INSTRUCTIONS FOR COMPLETING THE MONTHLY OPERATING REPORT FOR CHLORINE DIOXIDE AND CHLORITE MONITORING

ABBREVIATIONS

ClO_2	Chlorine dioxide
ClO_2^-	Chlorite (please note that in order to avoid confusion, when referencing chlorite, this abbreviation will not be used in either the CLO2MOR spreadsheet or these instructions).
POE	**P**oint **o**f **E**ntry to the distribution system. Basically a sample-tap on the water main that leaves the water treatment plant.

General Information

PWS NAME	Enter the name of your public water system.
PLANT NAME OR NUMBER	Enter the name or number of the water treatment plant. **Note:** 1. If chlorine dioxide (ClO_2) is being fed at more than one water treatment plant, and all of the plants have a common point of entry (POE) into the distribution system, enter the names or numbers of all applicable water treatment plants. 2. If ClO_2 is being fed to multiple water treatment plants, and each plant has a separate POE, you must complete a separate ClO_2 Monthly Operating Report (CLO2MOR) for each of the water treatment plants.
PWS ID No.	Enter the public water system's 7-digit PWS ID number.
Connections	Enter the number of connections served by the plant.
Population	Enter the number of customers this treatment plant serves during the reporting month. If you don't know how many people you serve, you may estimate the population by multiplying the number of connections you serve by 3.
Month	Using the drop-down list, select the month that the data was collected.
Year	Using the drop-down list, select the year that the data was collected. Note: You can adjust the first year in the list by changing the value in cell Z6. However, the value in that cell can't be less than 2002 because that was the first year that the current rules applied to any system.

INSTRUCTIONS FOR COMPLETING THE MONTHLY OPERATING REPORT FOR CHLORINE DIOXIDE AND CHLORITE MONITORING (cont)

Raw Data

ClO_2 Used	Using the drop-down list, select "Yes" or "No" to indicate whether or not you used any ClO_2 on a given day. You must answer this question "Yes" before you can enter any daily data. **Note:** We incorporated a feature that allows you to record data (especially distribution system data) on a day that you did not use your generator. To use this feature, you must use the following data entry sequence: 1. First answer the question "Yes" 2. Then enter any of the data that you collected 3. Finally, change the answer to "No" This capability will generally be needed only if you were collecting data on a day after you had an operational problem that resulted in elevated distribution system readings, and you turned the generator off to reduce the severity of the problem, but you were still testing the ClO_2 and chlorite levels in the distribution system.
ClO_2 POE	You must record the ClO_2 residual level at the POE for each day the ClO_2 generator is used. All the ClO_2 data that is collected at the POE will be used to determine the Maximum Residual Disinfectant Level (MRDL) compliance for ClO_2. Failure to collect ClO_2 data is a monitoring-and-reporting (M&R) violation. **Note:** 1. If more than one test was conducted, report the highest test result for the day. 2. The ClO_2 samples must be analyzed by a TCEQ-approved laboratory (i.e., a laboratory that has received a NELAP certificate from the TCEQ that approves the lab for analysis of ClO_2 samples). 3. The ClO_2 residual must be measured to a minimum accuracy of plus or minus 0.05 mg/L using an amperometric titrator equipped with platinum-platinum electrodes, or using the lissamine green B method. 4. The results must be rounded to the nearest 0.05 mg/L.

INSTRUCTIONS FOR COMPLETING THE MONTHLY OPERATING REPORT FOR CHLORINE DIOXIDE AND CHLORITE MONITORING (cont)

