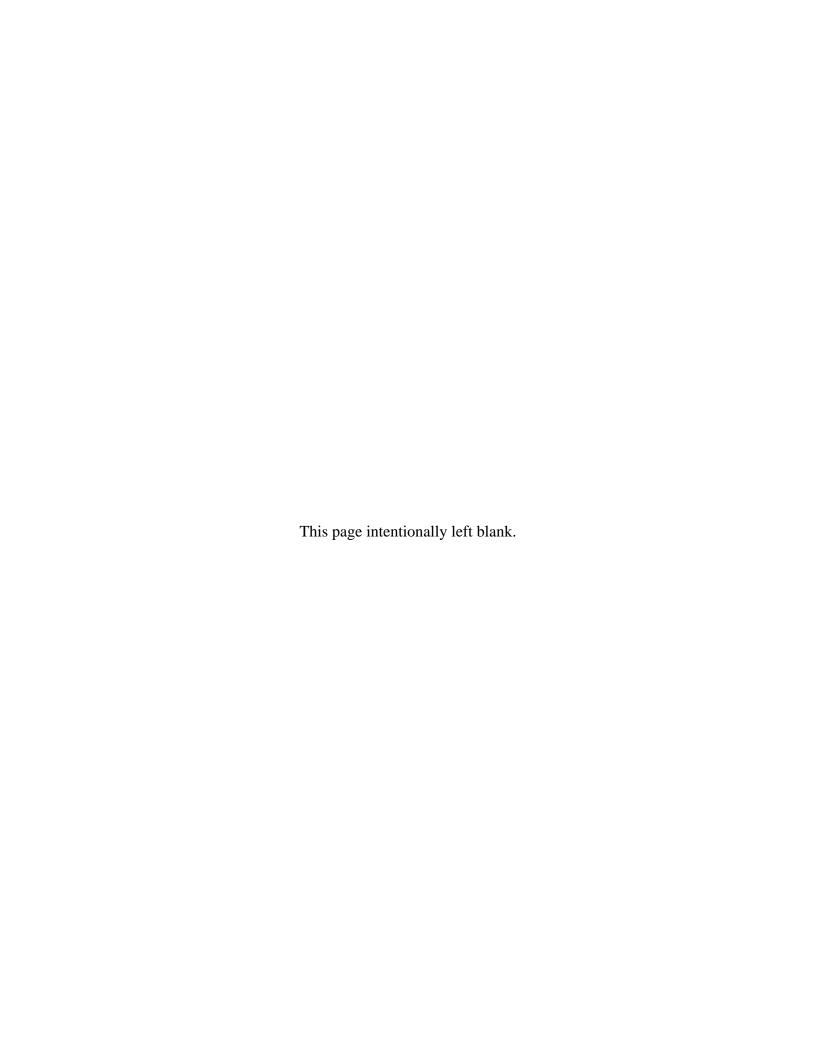


# INITIAL DISTRIBUTION SYSTEM EVALUATION GUIDANCE MANUAL

# FOR THE FINAL STAGE 2 DISINFECTANTS AND DISINFECTION BYPRODUCTS RULE

#### APPENDIX I

http://www.epa.gov/safewater/disinfection/stage2/compliance.html

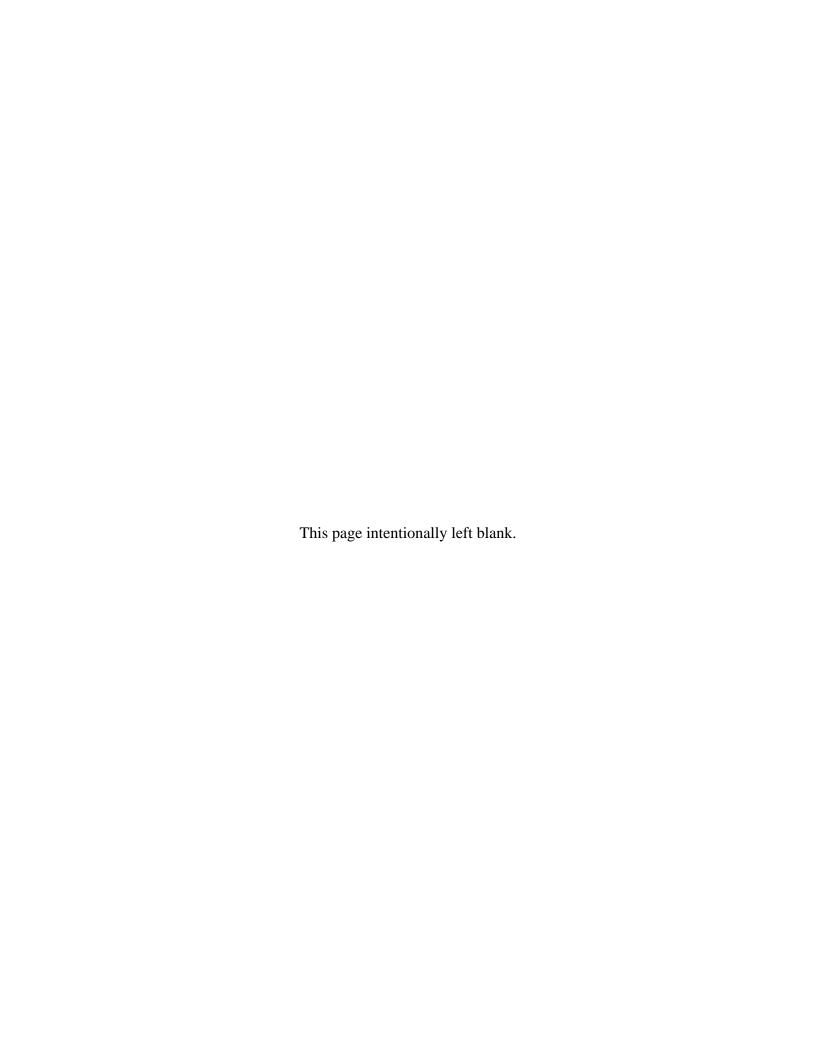


#### Appendix I

## Example IDSE Standard Monitoring Plan and Report for a Ground Water System Serving 200,000 People

This appendix is provided as an example IDSE standard monitoring plan and report for a ground water system serving 200,000 people and choosing to complete standard monitoring. For this example, the state did not require any modifications to the study plan.

