



**Stage 2 Disinfectants and Disinfection Byproduct Rule
Operational Evaluation Level (OEL) Report**

Submit to: Missouri Department of Natural Resources, Public Drinking Water Branch, P.O. Box 176,
Jefferson City, MO 65102-0176. Please type or print legibly.

I. GENERAL INFORMATION

PUBLIC WATER SYSTEM NAME		PUBLIC WATER SYSTEM ID NO.	
MAILING ADDRESS			
CITY	STATE	ZIP CODE	COUNTY
PHONE NUMBER		EMAIL ADDRESS (OPTIONAL)	

II. DATA COLLECTION AND ANALYSIS EVALUATION

1. Please enter the monitoring results in the table below. Site ID locations and results can be found online with Drinking Water Watch (www.dnr.mo.gov/DWW/). In lieu of filling out the table below, you may attach a copy of the table that was provided with the cover letter that accompanied this report. Attach a separate sheet if necessary:

Site ID	Analyte	Results from Two Quarters Ago [A]	Results from Prior Quarter [B]	Results from Current Quarter [C]	Operational Evaluation Level [D] = (A+B+(2*C))/4
	TTHM				
	HAA5				
	TTHM				
	HAA5				
	TTHM				
	HAA5				
	TTHM				
	HAA5				

2. Compliance monitoring sites where the operational evaluation level was exceeded. Attach a separate sheet if necessary:
 Site ID _____ Located at _____
 Site ID _____ Located at _____
 Site ID _____ Located at _____
 Site ID _____ Located at _____
3. Has an operational evaluation level exceedance occurred at the location(s) in the past? Yes No

III. SOURCE WATER DESCRIPTION

Please answer the following questions concerning your water system's source water:

1. Where does your source water come from?
 Surface Water Groundwater Groundwater Purchased Surface Water Purchased
2. If water is purchased, provide the public water system ID# and name(s) where water is purchased and what percentage of your average usage is purchased from them monthly? Attach a separate sheet if necessary.
 Water purchased from: PWS ID# MO _____ PWS Name _____ %
 Water purchased from: PWS ID# MO _____ PWS Name _____ %
 Water purchased from: PWS ID# MO _____ PWS Name _____ %
3. If water is purchased, is there a disinfection byproduct sample site at the master meter? Yes No
4. If water is purchased, are you limited in the amount of water you are able to draw from your supplier? Yes No
 If yes, what is the limit? _____

5. If water is purchased, have you discussed with your primary wholesaler the possibility, or their willingness, to make treatment modifications to help reduce the disinfection byproduct levels at the master meter? Yes No
6. If water is purchased, would you like assistance from the department with discussions with your primary wholesaler?
 Yes No
7. Do you sell water on a regular basis to any other public water system? Yes No
8. If yes, provide the public water system ID# and names where water is sold on a regular basis.
Water sold to: PWS ID# MO _____ PWS Name _____
Water sold to: PWS ID# MO _____ PWS Name _____
Water sold to: PWS ID# MO _____ PWS Name _____
9. If water is sold to a public water system on a regular basis, is there a disinfection byproduct sample site at the master meter?
 Yes No
10. For surface water systems, do you have the capability to vary the intake level? Yes No

IV. SOURCE WATER EVALUATION

Did source water quality cause or contribute to your operational evaluation level exceedances?

- Yes No Unknown

If No, proceed to section V. TREATMENT DESCRIPTION. If Yes or Unknown, answer the following questions:

1. Did heavy rainfall occur in the watershed? Yes No
2. Are you experiencing a long-term drought? Yes No

Questions 3 - 4 apply only to surface water sources. If you do not have a surface water source, please proceed to question 5.

3. Did lake or reservoir turnover occur? Yes No Unknown
4. Did an algal bloom occur in the source water? Yes No Unknown
5. Describe any other source water quality issues that may have contributed to your operational evaluation level exceedances. Attach a separate sheet if necessary.

6. Describe any steps that could be considered to reduce disinfection byproduct levels due to source water quality. Attach a separate sheet if necessary.

V. TREATMENT DESCRIPTION

Please answer the following questions concerning your water system treatment:

1. What is the primary disinfectant used? Chlorine Chloramines Chlorine Dioxide
How long has this primary disinfectant been in use? _____
2. What is the residual disinfectant used? Chlorine Chloramines
How long has this residual disinfectant been in use? _____
3. Is breakpoint chlorination achieved? Yes No
4. If you are a primary water system, what is the minimum chlorine residual needed to meet the required CT entering the distribution system? _____
5. What is the average chlorine residual entering the distribution system for the past 12 months? _____
6. Describe your treatment process. Attach a separate sheet if necessary.
7. What point in the treatment process is a disinfectant first introduced? _____

VI. TREATMENT PROCESS EVALUATION

Did the treatment process cause or contribute to your operational evaluation level exceedance(s)?