Raw Data

ClO_2 Distribution	If any of the daily results at the POE is 0.85 mg/L or higher, you must run three ClO_2 tests in the distribution system. If all the POE results were below 0.85 mg/L, then you do not have to test for ClO_2 in the distribution system. These distribution system results will be used to determine compliance with the MRDL for ClO_2. **Note:** 1. All three of the tests must be run on samples collected at designated sampling sites in the distribution system. These sampling sites must be shown in the system's Monitoring Plan. 2. ClO_2 samples can't be analyzed in the field. The samples must be collected and returned to the lab for analysis. Because ClO_2 is a dissolved gas and the samples are susceptible to sunlight damage, sampling procedures are very important. Be sure that you collect the sample in a way that minimizes agitation. The sample must also be collected in a sampling container that has no head space (that means that the sample container must be filled completely and contain no air). Place the sample in a dark, iced container and deliver the iced sample to the lab right away. 3. The ClO_2 samples must be analyzed by a TCEQ-approved laboratory (i.e., a laboratory that has received a NELAP certificate from the TCEQ that approves the lab for analysis of ClO_2 samples). 4. The ClO_2 residual must be measured to a minimum accuracy of plus or minus 0.05 mg/L using an amperometric titrator equipped with platinum-platinum electrodes, or using the lissamine green B method. 5. The results must be rounded to the nearest 0.05 mg/L.
First	Enter the ClO_2 residual at the designated sampling site that is located at the customer nearest the treatment plant. **Note:** 1. You must collect the sample at the first designated sampling site within 2 hours of collecting a POE sample with the elevated residual. 2. If more than one test was conducted, report the highest test result for the day.

INSTRUCTIONS FOR COMPLETING THE MONTHLY OPERATING REPORT FOR CHLORINE DIOXIDE AND CHLORITE MONITORING (cont)

Raw Data

Second	Enter the ClO_2 residual at the second designated sampling site in the distribution system. **Note:** 1. You must conduct the second ClO_2 distribution system test 6-8 hours after the first test. 2. The location of the second designated sampling site depends on whether or not your system has booster chlorination facilities in the distribution system. a) If your system does not have any booster chlorination facilities in the distribution system, you must collect the second distribution sample at the same site as the first distribution system sample. b) If your system has booster chlorination facilities in the distribution system, you must collect the second distribution sample at the first customer after rechlorination occurs. 3. If more than one test was conducted, report the highest test result for the day.
Third	Enter the ClO_2 residual at the third designated sampling site in the distribution system. **Note:** 1. You must conduct the third ClO_2 distribution system test 6-8 hours after the first test. 2. The location of the second designated sampling site depends on whether or not your system has booster chlorination facilities in the distribution system. a) If your system has no booster chlorination facilities in the distribution system, you must collect the sample at the same site as the first distribution system sample. b) If your system has booster chlorination facilities in the distribution system, you must collect the third sample at the far reaches of the distribution system. 3. If more than one test was conducted, report the highest test result for the day.
Chlorite POE	You must record the chlorite residual at the POE for each day the ClO_2 generator is used. Failure to collect chlorite data is a monitoring-and-reporting violation. **Note:** 1. If more than one test was conducted, report the highest test result for the day. 2. The results must be rounded to the nearest 0.05 mg/L. 3. All chlorite samples must be analyzed by a TCEQ-approved laboratory (i.e., a laboratory that has received a NELAP certificate from the TCEQ that approves the lab for analysis of ClO_2 and chlorite samples). 4. All chlorite concentrations must be measured to a minimum accuracy of plus or minus 0.05 mg/L using an amperometric titrator equipped with platinum-platinum electrodes, or using lissamine green B with horseradish peroxidase.

INSTRUCTIONS FOR COMPLETING THE MONTHLY OPERATING REPORT FOR CHLORINE DIOXIDE AND CHLORITE MONITORING (cont)