Chapter 7 discusses the standard monitoring plan, conducting standard monitoring, selection of Stage 2 DBPR sites, and preparing the standard monitoring report. The application of the basic guidance on standard monitoring location selection and Stage 2 DBPR compliance monitoring location selection is shown in this example, along with several instances of the use of best professional judgement being applied.



| Form 6: Standard Monitoring Plan Page 1 of 6   |         |  |        |   |  |  |
|--|---------|--|--------|---|--|--|
| I. GENERAL INFORMATION   |         |  |        |   |  |  |
| A. PWS Information   | *       |  |        | B. Date Submitted* Sept 25, 2006  |  |  |
| PWSID:   | US555   | 5555   |        |   |  |  |
| PWS Name:  | Oak Ci  | ty   |        |   |  |  |
| PWS Address:   | 124 Oa  | ak Drive   |        |   |  |  |
| City:  | Oak Ci  | ty   | State: | USZip: _11111-1234  |  |  |
| Population S   | Served: | 200,000  |        |   |  |  |
| System Type:   | Soi     | urce Water Type  | :      | Buying / Selling Relationships:   |  |  |
| ⊠ CWS  |         | Subpart H  |        | ☐ Consecutive System  |  |  |
| □ NTNCWS   |         | Ground   |        | ☐ Wholesale System  |  |  |
|  |         |  |        | Neither     ■     Neither     Neither     ■     Neither     Nei |  |  |
| C. PWS Operations  Residual Disinfectant Type:   Chlorine  Chloramines  Other:  Number of Disinfected Sources:  Surface  GWUDI  2 Ground  Purchased  D. Contact Person*  Name:  Mr. Joseph Smith, P.E.  Title:  Superintendent of Water  Phone #: 123-555-1111  Fax #: 123-555-2222  E-mail:  JSmith@ci.oakcity.us |         |  |        |   |  |  |
| II. IDSE REQUIREME   | ENIS*   |  |        |   |  |  |
| A. Number of Sites   |         | B. Schedule  | C. Sta | andard Monitoring Frequency   |  |  |
| Near Entry Point: 1  Avg Residence Time: 1  High TTHM: 3   |         | <ul><li>☑ Schedule 1</li><li>☐ Schedule 2</li><li>☐ Schedule 3</li></ul> | (1 m   | uring peak historical month monitoring period) very 90 days (4 monitoring periods)  |  |  |
| High HAA   | 5: 3    | □ Schedule 4   | □ Ev   | very 60 days (6 monitoring periods)   |  |  |

Page 2 of 6

#### **III. SELECTING STANDARD MONITORING SITES**

**A. Data Evaluated** Put a "✓" in each box corresponding to the data that you used to select each type of standard monitoring site. Check all that apply.

| Data Type  |                   | Type of Site           |              |              |  |  |  |
|--|-------------------|------------------------|--------------|--------------|--|--|--|
| ,,   | Near<br>Entry Pt. | Avg. Residence<br>Time | High<br>TTHM | High<br>HAA5 |  |  |  |
| System Co  | onfiguratio       | n                      |              |              |  |  |  |
| Pipe layout, locations of storage facilities             | 1                 |                        | ✓            | ✓            |  |  |  |
| Locations of sources and consecutive system entry points | 1                 |                        |              |              |  |  |  |
| Pressure zones   |                   |                        | ✓            | ✓            |  |  |  |
| Information on population density                        |                   |                        |              |              |  |  |  |
| Locations of large customers                             |                   |                        |              |              |  |  |  |
| Water Quality an   | d Operatio        | nal Data               |              |              |  |  |  |
| Disinfectant residual data                               |                   | ✓                      | 1            | ✓            |  |  |  |
| Stage 1 DBP data   |                   |                        | ✓            | ✓            |  |  |  |
| Other DBP data   |                   |                        |              |              |  |  |  |
| Microbiological monitoring data (e.g., HPC)              |                   |                        | ✓            | ✓            |  |  |  |
| Tank level data, pump run times                          |                   |                        |              | ✓            |  |  |  |
| Customer billing records                                 |                   |                        |              |              |  |  |  |
| Advand   | ed Tools          |                        |              |              |  |  |  |
| Water distribution system model                          |                   |                        |              |              |  |  |  |
| Tracer study   |                   |                        |              |              |  |  |  |

**B. Summary of Data\*** Provide a summary of data you relied on to justify standard monitoring site selection. (*attach additional sheets if needed*)

The Blue Springs Well field is only in operation during high demand in the summer months, so we focused most sites in the influence zone of the Silver Springs Well field which operates year round. We used residual and HPC data from Total Coliform sites collected in 2005 and 2006 along with Stage 1 DBPR data and our system map to select sites. We evaluated chlorine residual data from June, July, and August which ranged from 2.0 mg/L at the Silver Springs disinfection station to no detect in the distribution system. The system average during the summer is typically around 1.1 mg/L. Sites with residuals close to this were considered for average residence time sites. Residuals along with data on storage tanks, booster stations, and operator notes were used to locate areas of high residence time for high TTHM and HAA5 sites. Areas of biological activity were identified using disinfectant residual data because we do not have a lot of HPC data. Sites were plotted on our system map to ensure adequate coverage of the different geographic and operational areas.