Yes No Unknown

If No, proceed to section VII. DISTRIBUTION SYSTEM DESCRIPTION. If Yes or Unknown answer the following questions:

1. Were there any changes made to the disinfection process? Yes No
2. Was there an increase in the amount of chlorine fed or an increase in the chlorine residual? Yes No
3. Were there any changes made to any other treatment process? Yes No
4. Were water temperatures warmer than usual? Yes No
5. Was the pH or alkalinity abnormal? Yes No

Questions 6 - 8 apply only to surface water sources. If you do not have a surface water source, please proceed to question 9.

6. Was there an increase in turbidity? Yes No
7. Were there any total organic carbon removal problems? Yes No
8. Does the treatment plant start and stop operation more than once throughout the day? Yes No
9. Describe any other treatment process issues that may have contributed to your operational evaluation level exceedances. Attach a separate sheet if necessary.

10. Describe steps that could be considered to reduce disinfection byproduct levels due to the treatment process. Attach a separate sheet if necessary.

VII. DISTRIBUTION SYSTEM DESCRIPTION

Please answer the following questions concerning your water distribution system:

1. Do you have a comprehensive unidirectional flushing program in place? Yes No
If Yes, how often is the distribution system flushed? _____
2. Is there a chlorine booster station in the distribution system to help maintain chlorine residuals? Yes No
3. How many storage tanks are in operation in your distribution system? _____
4. What is the total volume in storage [A]? _____ What is the average daily water usage [B]? _____
[A] / [B] = _____
5. What is the low water level and high water level in the storage tank(s) _____
What is the volume between the low water and high water levels in the storage tank(s)? _____
6. Are the storage tank(s) normally operated to start refilling the tanks before they drop down to the low water level? Yes No
7. Do all the storage tank(s) have separate inlet and outlet lines? Yes No
If No, which storage tank(s) do not have separate inlet and outlet lines? _____
8. Do any of the storage tank(s) have a mixing system or aeration device? Yes No
If Yes, when was it installed? _____
If Yes, describe. Attach a separate sheet if necessary.
9. When was the storage tank(s) last cleaned? _____
10. When was the storage tank(s) last inspected? _____

VIII. DISTRIBUTION SYSTEM EVALUATION

Did the distribution system cause or contribute to your operational evaluation level exceedance(s)?

Yes No Unknown

If No, proceed to section IX. DISINFECTION BYPRODUCT REDUCTION. If Yes or Unknown, answer the following questions.

1. Was the disinfectant residual higher than normal? Yes No
2. Was the disinfectant residual lower than normal? Yes No
3. Was the water temperature higher than normal? Yes No
4. Was overall water use in your system unusually low? Yes No
5. Have there been any recent waterline breaks or line replacements? Yes No
6. Were any storage tanks recently removed or placed into service? Yes No
7. Were any storage tanks recently cleaned? Yes No
8. Was the storage tank draw-down more than usual, indicating a possible discharge of stagnant water? Yes No
9. Was the distribution system recently flushed? Yes No
10. Were there any customer complaints in the vicinity of the operational evaluation level exceedance? Yes No
11. Describe any other distribution issues that may have contributed to your operational evaluation level exceedance(s). Attach a separate sheet if necessary.

12. Describe steps that could be considered to reduce disinfection byproduct levels due to the distribution system. Attach a separate sheet if necessary.

IX. DISINFECTION BYPRODUCT REDUCTION

1. What attempts, if any, have been made to reduce the disinfection byproduct levels in your water system? (Check all that apply)

<input type="checkbox"/> Covered basins	<input type="checkbox"/> Converted to chloramines
<input type="checkbox"/> Installed mixer in storage tank	<input type="checkbox"/> Installed aerator in storage tank
<input type="checkbox"/> Modified storage tank inlet/outlet piping	<input type="checkbox"/> Initiated a unidirectional flushing program
<input type="checkbox"/> Installed automatic flushing devices	<input type="checkbox"/> Started using chlorine dioxide
<input type="checkbox"/> If water is purchased, consulted with primary wholesaler on treatment strategies	
<input type="checkbox"/> Other _____	
2. Is the water system planning to implement any new changes to help reduce the disinfection byproduct levels? Yes No
If Yes, describe. Attach a separate sheet if necessary.

X. CERTIFICATION

The undersigned representative certifies the information submitted in this report is true and correct to the best of his or her knowledge and that he or she is authorized to sign and submit this report.

SIGNATURE OF AUTHORIZED REPRESENTATIVE	DATE
NAME AND OFFICIAL TITLE	PHONE NUMBER

PREPARER'S NAME AND SIGNATURE (IF APPLICABLE)

SIGNATURE OF PREPARER	DATE
NAME AND TITLE	PHONE NUMBER