Raw Data

Chlorite Distribution (continues on next page)	Enter the number of samples that you collected each day at the designated chlorite sampling points in the distribution system. The sampling frequency and sampling locations that you must use depend on a number of factors that include: 1. The chlorite level at the POE each day (the basis for special daily sampling), and 2. Whether or not the system has been approved for reduced chlorite monitoring at your system (the basis for routine monthly sampling). **General notes that apply to both daily and monthly samples:** 1. Systems that use ClO_2 must designate three chlorite sampling sites in the distribution system. The sampling sites must be shown in the system's Monitoring Plan and must conform to the following sampling-site location requirements: a) The first sampling site must be at the customer nearest the treatment plant. b) The second site must be representative of the average residence time in the system. c) The third site must be representative of the maximum residence time in the system. 2. The chlorite samples must be analyzed by a TCEQ-approved laboratory (i.e., a laboratory that has received a NELAP certificate from the TCEQ that approves the lab for analysis of ClO_2 and chlorite samples). The chlorite concentration in distribution samples must be measured using ion chromatography (EPA Method 300.0 or 300.1). 3. You must submit copies of the laboratory reports to the TCEQ. If the results are received prior to submitting your CLO2MOR, you may include the copies with the original copy of your monthly report. Lab results received after you submit your original CLO2MOR must be submitted with a copy of your CLO2MOR and within 10 days of TCEQ's receipt of the lab results. **Notes that apply to special daily samples:** 1. You must collect a chlorite sample from all three designated sites in the distribution system (a 3-sample set) on any day the POE chlorite level is 1.05 mg/L or higher. a) You must collect all three samples within 24 hours of the elevated POE result. b) The results of each 3-sample set will be used to determine compliance with the maximum contaminant level (MCL) for chlorite. 2. The results of daily distribution samples can be used to meet the minimum monthly monitoring requirements for the distribution system.

INSTRUCTIONS FOR COMPLETING THE MONTHLY OPERATING REPORT FOR CHLORINE DIOXIDE AND CHLORITE MONITORING (cont)

Raw Data

Chlorite Distribution (continued)	**Notes that apply to routine monthly samples:** 1. If one or more of the chlorite POE results were 1.05 mg/L or higher, the required "daily" 3-sample set can also be used to meet the monthly sampling requirements. Basically, these notes apply only if the POE chlorite levels were below 1.05 mg/L each day. 2. Unless your system has received written permission from the TCEQ to begin reduced chlorite monitoring, your system is required to collect at least one 3-sample set each month. a) The 3-sample set must be collected on a day that you fed ClO_2 at the plant. b) The results of each 3-sample set will be used to determine compliance with the MCL for chlorite. 3. If your system has received written permission from the TCEQ to implement reduced chlorite monitoring, you must collect at least one sample from at least one designated sampling sites each month. a) The sample must be collected on a day that you fed ClO_2 at the plant. b) Each of the three designated sampling sites must be sampled at least once each calendar quarter. For example, the first designated site can be sampled in January, the second site in February, and the third site in March. c) If the chlorite level in any distribution sample is ever 1.05 mg/L or higher, you must return to the routine sampling the following month.
Near	Enter the number of samples that you collected each day at the designated distribution sampling point nearest the plant.
Middle	Enter the number of samples that you collected each day at the designated distribution sampling point that represents the average residence time in the system.
Far	Enter the number of samples that you collected each day at the designated distribution sampling point that represents the maximum residence time in the system.

INSTRUCTIONS FOR COMPLETING THE MONTHLY OPERATING REPORT FOR CHLORINE DIOXIDE AND CHLORITE MONITORING (cont)

Data Summary Note: If you are using the electronic copy of the CLO2MOR, all the values required in the **Data Summary** will be calculated automatically. The following instructions apply only to systems that are completing the form by hand.

ClO_2 POE	
# > Limit	Enter the number of days when the ClO_2 residual is 0.85 mg/L or higher.
Max.	Enter the highest of the daily readings
Min.	Enter the lowest of the daily readings
Avg.	Add all the daily values and divide by the total number of readings.
ClO_2 Distribution	
No. of Sets	Enter the number of "sample sets" collected in the distribution.
# > Limit	Refer to instructions for **ClO_2 POE**
Max	
Min	
Avg.	
Chlorite POE	
# > Limit	Enter the number of days that the chlorite residual is 1.05 mg/L or higher.
Max.	Refer to instructions for **ClO_2 POE**
Min.	
Avg.	