Page 3 of 6

#### IV. JUSTIFICATION OF STANDARD MONITORING SITES\*

| Standard<br>Monitoring<br>Site ID<br>(from map) <sup>1</sup> | Site Type  | Justification        |
|--|--|----------------------|
| Standard<br>Monitoring #1                                    | <ul><li>☑ Near Entry Pt</li><li>☐ Avg. Res. Time</li><li>☐ High TTHM</li><li>☐ High HAA5</li></ul> | See attached sheets. |
| Standard<br>Monitoring #2                                    | <ul><li>□ Near Entry Pt</li><li>☒ Avg. Res. Time</li><li>□ High TTHM</li><li>□ High HAA5</li></ul> | See attached sheets. |
| Standard<br>Monitoring #3                                    | <ul><li>□ Near Entry Pt</li><li>□ Avg. Res. Time</li><li>⋈ High TTHM</li><li>□ High HAA5</li></ul> | See attached sheets. |
| Standard<br>Monitoring #4                                    | <ul><li>□ Near Entry Pt</li><li>□ Avg. Res. Time</li><li>⋈ High TTHM</li><li>□ High HAA5</li></ul> | See attached sheets. |
| Standard<br>Monitoring #5                                    | <ul><li>□ Near Entry Pt</li><li>□ Avg. Res. Time</li><li>☒ High TTHM</li><li>□ High HAA5</li></ul> | See attached sheets. |
| Standard<br>Monitoring #6                                    | <ul><li>□ Near Entry Pt</li><li>□ Avg. Res. Time</li><li>□ High TTHM</li><li>⋈ High HAA5</li></ul> | See attached sheets. |
| Standard<br>Monitoring #7                                    | <ul><li>□ Near Entry Pt</li><li>□ Avg. Res. Time</li><li>□ High TTHM</li><li>☒ High HAA5</li></ul> | See attached sheets. |
| Standard<br>Monitoring #8                                    | <ul><li>□ Near Entry Pt</li><li>□ Avg. Res. Time</li><li>□ High TTHM</li><li>☒ High HAA5</li></ul> | See attached sheets. |

<sup>&</sup>lt;sup>1</sup> Verify that site IDs match IDs in Section IV and on your distribution system schematic (See Section VII of this form). Attach additional copies if you are required to select more than 8 standard monitoring locations or need more room.

Page 4 of 6

#### V. PEAK HISTORICAL MONTH AND PROPOSED STANDARD MONITORING SCHEDULE

- A. Peak Historical Month\* August
- B. If Multiple Sources, Source Used to Determine Peak Historical Month (write "N/A" if only one source in your system)

Silver Springs Well field

C. Peak Historical Month Based On\* (check all that apply)

☑ High TTHM

☑ Warmest water temperature

☑ High HAA5

If you used other information to select your peak historical month, explain here (attach additional sheets if needed)

#### D. Proposed Standard Monitoring Schedule\*

| Standard<br>Monitoring Site | Projected Sampling Date (date or week) <sup>2</sup> |                             |                             |                             |          |          |  |  |  |
|-----------------------------|---|-----------------------------|-----------------------------|-----------------------------|----------|----------|--|--|--|
| ID (from map) 1             | period 1  | period 2                    | period 2 period 3           |                             | period 5 | period 6 |  |  |  |
| SM #1                       | 2 <sup>nd</sup> week 11/2007                        | 2 <sup>nd</sup> week 2/2008 | 2 <sup>nd</sup> week 5/2008 | 2 <sup>nd</sup> week 8/2008 |          |          |  |  |  |
| SM #2                       | 2 <sup>nd</sup> week 11/2007                        | 2 <sup>nd</sup> week 2/2008 | 2 <sup>nd</sup> week 5/2008 | 2 <sup>nd</sup> week 8/2008 |          |          |  |  |  |
| SM #3                       | 2 <sup>nd</sup> week 11/2007                        | 2 <sup>nd</sup> week 2/2008 | 2 <sup>nd</sup> week 5/2008 | 2 <sup>nd</sup> week 8/2008 |          |          |  |  |  |
| SM #4                       | 2 <sup>nd</sup> week 11/2007                        | 2 <sup>nd</sup> week 2/2008 | 2 <sup>nd</sup> week 5/2008 | 2 <sup>nd</sup> week 8/2008 |          |          |  |  |  |
| SM #5                       | 2 <sup>nd</sup> week 11/2007                        | 2 <sup>nd</sup> week 2/2008 | 2 <sup>nd</sup> week 5/2008 | 2 <sup>nd</sup> week 8/2008 |          |          |  |  |  |
| SM #6                       | 2 <sup>nd</sup> week 11/2007                        | 2 <sup>nd</sup> week 2/2008 | 2 <sup>nd</sup> week 5/2008 | 2 <sup>nd</sup> week 8/2008 |          |          |  |  |  |
| SM #7                       | 2 <sup>nd</sup> week 11/2007                        | 2 <sup>nd</sup> week 2/2008 | 2 <sup>nd</sup> week 5/2008 | 2 <sup>nd</sup> week 8/2008 |          |          |  |  |  |
| SM #8                       | 2 <sup>nd</sup> week 11/2007                        | 2 <sup>nd</sup> week 2/2008 | 2 <sup>nd</sup> week 5/2008 | 2 <sup>nd</sup> week 8/2008 |          |          |  |  |  |

<sup>&</sup>lt;sup>1</sup> Verify that site IDs match IDs in Section IV and on your distribution system schematic (See Section VII of this form). Attach additional copies if you are required to select more than 8 standard monitoring locations.

