be submitted with the report. A major component of the modeling study plan is to report on the final calibration of the hydraulic model and its suitability for use in the required modeling analysis. If you use Form 5 in this section, your IDSE report will contain all required information about your model.

---

**The IDSE Tool** creates a custom form for your system and provides links to technical guidance from this manual. The tool is available on EPA's website at <http://www.epa.gov/safewater/disinfection/stage2>.

---



### **Exhibit 6.14 Minimum Requirements for IDSE Report for a Modeling SSS**

If you do not choose to use the IDSE Report for a Modeling SSS Form (Form 5), the following information must be provided in your IDSE Report:

- Analytical results from Stage 1 DBPR compliance monitoring and SSS monitoring in a tabular or spreadsheet format.
- An updated system schematic, if changed from your modeling study plan (Required if you did not indicate SSS monitoring locations in your study plan).
- Final information on model requirements, calibration, and modeling analysis, if changed or new since submittal of your study plan, including tables and graphs.
- A 24-hour time series graph of residence time for each Stage 2 DBPR compliance monitoring location selected.
- Selected Stage 2 DBPR compliance monitoring locations and timing, including the basis (analytical results and modeling) and justification for selection of those locations.
- Population served and system type (subpart H or ground water) if changed from your modeling study plan.
- An explanation of any deviations from your approved study plan.

Before you begin Stage 2 DBPR compliance monitoring, you will also be required to prepare a Stage 2 DBPR compliance monitoring plan. In addition, if you are a subpart H system serving >3,300 people, you must submit a copy of your Stage 2 compliance monitoring plan to the state. If you include **compliance calculation procedures** in your IDSE report, the report can meet the requirement of the plan, and you do not have to prepare or submit a separate plan. As a guide for specifying your compliance calculation procedures, refer to the Stage 1 DBPR, 141.133(b), and your Stage 1 compliance monitoring plan. Check with your state, as they may have different requirements under the Stage 2 DBPR. If you are a consecutive or wholesale system, your state may choose to use its special primacy authority to modify your Stage 2 compliance monitoring requirements. In this case, you should check with the state to see if they are going to use this authority. You should develop your IDSE report for the total number of required Stage 2 compliance locations for your system.

The IDSE Report for a Modeling SSS Form (Form 5) includes the following sections:

- I. General Information
- II. SSS and Stage 2 DBPR Requirements**
- III. Modeling Information
- IV. SSS Monitoring Location Selection
- V. SSS and Stage 1 DBPR Compliance Monitoring Results**
- VI. Selection of Stage 2 DBPR Compliance Monitoring Locations
- VII. Justification of Stage 2 DBPR Compliance Monitoring Sites**
- VIII. Peak Historical Month**
- IX. Proposed Stage 2 DBPR Compliance Monitoring Dates**
- X. Distribution System Schematic
- XI. Attachments**

If you are submitting an SSS plan and IDSE report at the same time, you must submit the portions listed in bold above. Sections of the form with an asterisk (\*) are required by the Stage 2 DBPR. An example of a complete IDSE report for a modeling SSS using this form is in Appendix F.

## **I. General Information**

- I.A. PWS Information\* - If nothing has changed since you completed your modeling study plan, copy information from your plan into this section. If your system characteristics have changed, see Section 6.4 of this chapter for guidance on completing this section.
- I.B. Date Submitted\* - Enter either the date that you are submitting the form electronically, putting it in the mailbox, or dropping it off with an express delivery service. Be sure to submit your IDSE report before the deadline found on your requirements summary sheet.
- I.C. PWS Operations - This section asks questions about your system to help inform EPA and state personnel during the plan review process. If nothing has changed since you completed your modeling study, copy information from your plan into this section. If your system characteristics have changed, see Section 6.4 of this chapter for guidance on completing this section.
- I.D. Contact Person\* - Enter the contact information of the person who is submitting the report. This should be the person who will be available to answer questions from EPA and/or state reviewers.

