

IDSE Standard Monitoring Report

Date Submitted: _____

1. General Information

PWS Name: _____ PWSID: _____

PWS Mailing Address: _____

PWS City, State, Zip Code: _____

Population Served: _____ Combined Distribution System (CDS): _____

Source Water Type: Surface Water Influenced Groundwater Groundwater

Relationship to another PWS: Consecutive (buys from) Wholesale (sells to) neither

Residual Disinfectant Type: Chlorine Chloramines

Number of Disinfected Sources: ____ surface ____ IGW ____ groundwater ____ purchased

Contact Person:

Name: _____ Title: _____

Phone Number: _____ Fax Number: _____

E-mail Address: _____

2. Stage 2 DBPR Compliance Monitoring Requirements

Use the Stage 2 tables on page A to determine your requirement. This is not what you did for the IDSE – Standard Monitoring Plan. It is your routine compliance monitoring under Stage 2 and what you will be doing in the future.

A. Number of Compliance Monitoring Sites	B. Schedule	C. Compliance Monitoring Frequency
Highest TTHM: _____	<input type="checkbox"/> Schedule 1	<input type="checkbox"/> During peak historical month
Highest HAA5: _____	<input type="checkbox"/> Schedule 2	(one monitoring period)
Existing Stage 1: _____	<input type="checkbox"/> Schedule 3	<input type="checkbox"/> Every 90 days (4 monitoring periods)
Total: _____	<input type="checkbox"/> Schedule 4	

3A. IDSE Standard Monitoring Results for TTHM

Site ID	Data Type	TTHM, in mg/L or ug/L (circle one)						LRAA
		Period 1	Period 2	Period 3	Period 4	Period 5	Period 6	
	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							

LRAA = locational running annual average. Add the results in a row and divide by the number of sampling events in the year. Use a "0" for non-detected results when calculating the average. Use additional sheets if you collected more than 8 samples in your study.

3B. IDSE Standard Monitoring Results for HAA5

Site ID	Data Type	HAA5, in mg/L or ug/L (circle one)						LRAA
		Period 1	Period 2	Period 3	Period 4	Period 5	Period 6	
	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							

LRAA = locational running annual average. Add the results in a row and divide by the number of sampling events in the year. Use a "0" for non-detected results when calculating the average. Use additional sheets if you collected more than 8 samples in your study.

3C. Stage 1 Monitoring Results for TTHM

(Stage 1 is the first DBP rule, which is the routine monitoring per your operation permit)

Site ID	Sample Point Code	Data Type	TTHM, in mg/L or ug/L (circle one)				LRAA
			Quarter 1	Quarter 2	Quarter 3	Quarter 4	
	MRT	Sample Date					
		Sample Result					
	ART	Sample Date					
		Sample Result					
	ART	Sample Date					
		Sample Result					
	ART	Sample Date					
		Sample Result					
	MRT	Sample Date					
		Sample Result					
	ART	Sample Date					
		Sample Result					
	ART	Sample Date					
		Sample Result					
	ART	Sample Date					
		Sample Result					

LRAA = locational running annual average. Add the results in a row and divide by the number of sampling events in the year. If you only collected one sample, that is your LRAA for that sample site. Use a "0" for non-detected results when calculating the average. Attach additional sheets as needed for Stage 1 compliance monitoring results.

3D. Stage 1 Monitoring Results for HAA5

(Stage 1 is the first DBP rule, which is the routine monitoring per your operation permit)

Site ID	Sample Point Code	Data Type	HAA5, in mg/L or ug/L (circle one)				LRAA
			Quarter 1	Quarter 2	Quarter 3	Quarter 4	
	MRT	Sample Date					
		Sample Result					
	ART	Sample Date					
		Sample Result					
	ART	Sample Date					
		Sample Result					
	ART	Sample Date					
		Sample Result					
	MRT	Sample Date					
		Sample Result					
	ART	Sample Date					
		Sample Result					
	ART	Sample Date					
		Sample Result					
	ART	Sample Date					
		Sample Result					

LRAA = locational running annual average. Add the results in a row and divide by the number of sampling events in the year. If you only collected one sample, that is your LRAA for that sample site. Use a "0" for non-detected results when calculating the average. Attach additional sheets as needed for Stage 1 compliance monitoring results.

4. Selection of Stage 2 DBPR Compliance Monitoring Sites

Use the "Protocol" listed on page B to determine which sites will be used in the future when you switch from Stage 1 to Stage 2 compliance monitoring. **You will rank the sites using the LRAA values you calculated in Section 3.** For the 3rd and 7th ranked samples, use Stage 1 sites if they are still available, otherwise skip to the next step in the table. **The total number of samples is the same as the number required in Section 2 (page 1).** This is what is required from the Table on page A for your Stage 2 Compliance Monitoring Locations. *Examples: GW serving 11,000 people will have 4 sampling sites; SW consecutive serving 4,500 people will have 2 sampling sites.*

NOTE: Each site can only be used one time, chosen in the order listed below.