<sup>&</sup>lt;sup>2</sup> period = monitoring period. Complete for the number of periods from Section II.C. Can list exact date or week (e.g., week of 7/9/07)

#### VI. PLANNED STAGE 1 DBPR COMPLIANCE MONITORING SCHEDULE\*

| Stage 1 DBPR                              | Projected Sampling Date (date or week) <sup>2</sup> |                                   |                                   |                                   |  |  |  |
|---|---|-----------------------------------|-----------------------------------|-----------------------------------|--|--|--|
| Monitoring Site ID (from map) 1           | Period 1  | 1 Period 2 Period 3               |                                   | Period 4                          |  |  |  |
| Stage 1 #1<br>max. residence<br>time site | 2 <sup>nd</sup> week of<br>11/2007                  | 2 <sup>nd</sup> week of<br>2/2008 | 2 <sup>nd</sup> week of<br>5/2008 | 2 <sup>nd</sup> week of<br>8/2008 |  |  |  |
| Stage 1 #2<br>max. residence<br>time site | 2 <sup>nd</sup> week of<br>11/2007                  | 2 <sup>nd</sup> week of<br>2/2008 | 2 <sup>nd</sup> week of<br>5/2008 | 2 <sup>nd</sup> week of<br>8/2008 |  |  |  |
|   |   |                                   |                                   |                                   |  |  |  |
|   |   |                                   |                                   |                                   |  |  |  |
|   |   |                                   |                                   |                                   |  |  |  |

<sup>&</sup>lt;sup>1</sup> Verify that site IDs match IDs on your distribution system schematic (See Section VII of this form). Attach additional copies if you are required to monitor at more than 8 Stage 1 DBPR sites.

#### VII. DISTRIBUTION SYSTEM SCHEMATIC\*

#### ATTACH a schematic of your distribution system.

Distribution system schematics are not confidential and should not contain information that poses a **security risk** to your system. EPA recommends that you use one of two options:

Option 1: Distribution system schematic with no landmarks or addresses indicated. Show locations of sources, entry points, storage facilities, standard monitoring locations, and Stage 1 compliance monitoring locations (required). Also include pressure zone boundaries and locations of pump stations. Provide map scale.

Option 2: City map without locations of pipes indicated. Show locations of sources, entry points, storage facilities, standard monitoring locations, and Stage 1 compliance monitoring locations (required). Also include boundaries of the distribution system, pressure zone boundaries and locations of pump stations. Provide map scale.

<sup>&</sup>lt;sup>2</sup> period = monitoring period. Complete for the number of periods in which you must conduct Stage 1 DBPR monitoring during IDSE monitoring. Can list exact date or week (e.g., week of 7/9/07)

Page 6 of 6

#### **VIII. ATTACHMENTS**

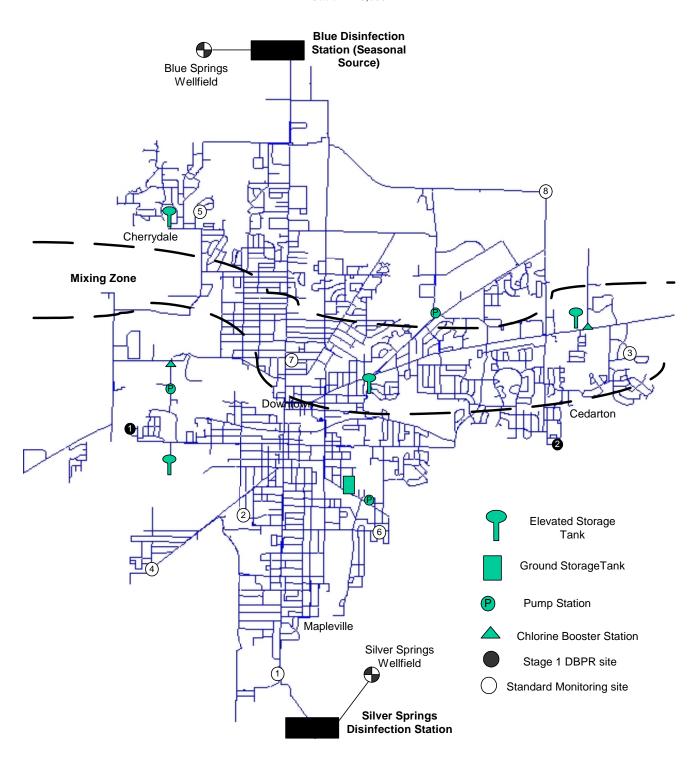
- ☑ Distribution System Schematic\* (Section VII).
- ☑ Additional sheets for the summary of data or site justifications (Sections III and IV).
- □ Additional copies of Page 3 for justification of Standard Monitoring Sites (Section IV). **Required if** you are a subpart H system serving **more than 49,999 people** or a ground water system serving **more than 499,999 people**.
- □ Additional sheets for explaining how you used data other than TTHM, HAA5, and temperature data to select your peak historical month (Section V).
- □ Additional copies of Page 4 for proposed monitoring schedule (Section V).