## II. SSS and Stage 2 DBPR Requirements\*

- II.A. Number of Required Stage 2 DBPR Compliance Monitoring Sites - Refer to the last page of this document. Copy the numbers from the table that correspond to your source type and the population served by your system.
- II.B. IDSE Schedule - This should be the same schedule you entered for your modeling study plan. See Section 6.3 of this chapter for guidance.
- II.C. Stage 2 DBPR Compliance Monitoring Frequency - Refer to the last page of this document. Locate the monitoring frequency that corresponds to your source type and the population served by your system.
- II.D. Number of Required SSS Samples - Enter the number of samples you were required to collect during the peak month for TTHM formation.

## III. Modeling Information

Systems with an approved model calibration as part of their modeling study plan do not need to complete this section. If any of your information submitted as part of the modeling study plan has changed, provide updated information in this section.

- III.A. How was demand data assigned to the model? For each question, provide a brief description of the data and methods used to assign customer demands to the model.
- III.B. Describe all calibration activities undertaken.\* For each question, provide a brief description of the data and methods used to calibrate your model.

**If you did not complete calibration prior to your study plan submittal or if your calibration has changed, submit a graph that documents your model calibration** by showing simulated tank levels versus observed levels for the storage facility with the highest water age in each pressure zone of your system (see Exhibit 6.5 for an example)\*.

Systems with an approved model calibration as part of their modeling study plan do not need to complete this section.

- III.C. How was the SSS modeling performed?\*

Systems with an approved model analysis as part of their modeling study plan do not need to complete this section unless their information has changed.

Systems who conducted their water age modeling analysis after submitting their modeling study plan should answer all questions.

- **Submit model output showing final average water age results over a 24-hour period\***. The 24-hour period used for the average water age results table should represent a simulation time after the model has achieved a stable, repeating water age pattern (e.g. the last 24 hours of the simulation). EPA recommends that you submit this in tabular format to not pose a security risk to your system.
- **Submit a graph of water age versus time for the entire simulation duration for the tank with the highest overall water age in the system\***.

**IV. SSS Monitoring Location Selection** - Provide an explanation of the approach used to analyze water age results to select SSS monitoring locations. Describe how sites were ranked for water age (e.g. percentile, highest to lowest, etc.). Include any additional data that was used to assist in the analysis, such as residual disinfectant concentration. Describe practical considerations such as accessibility, coverage of geographic areas, or coverage of hydraulic zones that factored into the decision.

**V. SSS and Stage 1 DBPR Compliance Monitoring Results\***

V.A. TTHM Results - Enter the TTHM results for each monitoring site for each monitoring period in which you collected data. For each sample result, enter the date on which sampling was conducted. You should enter all SSS monitoring results as well as all Stage 1 DBPR compliance monitoring results collected during the IDSE period. If you collected samples during a single monitoring period, your LRAAs for those sites will be the same as the monitoring results. For each site ID, identify the location type (High TTHM, High HAA5, Average, Entry Point).

V.B. HAA5 Results - Enter the HAA5 results for each monitoring site for each monitoring period in which you collected data. For each sample result, enter the date on which sampling was conducted. You should enter all SSS monitoring results as well as all Stage 1 DBPR compliance monitoring results collected during the IDSE period. If you collected samples during a single monitoring period, your LRAAs for those sites will be the same as the monitoring results. For each site ID, identify the location type (High TTHM, High HAA5, Average, Entry Point).

V.C. Where were your TTHM and HAA5 samples analyzed? - Put a check mark in the appropriate box to identify whether your system analyzed TTHM and HAA5 samples in an in-house laboratory or sent the samples to a certified laboratory for analysis.

If you analyzed your TTHM and HAA5 samples in an in-house laboratory, check the appropriate box to identify whether your laboratory is certified. If you sent your TTHM and HAA5 samples to a certified laboratory, enter the name of the laboratory in the blank. If you used more than one laboratory (e.g., if you used different laboratories for SSS samples and Stage 1 DBPR compliance samples), list both laboratories, or check “in-house” and list the name of the laboratory if applicable.