Sample Rank	Stage 2 Compliance Monitoring Site ID	Site Type	Justification <i>Include other information if needed.</i>
1		<input type="checkbox"/> Overall highest TTHM <i>Look at LRAA on Sections 3A & 3C</i>	
2		<input type="checkbox"/> Overall highest HAA5 <i>Look at LRAA on Sections 3B & 3D</i>	
3		<input type="checkbox"/> Stage 1 highest HAA5 <ul style="list-style-type: none"> • SW/IGW systems use ART • GW systems use MRT <i>Only use Stage 1 sites. Skip to step 4 if no more Stage 1 sites.</i>	
4		<input type="checkbox"/> Overall second highest TTHM <i>Look at LRAA on Sections 3A & 3C</i>	
5		<input type="checkbox"/> Overall third highest TTHM <i>Look at LRAA on Sections 3A & 3C</i>	
6		<input type="checkbox"/> Overall second highest HAA5 <i>Look at LRAA on Sections 3B & 3D</i>	
7		<input type="checkbox"/> Stage 1 highest TTHM <ul style="list-style-type: none"> • SW/IGW systems use ART • GW systems use MRT <i>Only use Stage 1 sites. Skip to step 8 if no more Stage 1 sites.</i>	
8		<input type="checkbox"/> Overall third highest HAA5 <i>Look at LRAA on Sections 3B & 3D</i>	
9		<input type="checkbox"/> Overall fourth highest TTHM <i>Only use SMP data (Section 3A)</i>	
10		<input type="checkbox"/> Overall fourth highest HAA5 <i>Only use SMP data (Section 3C)</i>	

5. Peak Historical Month & Proposed Stage 2 Compliance Monitoring Schedule

Peak Historical Month: _____ (month with: warmest water temperature, or highest TTHM or HAA5 results)

Is your peak historical month the same as in your IDSE Standard Monitoring Plan? Yes No

If No, explain how you selected your new peak historical month:

Proposed Stage 2 DBPR Compliance Monitoring Schedule

Complete for the number of monitoring periods you listed on Section 2C on page 1.

Stage 2 Compliance Monitoring Site ID	Projected Sampling Date (date or week/month/year) (See the table on page A to determine your start date for this compliance monitoring.)			
	Period 1	Period 2	Period 3	Period 4

Note: You must conduct Stage 2 DBPR compliance monitoring during the peak historical month. If you also are required to collect quarterly samples, the collection dates are at the 90-day interval before and after the peak month. (Example: Peak month sample is collected the second week in July; quarterly sampling schedule would include second week in January, April, and October).

6. Compliance Calculation for Disinfection Byproducts: Locational Running Annual Average. *Check the appropriate box for your system*

Systems collecting one sample per year:

For systems collecting one sample per year, the locational running annual average (LRAA) is the value of that one sample. If the MCL for either TTHM or HAA5 is exceeded in that single sample, it is not a violation but it does trigger more sampling. Beginning in the following quarter, the system must collect one sample at the maximum residence time location each quarter for both TTHM and HAA5.

Systems collecting one sample each quarter:

For systems collecting one sample each quarter, the locational running annual average (LRAA) is calculated by adding the results of each of the four most recent quarters and dividing the sum by four. This value is the LRAA. For each new quarter, the oldest quarterly value is dropped and the most recent quarterly value is included in the sum. If a sample was not collected in one quarter, the data for the most recent three quarters is used and the sum divided by 3.

For example: add each quarterly result and divide by 4.

$$\frac{(Q1 + Q2 + Q3 + Q4)}{4} = \text{LRAA}$$

Next quarter:

$$\frac{(Q2 + Q3 + Q4 + Q1)}{4} = \text{LRAA}$$

The RAA will be compared to the MCL value and compliance determined.

Systems collecting more than one sample each quarter:

For systems collecting more than one sample each quarter, the locational running annual average (LRAA) is calculated by adding the results of each of the four most recent quarters at each specific site and dividing the sum by four. This value is the LRAA for that site. For each new quarter, the oldest quarterly value is dropped and the most recent quarterly value is included in the sum. If a sample was not collected in one quarter, the data for the most recent three quarters is used and the sum divided by 3.

For example: add each quarterly result and divide by 4.

$$\frac{(Q1 + Q2 + Q3 + Q4)}{4} = \text{LRAA}$$

Next quarter:

$$\frac{(Q2 + Q3 + Q4 + Q1)}{4} = \text{LRAA}$$

The LRAA will be compared to the MCL value and compliance determined for each site.