  Required if you are a subpart H system serving more than 49,999 people or a ground water system serving more than 499,999 people.
- □ Additional sheets for planned Stage 1 DBPR compliance monitoring schedule (Section VI).

Total Number of Pages in Your Plan \_\_10\_\_\_

Note: Fields with an asterisk (\*) are required by the Stage 2 DBPR

Scale = 1:6,000'



This page left intentionally blank

#### Standard Monitoring #1

Chosen to represent the entry point to the distribution system from the Silver Spring disinfection station. The Silver Spring disinfection station has a much higher annual flow than the Blue disinfection station, which uses a seasonal source. The site is located on a 16 inch water main.

#### Standard Monitoring #2

Chosen to represent average residence time in the system. Chlorine residual concentrations in the surrounding area are close to system average (1.1 mg/L). There are no storage facilities or booster stations between the entry point and this site located at the edge of the mixing zone in the Silver Spring disinfection station Service area. The site is located in a residential zone on a 6 inch main.

#### Standard Monitoring #3

Chosen to represent high TTHM levels in the Silver Spring disinfection station influence zone and the mixing zone. This monitoring location is located before the last group of connections on a 6 inch pipe in proximity to the end of the distribution system in the mixing zone. It is also downstream of a booster station. At this location, water demand tends to be low, total chlorine levels are always low (ranging between 0.3 and 0.9 mg/L) and HPCs are often greater than 200 cfu/mL. Operations staff indicate this site has a lot of customers complaints.

#### Standard Monitoring #4

Chosen to represent high TTHM levels in the Silver Spring disinfection station influence zone. This monitoring location is located near the TCR #4 sample site, and before the last group of connections before the end of the distribution system. This site is in a 12 inch main in the extremities of the system and is likely to have high water age during periods of low demand.

#### **Standard Monitoring #5**

Chosen to represent high TTHM levels in both influence zones. This monitoring location is after the first group of connections (approximately 0.5 miles) downstream of a 1.5 MG elevated storage facility in the influence zone of the Blue disinfection station. Operations data indicate this reservoir may have high water age during the summer months. DBP data at the nearby Stage 1 DBPR sampling site indicate high TTHM and HAA5 levels for this area.

#### **Standard Monitoring #6**

Chosen to represent high HAA5 levels in the Silver Spring disinfection station influence zone. Sample tap is a hose bib at an elementary school located in a zone of the distribution system with water age greater than average near a storage tank. Total chlorine levels at this location range between 0.9 and 1.2 mg/L. The site is located on an 8 inch main.

#### Justification of IDSE Monitoring Sites (Continued) Attachment #2

#### Standard Monitoring #7

Chosen to represent high HAA5 levels in the Silver Spring disinfection station influence zone and the mixing zone. This location is a dedicated sampling location on an 8 inch main routinely used for monitoring water quality in downtown Oak City. It is located near an elevated storage tank. In this area, the water age is greater than the average, but the total chlorine is never below 0.7 mg/L.

#### **Standard Monitoring #8**

Chosen to represent high HAA5 levels in the Blue disinfection station influence zone. Total chlorine levels at this location range between 0.8 and 1.4 mg/L. The site is on the extremities of the system, in an area where DBP monitoring has not traditionally been performed. It is on a 6 inch main.

| Fo   | Form 7: IDSE Report for Standard Monitoring Page 1 of 9 |         |                  |        |                                     |  |  |
|--|---|---------|------------------|--------|-------------------------------------|--|--|
| I. GE  | I. GENERAL INFORMATION                                  |         |                  |        |                                     |  |  |
| A. P   | WS Information <sup>3</sup>                             | *       |                  |        | B. Date Submitted* Nov 30, 2008     |  |  |
|  | PWSID:  | US555   | 5555             |        | _                                   |  |  |
|  | PWS Name:   | Oak Ci  | ty               |        |                                     |  |  |
|  | PWS Address:  | 124 Oa  | ak Drive         |        | _                                   |  |  |
|  | City:   | Oak Ci  | ty               | State: | US Zip: 11111-1234                  |  |  |
|  | Population S  | Served: | 200,000          |        |                                     |  |  |
|  | System Type:  | So      | urce Water Type: | 1      | Buying / Selling Relationships:     |  |  |
|  | ⊠ CWS   |         | Subpart H        |        | □ Consecutive System                |  |  |
|  | □NTNCWS   | ⊠       | Ground           |        | □ Wholesale System                  |  |  |
|  |   |         |                  |        | ⊠ Neither                           |  |  |
|  | WS Operations   |         |                  |        |                                     |  |  |
| Res  | sidual Disinfectan                                      | • •     |                  |        | mines □ Other:                      |  |  |
| D. Co  | ontact Person*  |         |                  |        |                                     |  |  |
|  | Name:   | Mr. Jos | seph Smith, P.E. |        |                                     |  |  |
|  | Title:  | Superi  | ntendent of Wate | r      |                                     |  |  |
|  | Phone #:  | 123-55  | 55-1111          |        | Fax #: 123-555-2222                 |  |  |
|  | E-mail:   | JSmith  | @ci.oakcity.us   |        |                                     |  |  |
| II. S  | TAGE 2 DBPR R   | EQUIRE  | EMENTS*          |        |                                     |  |  |
| A. Number of B. Schedule Compliance Monitoring Sites |   |         | B. Schedule      | C. Con | mpliance Monitoring Frequency       |  |  |
|  | Highest TTHM  | 1: 3    | ⊠ Schedule 1     |        | uring peak historical month         |  |  |
|  | Highest HAA   | 5: 2    | □ Schedule 2     | (1 r   | monitoring period)                  |  |  |
|  | Existing Stage 1  | 1: 1    | □ Schedule 3     | ⊠ Ev   | very 90 days (4 monitoring periods) |  |  |
|  | Total:  | 6       | □ Schedule 4     |        |                                     |  |  |