V.D. What method(s) was used to analyze your TTHM and HAA5 samples? Put a check mark in the appropriate box to indicate the analytical method used to measure the TTHM and HAA5 concentrations of your SSS and Stage 1 DBPR compliance samples. If more than one method was used (e.g., if you used different laboratories for SSS samples and Stage 1 DBPR compliance samples), check more than one method. If you do not know what method was used, contact your laboratory.

**VI. Selection of Stage 2 DBPR Compliance Monitoring Locations** - Describe the comparison of sampling and modeling results. Provide a description of the comparison between sampling and modeling results, including any follow-up investigations done to resolve discrepancies. See Section 6.3.3 for more information.

- **You must submit a graph of water age versus time for each site selected\***. You should show the selected sites on the distribution system schematic and assign each site a unique site ID (see Section XI). For security reasons, the graphs of water age for each selected Stage 2 compliance monitoring site should not be identified by site location number. A blind numbering system should be used on each graph, which you can discuss with EPA or your state if they contact you with questions about your IDSE report.

**VII. Justification of Stage 2 DBPR Compliance Monitoring Sites\*** - Enter the site ID from the distribution schematic and the site category (highest TTHM, highest HAA5, or Stage 1 DBPR). You must provide a justification for each site including the modeling and sampling results that led you to select it. See Section 6.4.4 of this manual for guidance. For example, a justification for a highest HAA5 site might be:

*High average water age, high HAA5 results during monitoring, measurable residual in historical TCR data, located in East Pressure Zone*

Note that there is only space for 8 monitoring sites on this sheet. If you need more space, attach additional sheets.

**VIII. Peak Historical Month**

VIII.A Peak Historical Month for TTHM and HAA5\* - Enter the month that you determined to be your peak historical month for TTHM and HAA5.

VIII.B Is Your Peak Historical Month the Same as Your Peak Month for TTHM Formation in Your Modeling Study Plan? - Put a check mark in the appropriate box to identify whether your system is using the same peak. If your SSS monitoring results or other factors prompted you to select a different peak month, explain how you selected a new peak month. Note that the modeling SSS was based on using the peak month for TTHM formation for the modeling analysis. However, compliance with Stage 2 DBPR is based on the peak historical month for TTHM and HAA5. You should use the same peak historical month that you used for your SSS monitoring unless you have convincing data to do otherwise.

IX. **Proposed Stage 2 DBPR Compliance Monitoring Schedule\*** - Enter the ID for each Stage 2 DBPR compliance monitoring site in the table (these should match the ID's you enter in Section VII and on your schematic). Enter your proposed sampling schedule for the number of monitoring periods identified in Section II.C. The entry can be a specific date or week and can be in a number of different formats. For example:

- 2nd Tuesday in Nov
- 2<sup>nd</sup> week in Nov

Remember that at least one monitoring period must be during the peak historical month identified in Section VIII.A. Note that there is only space for 8 monitoring sites on this sheet. If you are a subpart H system serving more than 249,999 people you are required to monitor at more than 8 sites. Therefore, you will need to attach additional sheets.

X. **Distribution System Schematic\*** A distribution system schematic is required *only if it has changed from your approved modeling study plan*. If it has changed, you must attach a distribution system schematic. **If you did not show your SSS monitoring locations on the distribution system schematic you submitted with your model study plan, you must submit a revised distribution system schematic.** See Section 6.4 of this manual for guidance.

XI. **Attachments** - Put a check mark in each of the boxes corresponding to any attachments that you have included in your report.

Note that there is only space for 8 monitoring sites in Section V and Section VII. If you need additional space you can attach additional sheets.

Note that some of the attachments are required by the rule.

If you deviated from your approved study plan, you must attach an explanation of all deviations.