This calculation must be done each quarter for each sampling site.

7. Distribution System Schematic

Attach a schematic of your distribution system ONLY if it has changed from your approved Standard Monitoring Plan.

8. Attachments

- Additional page for how and why you deviated from the approved SMP (Section 3)
- Additional pages for standard monitoring results (Section 3). This is required for SW/IGW systems serving more than 49,999 people.
- Additional page for Stage 2 DBPR compliance monitoring sites (Section 4)
- Additional page for explaining how you selected the peak historical month (Section 5)
- Additional sheets for proposed Stage 2 DBPR peak historical month and compliance monitoring schedule (Section 5)
- Distribution system schematic (Section 7). This is only required if it changed from your approved Standard Monitoring Plan.

Total number of pages in your report: _____

Submit your completed report to:

DENR-Drinking Water Program
523 East Capitol Avenue
Pierre, SD 57501-3182

Or Fax your report to: 605-773-5286

Stage 2 Compliance Monitoring Locations (this is used for Section 2 on page 1)

Source Water Type	Population size category	Monitoring frequency ¹	Distribution system monitoring location			
			Total samples per monitoring period ²	Highest TTHM locations	Highest HAA5 locations	Existing Stage 1 DBPR compliance locations
Surface water & Influenced groundwater (including consecutives)	<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
Groundwater (including consecutives)	<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

¹ All systems must monitor during the month of the highest DBP concentrations.

² Systems on quarterly monitoring must take dual sample sets every 90 days at each monitoring location, except for SW/IGW systems serving 500 – 3,300. Systems on annual monitoring and SW/IGW systems serving 500-3,300 are required to take individual TTHM and HAA5 samples at the locations with the highest TTHM and HAA5 concentrations, respectively. Only one location per monitoring period is needed if the highest TTHM and HAA5 concentrations occur at the same location and month, if monitoring annually.

Schedule Determination & Dates Table

Order	Population served:	Submit your IDSE report to DNR by this date:	Begin Stage 2 Compliance monitoring by this date: (Sampling begins in the quarter <u>before</u> the date listed here)
1	>100,000	January 1, 2009	April 1, 2012
2	50,000 – 99,999	July 1, 2009	October 1, 2012
3	10,000 – 49,999	January 1, 2010	October 1, 2013
4	<10,000	July 1, 2010	Oct. 1, 2013 –GW; Oct. 1, 2014 –SW/IGW

Note: Wholesale systems or consecutive systems are required to comply at the same time as the system with the earliest compliance date in the combined distribution system.

Section 4: Protocol for Selecting Stage 2 DBPR Compliance Monitoring Sites

Steps		Stage 2 Compliance Monitoring Sites Description
1	Select the location with the highest TTHM LRAA	First highest TTHM site
2	Select the remaining location with the highest HAA5 LRAA	First highest HAA5 site
3	<ul style="list-style-type: none"> • <u>For SW/IGW systems</u>: Select the remaining existing Stage 1 DBPR average residence time compliance monitoring location with the highest HAA5 LRAA • <u>For GW systems</u>: Select the remaining existing Stage 1 DBPR maximum residence time compliance monitoring location with the highest HAA5 LRAA. <p><i>Skip this step if you have no more Stage 1 DBPR sites</i></p>	First Stage 1 DBPR site
4	Select the remaining location with the next highest TTHM LRAA	Second highest TTHM site
5	Select the remaining location with the next highest TTHM LRAA	Third highest TTHM site
6	Select the remaining location with the next highest HAA5 LRAA	Second highest HAA5 site
7	<ul style="list-style-type: none"> • <u>For SW/IGW systems</u>: Select the remaining existing Stage 1 DBPR average residence time compliance monitoring location with the highest TTHM LRAA • <u>For GW systems</u>: Select the remaining existing Stage 1 DBPR maximum residence time compliance monitoring location with the highest TTHM LRAA. <p><i>Skip this step if you have no more Stage 1 DBPR sites</i></p>	Second Stage 1 DBPR site
8	Select the remaining location with the next highest HAA5 LRAA	Third highest HAA5 site
<p><i>If you need more Stage 2 DBPR compliance monitoring locations, go back to Step 1 of this protocol and repeat the steps until you have selected the required number of total sites. Stop when you reach your required number of Stage 2 DBPR compliance monitoring sites (see the tables on page A for the requirement for your system).</i></p>		

Notes:

1. All steps are based on your calculated LRAAs for your standard 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.
2. You cannot select the same site as a highest TTHM and a highest HAA5 compliance monitoring site.
3. You can only use each site once.