| Fo     | Form 7: IDSE Report for Standard Monitoring Page 2 of 9 |                             |              |            |  |  |  |  |  |
|--------|---|-----------------------------|--------------|------------|--|--|--|--|--|
| III. I | . MONITORING RESULTS*                                   |                             |              |            |  |  |  |  |  |
| A.     | Did you deviate in any way from yo monitoring plan?     | our approved standard       | ⊠ Yes        | □No        |  |  |  |  |  |
|        | If YES, explain (attach additional pag                  | es if necessary):           |              |            |  |  |  |  |  |
|        | Sampling was planned for August 13,                     | 2007 but system maintena    | nce was pla  | anned in   |  |  |  |  |  |
|        | the area of Standard monitoring locat                   | ion #1 for that day. The ma | intenance r  | equired    |  |  |  |  |  |
|        | extensive system flushing so the sam                    | ples were taken on the prev | vious Friday | <i>'</i> . |  |  |  |  |  |
|        |   |                             |              |            |  |  |  |  |  |
|        |   |                             |              |            |  |  |  |  |  |
|        |   |                             |              |            |  |  |  |  |  |
|        |   |                             |              |            |  |  |  |  |  |
| В.     | Where were your TTHM and HAA5                           | samples analyzed?           |              |            |  |  |  |  |  |
|        | □ In-House  |                             |              |            |  |  |  |  |  |
|        | Is your in-house laboratory ce                          | rtified?                    | □Yes         | □ No       |  |  |  |  |  |
|        | □ Certified Laboratory                                  |                             |              |            |  |  |  |  |  |
|        | Name of certified laboratory:                           | Oak City Laboratories       |              |            |  |  |  |  |  |
| C.     | What method(s) was used to analyst samples?             | ze your TTHM and HAA5       |              |            |  |  |  |  |  |
|        | TTHM  | HAA5                        |              |            |  |  |  |  |  |
|        | □ EPA 502.2   | □ EPA 552.1                 |              |            |  |  |  |  |  |
|        | ⊠ EPA 524.2   | □ EPA 552.2                 |              |            |  |  |  |  |  |
|        | □ EPA 551.1   | □ EPA 552.3                 |              |            |  |  |  |  |  |
|        |   | ⊠ SM 6251 B                 |              |            |  |  |  |  |  |
|        |   |                             |              |            |  |  |  |  |  |

#### D. IDSE Standard Monitoring Results - TTHM

| Site ID <sup>1</sup>   | Data Type     |          | TTHM (mg/L) |         |         | LRAA |       |
|------------------------|---------------|----------|-------------|---------|---------|------|-------|
| Standard Monitoring #1 | Sample Date   | 11/19/07 | 2/18/08     | 5/19/08 | 8/17/08 |      |       |
|                        | Sample Result | 0.026    | 0.022       | 0.030   | 0.035   |      | 0.028 |
| Standard Monitoring #2 | Sample Date   | 11/19/07 | 2/18/08     | 5/19/08 | 8/17/08 |      |       |
|                        | Sample Result | 0.054    | 0.039       | 0.042   | 0.056   |      | 0.048 |
| Standard Monitoring #3 | Sample Date   | 11/19/07 | 2/18/08     | 5/19/08 | 8/17/08 |      |       |
|                        | Sample Result | 0.062    | 0.061       | 0.072   | 0.075   |      | 0.068 |
| Standard Monitoring #4 | Sample Date   | 11/19/07 | 2/18/08     | 5/19/08 | 8/17/08 |      |       |
|                        | Sample Result | 0.049    | 0.058       | 0.072   | 0.069   |      | 0.062 |
| Standard Monitoring #5 | Sample Date   | 11/19/07 | 2/18/08     | 5/19/08 | 8/17/08 |      |       |
|                        | Sample Result | 0.038    | 0.068       | 0.075   | 0.071   |      | 0.063 |
| Standard Monitoring #6 | Sample Date   | 11/19/07 | 2/18/08     | 5/19/08 | 8/17/08 |      |       |
|                        | Sample Result | 0.033    | 0.029       | 0.041   | 0.042   |      | 0.036 |
| Standard Monitoring #7 | Sample Date   | 11/19/07 | 2/18/08     | 5/19/08 | 8/17/08 |      |       |
|                        | Sample Result | 0.035    | 0.029       | 0.037   | 0.047   |      | 0.037 |
| Standard Monitoring #8 | Sample Date   | 11/19/07 | 2/18/08     | 5/19/08 | 8/17/08 |      |       |
|                        | Sample Result | 0.031    | 0.033       | 0.038   | 0.041   |      | 0.036 |

<sup>&</sup>lt;sup>1</sup> Verify that site IDs for IDSE standard monitoring sites match the site IDs in your Standard Monitoring Plan. Attach additional sheets as needed for IDSE standard monitoring results.