If you submit your IDSE report electronically, you also have the option to submit attachments in hard copy. Include a note in your electronic IDSE report explaining that attachments are being submitted in hard copy, and mail the hard copy to the IPMC

mailing address in your Requirements Summary Sheet. The IPMC will match the hard copy submission with your electronic submission when it is received.

If you are a subpart H system serving >3,300 people, you must submit a copy of your Stage 2 compliance monitoring plan to the state. If you include **compliance calculation procedures** in your IDSE report, the report can meet the requirement of the plan, and you do not have to prepare or submit a separate plan. As a guide for specifying your compliance calculation procedures, refer to the Stage 1 DBPR, 141.133(b), and your Stage 1 compliance monitoring plan. Check with your state, as they may have different requirements under the Stage 2 DBPR.

Enter the total number of pages in your IDSE report (including attachments) in the blank at the bottom of this section. This will allow EPA or your state to ensure that all pages were received.

This page intentionally left blank.

# Form 5: IDSE Report for a Modeling SSS

## I. GENERAL INFORMATION

*(Skip this section if you are submitting the plan and report at the same time)*

### A. PWS Information\*

PWSID: \_\_\_\_\_

PWS Name: \_\_\_\_\_

PWS Address: \_\_\_\_\_

City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_

Population Served: \_\_\_\_\_

### B. Date Submitted\*

\_\_\_\_\_

#### System Type:

- CWS
- NTNCWS

#### Source Water Type:

- Subpart H
- Ground

#### Buying / Selling Relationships:

- Consecutive System
- Wholesale System
- Neither

### C. PWS Operations

Residual Disinfectant Type:  Chlorine  Chloramines  Other: \_\_\_\_\_

Number of Disinfected Sources: \_\_\_ Surface \_\_\_ GWUDI \_\_\_ Ground \_\_\_ Purchased

### D. Contact Person\*

Name: \_\_\_\_\_

Title: \_\_\_\_\_

Phone Number: \_\_\_\_\_ Fax: \_\_\_\_\_

E-mail: \_\_\_\_\_

## II. SSS AND STAGE 2 DBPR REQUIREMENTS\*

### A. Number of Required Stage 2 DBPR Compliance Monitoring Sites \_\_\_\_\_ TOTAL

Highest TTHM: \_\_\_\_\_ Stage 1 DBPR: \_\_\_\_\_

Highest HAA5: \_\_\_\_\_

### B. IDSE Schedule

- Schedule 1
- Schedule 2
- Schedule 3
- Schedule 4

### C. Stage 2 DBPR Compliance Monitoring Frequency

- Once during peak historical month
- Every 90 days (4 monitoring periods)

### D. Number of Required SSS Samples

\_\_\_\_\_ TOTAL

### III. MODELING INFORMATION

*(Skip this section if you submitted a modeling study plan with an approved model calibration and your information has not changed, or if you are submitting your plan and report at the same time)*

**A. How was demand data assigned to the model? (attach additional sheets if needed)**

1.	What method was used to assign demands throughout the system?	
2.	How did you estimate diurnal demand variation? How did you determine total system demand?	
3.	How many demand categories did you use?	
4.	How did you address large water users?	

**B. Describe all calibration activities undertaken\* (attach additional sheets if needed)**

1.	When was the model last calibrated?	
2.	What types of data were used in the calibration?	
3.	When was the calibration data collected?	
4.	What field tests have been performed to collect calibration data?	

**III. MODELING INFORMATION (Continued)**

5. How did you determine friction factors (C-factors)?

6. Was the calibration completed for the peak month for TTHM formation? If not, was the model performance verified for the peak month for TTHM formation?