#### E. IDSE Standard Monitoring Results - HAA5

| Site ID <sup>1</sup>   | Data Type     |          | HAA5 (mg/L) |         |         | LRAA |       |
|------------------------|---------------|----------|-------------|---------|---------|------|-------|
| Standard Monitoring #1 | Sample Date   | 11/19/07 | 2/18/08     | 5/19/08 | 8/17/08 |      |       |
|                        | Sample Result | 0.020    | 0.024       | 0.033   | 0.037   |      | 0.028 |
| Standard Monitoring #2 | Sample Date   | 11/19/07 | 2/18/08     | 5/19/08 | 8/17/08 |      |       |
|                        | Sample Result | 0.022    | 0.029       | 0.036   | 0.040   |      | 0.032 |
| Standard Monitoring #3 | Sample Date   | 11/19/07 | 2/18/08     | 5/19/08 | 8/17/08 |      |       |
|                        | Sample Result | 0.021    | 0.025       | 0.026   | 0.028   |      | 0.025 |
| Standard Monitoring #4 | Sample Date   | 11/19/07 | 2/18/08     | 5/19/08 | 8/17/08 |      |       |
|                        | Sample Result | 0.020    | 0.021       | 0.038   | 0.028   |      | 0.027 |
| Standard Monitoring #5 | Sample Date   | 11/19/07 | 2/18/08     | 5/19/08 | 8/17/08 |      |       |
|                        | Sample Result | 0.024    | 0.028       | 0.042   | 0.045   |      | 0.035 |
| Standard Monitoring #6 | Sample Date   | 11/19/07 | 2/18/08     | 5/19/08 | 8/17/08 |      |       |
|                        | Sample Result | 0.043    | 0.038       | 0.048   | 0.052   |      | 0.045 |
| Standard Monitoring #7 | Sample Date   | 11/19/07 | 2/18/08     | 5/19/08 | 8/17/08 |      |       |
|                        | Sample Result | 0.036    | 0.040       | 0.046   | 0.040   |      | 0.041 |
| Standard Monitoring #8 | Sample Date   | 11/19/07 | 2/18/08     | 5/19/08 | 8/17/08 |      |       |
|                        | Sample Result | 0.033    | 0.042       | 0.043   | 0.040   |      | 0.040 |

<sup>&</sup>lt;sup>1</sup> Verify that site IDs for IDSE standard monitoring sites match the site IDs in your Standard Monitoring Plan. Attach additional sheets as needed for IDSE standard monitoring results.

#### F. Stage 1 DBPR Compliance Monitoring Results - TTHM

| Site ID <sup>1</sup>     | Data Type     |          | TTHM    | (mg/L)  |         | LRAA  |
|--------------------------|---------------|----------|---------|---------|---------|-------|
| Stage 1 #1               | Sample Date   | 11/19/07 | 2/18/08 | 5/19/08 | 8/17/08 |       |
| max. residence time site | Sample Result | 0.055    | 0.044   | 0.066   | 0.072   | 0.059 |
| Stage 1 #2               | Sample Date   | 11/19/07 | 2/18/08 | 5/19/08 | 8/17/08 |       |
| max. residence time site | Sample Result | 0.060    | 0.068   | 0.068   | 0.098   | 0.074 |
|                          | Sample Date   |          |         |         |         |       |
|                          | Sample Result |          |         |         |         |       |
|                          | Sample Date   |          |         |         |         |       |
|                          | Sample Result |          |         |         |         |       |
|                          | Sample Date   |          |         |         |         |       |
|                          | Sample Result |          |         |         |         |       |
|                          | Sample Date   |          |         |         |         |       |
|                          | Sample Result |          |         |         |         |       |
|                          | Sample Date   |          |         |         |         |       |
|                          | Sample Result |          |         |         |         |       |
|                          | Sample Date   |          |         |         |         |       |
|                          | Sample Result |          |         |         |         |       |

<sup>&</sup>lt;sup>1</sup> Verify that site IDs for Stage 1 compliance monitoring sites match the site IDs in your Standard Monitoring Plan.

Attach additional sheets as needed for Stage 1 compliance monitoring results.

#### G. Stage 1 DBPR Compliance Monitoring Results - HAA5

| Site ID <sup>1</sup>     | Data Type     |          | HAA5 (ı | ng/L)   |         | LRAA  |
|--------------------------|---------------|----------|---------|---------|---------|-------|
| Stage 1 #1               | Sample Date   | 11/19/07 | 2/18/08 | 5/19/08 | 8/17/08 |       |
| max. residence time site | Sample Result | 0.024    | 0.032   | 0.043   | 0.045   | 0.036 |
| Stage 1 #2               | Sample Date   | 11/19/07 | 2/18/08 | 5/19/08 | 8/17/08 |       |
| max. residence time site | Sample Result | 0.042    | 0.033   | 0.030   | 0.038   | 0.036 |
|                          | Sample Date   |          |         |         |         |       |
|                          | Sample Result |          |         |         |         |       |
|                          | Sample Date   |          |         |         |         |       |
|                          | Sample Result |          |         |         |         |       |
|                          | Sample Date   |          |         |         |         |       |
|                          | Sample Result |          |         |         |         |       |
|                          | Sample Date   |          |         |         |         |       |
|                          | Sample Result |          |         |         |         |       |
|                          | Sample Date   |          |         |         |         |       |
|                          | Sample Result |          |         |         |         |       |
|                          | Sample Date   |          |         |         |         |       |
|                          | Sample Result |          |         |         |         |       |

<sup>&</sup>lt;sup>1</sup> Verify that site IDs for Stage 1 compliance monitoring sites match the site IDs in your Standard Monitoring Plan.

Attach additional sheets as needed for Stage 1 compliance monitoring results.

## Form 7: IDSE Report for Standard Monitoring

Page 7 of 9

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

| Stage 2<br>Compliance<br>Monitoring<br>Site ID | Site Type  | Justification  |
|--|--|--|
| Stage 1 #2                                     | <ul><li>⋈ Highest TTHM</li><li>☐ Highest HAA5</li><li>☐ Stage 1 DBPR</li></ul> | Stage 1 DBPR location #2 had the highest TTHM LRAA.  |
| Standard<br>Monitoring #6                      | <ul><li>☐ Highest TTHM</li><li>☒ Highest HAA5</li><li>☐ Stage 1 DBPR</li></ul> | Standard Monitoring location #6 had the highest HAA5 LRAA.   |
| Stage 1 #1                                     | <ul><li>☐ Highest TTHM</li><li>☐ Highest HAA5</li><li>☒ Stage 1 DBPR</li></ul> | As one of the two Stage 1 DBPR maximum residence time sites was already selected as a Stage 2 DBPR location #1 was chosen as the third Stage 2 DBPR compliance monitoring location.  |
| Standard<br>Monitoring #3                      | <ul><li>⋈ Highest TTHM</li><li>☐ Highest HAA5</li><li>☐ Stage 1 DBPR</li></ul> | Standard monitoring location #3 had the next highest TTHM LRAA among the locations not previously selected.  |
| Standard<br>Monitoring #5                      | <ul><li>⋈ Highest TTHM</li><li>☐ Highest HAA5</li><li>☐ Stage 1 DBPR</li></ul> | Standard monitoring location #5 had the next highest TTHM LRAA among the locations not previously selected.  |
| Standard<br>Monitoring #8                      | <ul><li>☐ Highest TTHM</li><li>☒ Highest HAA5</li><li>☐ Stage 1 DBPR</li></ul> | Standard monitoring locations #7 and #8 had similar HAA5 LRAAs among locations not previously selected. Standard monitoring location #8 was chosen for geographic representation as this quadrant of the distribution has no sample sites. |
|  | <ul><li>☐ Highest TTHM</li><li>☐ Highest HAA5</li><li>☐ Stage 1 DBPR</li></ul> |  |
|  | <ul><li>☐ Highest TTHM</li><li>☐ Highest HAA5</li><li>☐ Stage 1 DBPR</li></ul> |  |

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

## Form 7: IDSE Report for Standard Monitoring

Page 8 of 9

## V. PEAK HISTORICAL MONTH AND PROPOSED STAGE 2 DBPR COMPLIANCE MONITORING SCHEDULE

| A. | Peak Historical Month* August   |  |  |  |  |
|----|---|--|--|--|--|
| B. | 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 (attach additional sheets if needed) |  |  |  |  |
|    |   |  |  |  |  |
|    |   |  |  |  |  |
|    |   |  |  |  |  |
|    |   |  |  |  |  |

#### C. Proposed Stage 2 DBPR Compliance Monitoring Schedule\*

| Stage 2<br>Compliance | Projected Sampling Date (date or week) <sup>1</sup> |                             |                              |                             |
|-----------------------|---|-----------------------------|------------------------------|-----------------------------|
| Monitoring<br>Site ID | period 1  | period 2                    | period 3                     | period 4                    |
| Stage 1 #2            | 5/2012 3 <sup>rd</sup> week                         | 8/2012 3 <sup>rd</sup> week | 11/2012 3 <sup>rd</sup> week | 2/2013 3 <sup>rd</sup> week |
| SM #6                 | 5/2012 3 <sup>rd</sup> week                         | 8/2012 3 <sup>rd</sup> week | 11/2012 3 <sup>rd</sup> week | 2/2013 3 <sup>rd</sup> week |
| Stage 1 #1            | 5/2012 3 <sup>rd</sup> week                         | 8/2012 3 <sup>rd</sup> week | 11/2012 3 <sup>rd</sup> week | 2/2013 3 <sup>rd</sup> week |
| SM #3                 | 5/2012 3 <sup>rd</sup> week                         | 8/2012 3 <sup>rd</sup> week | 11/2012 3 <sup>rd</sup> week | 2/2013 3 <sup>rd</sup> week |
| SM #5                 | 5/2012 3 <sup>rd</sup> week                         | 8/2012 3 <sup>rd</sup> week | 11/2012 3 <sup>rd</sup> week | 2/2013 3 <sup>rd</sup> week |
| SM #8                 | 5/2012 3 <sup>rd</sup> week                         | 8/2012 3 <sup>rd</sup> week | 11/2012 3 <sup>rd</sup> week | 2/2013 3 <sup>rd</sup> week |
|                       |   |                             |                              |                             |
|                       |   |                             |                              |                             |

<sup>&</sup>lt;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.

## Form 7: IDSE Report for Standard Monitoring Page 9 of 9 **VI. DISTRIBUTION SYSTEM SCHEMATIC\*** ATTACH a schematic of your distribution system if it has changed since you submitted your Standard Monitoring Plan (Form 6). **VII. ATTACHMENTS** Additional sheets for explaining how and why you deviated from your standard monitoring plan (Section III). ☐ Additional sheets for Standard Monitoring Results (Section III). **REQUIRED** if you are a subpart H system serving more than 49,999 people or a ground water system serving more than 499,999 people. ☐ Additional sheets for Stage 2 DBPR Compliance Monitoring Sites (Section IV). **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 V). Additional sheets for proposed Stage 2 DBPR peak historical month and compliance monitoring schedule (Section V). REQUIRED if you are a subpart H system serving more than 249,999 people. □ Distribution system schematic\* (Section VI). **REQUIRED if it has changed from** your approved IDSE standard monitoring plan.

☐ Compliance calculation procedures (for Stage 2 Compliance Monitoring Plan)

Note: Fields with an asterisk (\*) are required by the Stage 2 DBPR

Total Number of Pages in Your Report: \_\_\_9\_\_\_