7. How well do actual tank levels correlate with predicted tank levels during the peak month for TTHM formation?

**Submit a graph of predicted tank levels vs. measured tank levels for the storage facility with the highest water age in each pressure zone.\***

8. If you are using a water quality model, what parameters are modeled? How was the model calibrated?

## III. MODELING INFORMATION (Continued)

### C. How was the SSS modeling performed?\* (*attach additional sheets as needed*)

<p>1. Was modeling done for the operating conditions during the peak month for TTHM formation*?</p>	
<p>2. How were operational controls represented in the model?</p>	
<p>3. How was water age simulated during the peak month for TTHM formation (time steps, length of simulation, etc.)?</p>	
<p>4. What are the average water age results for your distribution system?</p> <p><b>Submit final model output showing 24-hour average residence time throughout the distribution system*.</b></p> <p><b>Submit graph of water age at the longest residence time storage facility in the distribution system showing the predictions for the entire EPS simulation period*.</b></p>	

## IV. SSS MONITORING LOCATION SELECTION

How were the SSS monitoring locations selected? (*attach additional sheets as needed*)

1.	What model results were used as the basis for selection?	
2.	What criteria were used in selecting average residence time, high TTHM, and high HAA5 sites?	
3.	What additional data was used in the analysis, and how was it used?	
4.	How did you look at practical considerations like accessibility of sampling locations?	
5.	How did you verify that your selected sampling locations corresponded to the selected node in your model?	

# Form 5: IDSE Report for a Modeling SSS

## V. SSS AND STAGE 1 DBPR COMPLIANCE MONITORING RESULTS\*

### A. TTHM Results

Site ID & Category	Data Type	TTHM (mg/L)				LRAA
	Sample Date					
	Sample Result					
	Sample Date					
	Sample Result					
	Sample Date					
	Sample Result					
	Sample Date					
	Sample Result					
	Sample Date					
	Sample Result					
	Sample Date					
	Sample Result					
	Sample Date					
	Sample Result					
	Sample Date					
	Sample Result					
	Sample Date					
	Sample Result					
	Sample Date					
	Sample Result					
	Sample Date					
	Sample Result					

*Attach additional sheets as needed for SSS and Stage 1 DBPR results.*

# Form 5: IDSE Report for a Modeling SSS

## V. SSS AND STAGE 1 DBPR COMPLIANCE MONITORING RESULTS\* (Continued)

### B. HAA5 Results

Site ID & Category	Data Type	HAA5 (mg/L)				LRAA
	Sample Date					
	Sample Result					
	Sample Date					
	Sample Result					
	Sample Date					
	Sample Result					
	Sample Date					
	Sample Result					
	Sample Date					
	Sample Result					
	Sample Date					
	Sample Result					
	Sample Date					
	Sample Result					
	Sample Date					
	Sample Result					
	Sample Date					
	Sample Result					
	Sample Date					
	Sample Result					

*Attach additional sheets as needed for SSS and Stage 1 DBPR results.*

# Form 5: IDSE Report for a Modeling SSS

## V. SSS AND STAGE 1 DBPR COMPLIANCE MONITORING RESULTS\* (Continued)

### C. Where were your TTHM and HAA5 samples analyzed?

In-House

Is your in-house laboratory certified?

Yes

No

Certified Laboratory

Name of certified laboratory: \_\_\_\_\_

### D. What method(s) was used to analyze your TTHM and HAA5 samples?

TTHM

HAA5

EPA 502.2

EPA 552.1

EPA 552.2

EPA 524.2

EPA 552.3

SM 6251 B

EPA 551.1

## VI. SELECTION OF STAGE 2 DBPR COMPLIANCE MONITORING LOCATIONS

Describe the comparison of sampling and modeling results (*attach additional sheets as needed*):

1.	How well did the sampling results correspond to the modeling results?	
2.	For samples that did not match well with model results, what follow-up investigations were performed?	
3.	Were additional samples collected? (Include data on table in Section IV)	
4.	<b>Submit a graph of water age versus time for each selected sampling location*.</b>	

# Form 5: IDSE Report for a Modeling SSS

## VII. JUSTIFICATION OF STAGE 2 DBPR COMPLIANCE MONITORING SITES\*

Stage 2 Compliance Monitoring Site ID	Site Type	Justification
	<input type="checkbox"/> Highest TTHM <input type="checkbox"/> Highest HAA5 <input type="checkbox"/> Stage 1 DBPR	
	<input type="checkbox"/> Highest TTHM <input type="checkbox"/> Highest HAA5 <input type="checkbox"/> Stage 1 DBPR	
	<input type="checkbox"/> Highest TTHM <input type="checkbox"/> Highest HAA5 <input type="checkbox"/> Stage 1 DBPR	
	<input type="checkbox"/> Highest TTHM <input type="checkbox"/> Highest HAA5 <input type="checkbox"/> Stage 1 DBPR	
	<input type="checkbox"/> Highest TTHM <input type="checkbox"/> Highest HAA5 <input type="checkbox"/> Stage 1 DBPR	
	<input type="checkbox"/> Highest TTHM <input type="checkbox"/> Highest HAA5 <input type="checkbox"/> Stage 1 DBPR	
	<input type="checkbox"/> Highest TTHM <input type="checkbox"/> Highest HAA5 <input type="checkbox"/> Stage 1 DBPR	
	<input type="checkbox"/> Highest TTHM <input type="checkbox"/> Highest HAA5 <input type="checkbox"/> Stage 1 DBPR	

*Attach additional copies of this sheet if you need more room.*

## VIII. PEAK HISTORICAL MONTH

A. Peak Historical Month\* \_\_\_\_\_

B. Is Your Peak Historical Month the Same as your Peak Month in Your Modeling Study Plan?

Yes     No

If no, explain how you selected your new peak historical month  
(attach additional sheets if needed):

---



---



---



---



---



---

## IX. PROPOSED STAGE 2 COMPLIANCE MONITORING SCHEDULE\*

Stage 2 Compliance Monitoring Site ID	Projected Sampling Date (date or week) <sup>1</sup>			
	period 1	period 2	period 3	period 4

<sup>1</sup> period = monitoring period. Complete for the number of monitoring periods from Section II.C.

Attach additional copies of this sheet if you need more room.

## X. DISTRIBUTION SYSTEM SCHEMATIC\*

*(Skip this section if you submitted a modeling study plan and your distribution system schematic **was complete** and has not changed from your approved modeling study plan, or if you are submitting the plan and report at the same time)*

**ATTACH a schematic of your distribution system. If your schematic has changed or if you did not show your SSS monitoring locations on the distribution system schematic you submitted with your model study plan (Form 4), you must submit a revised distribution system schematic.**

## XI. ATTACHMENTS

- Tabular or spreadsheet documentation that your model meets minimum calibration requirements if updated since approved modeling study plan\* (Section III).
- Additional sheets for explaining model information/results, including required graphs if not submitted as part of an approved modeling study plan\* (Section III).
- Additional sheets for sampling results, if needed (Section V).
- Additional sheets for selection of Stage 2 DBPR compliance monitoring sites (Section VI).
- Graph of water age versus time for all Stage 2 DBPR sites selected\* (Section VI).
- Additional sheets for justification of Stage 2 DBPR Compliance Monitoring Sites, if needed (Section VII). **REQUIRED if you are a subpart H system serving more than 249,999 people.**
- Additional sheets for explaining how you selected the peak historical month (Section VIII).
- Additional sheets for proposed compliance monitoring schedule (Section IX). **REQUIRED if you are a subpart H system serving more than 249,999 people.**
- Explanation of deviations from approved study plan.
- Distribution system schematic\* (Section X). **REQUIRED if it has changed from your approved model study plan or if monitoring locations were not shown.**
- Compliance calculation procedures (for Stage 2 Compliance Monitoring Plan).

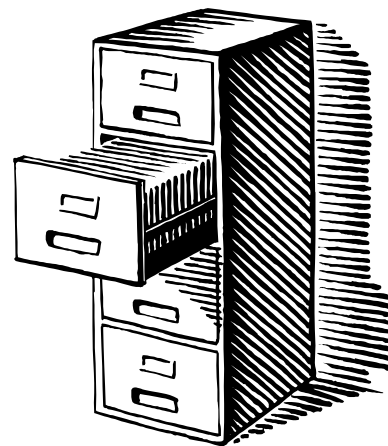
Total Number of Pages in Your Report: \_\_\_\_\_

Note: All items marked with an asterisk (\*) are required by the rule.

This page intentionally left blank.

## 6.8 Recordkeeping

The IDSE report for a modeling SSS must be kept on file for **10 years** after the date it is submitted. If EPA or your state modifies the recommendations made in your report or approves alternative Stage 2 DBPR compliance monitoring locations, you must also keep a copy of EPA or your state's notification on file for 10 years after the date of the notification. You must make your IDSE report and any notification available for review by your state or the public.



The modeling study plan, including any modifications by EPA or your state, must also be kept on file for as long as you are required to retain your IDSE report for a modeling SSS. You must make the plan and any modifications available for review by your state or the public.

## 6.9 Next Steps: Preparing the Stage 2 DBPR Compliance Monitoring Plan

As the final step before you can begin compliance monitoring for the Stage 2 DBPR, you must develop and implement a **Stage 2 DBPR monitoring plan** by the deadline provided in your requirements summary sheet. The plan will be similar to your Stage 1 DBPR monitoring plan in that it will identify how you intend to sample for compliance with Stage 2. You must keep your plan on file for state and public review. If you are a subpart H system serving > 3,300 people, you **must** submit your plan to EPA or your state prior to when you are required to start monitoring.

Exhibit 6.15 contains the minimum requirements for what must be included in your Stage 2 DBPR compliance monitoring plan. Because compliance monitoring plans are not addressed as part of the IDSE provisions of the Stage 2 DBPR, ***EPA has not included detailed guidance for developing Stage 2 compliance monitoring plans in this guidance manual.*** EPA plans to develop other manuals and training that address the compliance monitoring provisions of the Stage 2 DBPR.

---

See EPA's website <http://www.epa.gov/safewater/disinfection/stage2> for a up-to-date inventory of Stage 2 DBPR guidance manuals and training materials, or call the Safe Drinking Water Hotline at 1-800-426-4791.

---

## Exhibit 6.15 Required Contents of Stage 2 DBPR Compliance Monitoring Plans

All Systems	Additional Requirements for Consecutive and Wholesale Systems <sup>1</sup>
<ul style="list-style-type: none"> <li>• Monitoring locations</li> <li>• Monitoring dates</li> <li>• Compliance calculation procedures</li> </ul>	<ul style="list-style-type: none"> <li>• If your state has used its special primacy authority to modify your monitoring requirements, you must include monitoring plans for other systems in your combined distribution system</li> </ul>

1. See Appendix D of this manual for guidance specifically for consecutive and wholesale systems

### References

References R.M. Clark and W.M. Grayman. 1998. "Modeling Water Quality in Drinking Water Systems", AWWA, Denver, CO

T.M. Walski, D.V. Chase, D.A. Savic, W. Grayman, S. Beckwith, E. Koelle. 2003. "Advanced Water Distribution Modeling and Management", Haestad Methods, Waterbury CT: Haestad Press.



Source Water Type	Population Size Category <sup>1</sup>	Monitoring Frequency <sup>2</sup>	Distribution System Monitoring Location			
			Total per monitoring period <sup>3</sup>	Highest TTHM Locations	Highest HAA5 Locations	Existing Stage 1 DBPR Compliance Locations
<b>Subpart H</b>	<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	
<b>Ground Water</b>	<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> Your monitoring requirements (location and frequency) are based on the population served by your system.

<sup>2</sup> All systems must monitor during month of highest DBP concentrations.

<sup>3</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, if monitored annually).