Chlorite Stock Solution (Optional Data)

mg/L chlorite **mg/L chlorate**	The purity of the sodium chlorite feedstock can be reduced by high temperatures or exposure to sunlight. Consequently, each plant should test the purity of the chlorite solution in the bulk storage tank at least monthly. If you perform this testing, enter the chlorite and chlorate concentrations, in milligrams per liter (mg/L), of the sodium chlorite solution used to supply the ClO_2 generator. If you analyzed the stock solution more than once during the reporting month, record the average value of all the tests.

INSTRUCTIONS FOR COMPLETING THE MONTHLY OPERATING REPORT FOR CHLORINE DIOXIDE AND CHLORITE MONITORING (cont)

Written approval from TCEQ for reduced monitoring?

Written approval from TCEQ for reduced monitoring?	Using the drop-down list, select "Yes" if your system has received a letter from the TCEQ that authorizes the system to reduce routine chlorite monitoring in the distribution system to once sample per month. Select "No" if you have not received such a letter or if any of the distribution samples that you collected in the last 12 months have had a chlorite level of 1.05 mg/L or higher.
Date	If your system has received a "reduced chlorite monitoring" letter from the TCEQ, enter the date of that letter.

Booster Chlorination

Booster Chlorination	Using the drop-down list, select "Yes" if your system has booster chlorination facilities in the distribution system. If not, select "No".

Chlorite Distribution Monitoring

No. of Samples	If you are using the electronic copy of the CLO2MOR, the **No. of Sets** will be calculated automatically. If you are entering data by hand, enter the number of chlorite samples that you collected from designated sampling sites in the distribution system.

ClO_2 Violations

Acute MRDL	If you are using the electronic copy of the CLO2MOR, the **Acute MRDL** will be calculated automatically. If you are completing the form by hand, enter the number of Acute violations occurred during the reporting month. You have an Acute violation if either of the following situations occurred: 1. The POE sample and at least one of the three distribution samples were higher than 0.85 mg/L, or the POE sample was 0.85 mg/L or higher. 2. The POE sample was higher than 0.85 mg/L and one or more of the required distribution samples were not collected. **Note:** If you have an Acute MRDL violation, you must notify both the TCEQ and your customers within 24 hours. Although the TCEQ prefers that you contact the PDWS before you notify your customers, the customer notice must be issued for public safety even if you are unable to reach the TCEQ.

INSTRUCTIONS FOR COMPLETING THE MONTHLY OPERATING REPORT FOR CHLORINE DIOXIDE AND CHLORITE MONITORING (cont)

ClO_2 Violations

Non-Acute MRDL	If you are using the electronic copy of the CLO2MOR, the **Non-Acute MRDL** will be calculated automatically. If you are filling the form out by hand, enter the number of times that the POE sample was 0.85 mg/L or higher but the three distribution samples were each below 0.85 mg/L.
Monitoring	If you are using the electronic copy of the CLO2MOR, the **Monitoring** violations will be calculated automatically. If you are filling the form out by hand, enter the number of times that either of the following Monitoring violations occurred during the reporting month. 1. The ClO_2 residual at the POE was not monitored on a day you fed ClO_2 at the plant. 2. The ClO_2 level at the POE was 0.85 mg/L or higher and you did not collect any of the three required distribution samples.
TCEQ Notified	Using the drop-down list, select "Yes" if you had any ClO_2 violation and notified the TCEQ as required. Select "No" if you failed to do the proper notification. **Notes:** 1. You must contact the TCEQ's Public Drinking Water Section (PDWS) following an MRDL violation. a) You must notify the PDWS of an Acute MRDL violation within 24 hours. b) You must notify the PDWS of a Non-acute MRDL by the end of the next business day. c) The PDWS may be contacted either by phone at (512) 239-4691 or by fax at (512) 239-0030 2. Please notify the TCEQ of a monitoring violation by submitting the CLO2MOR.
Date(s)	Enter the date(s) that you notified the TCEQ. If you had any MRDL violation, enter the date that you spoke with a staff member from the PDWS or faxed them the violation notice. If you have a monitoring violation, enter the date that you submit your CLO2MOR.
Public Notified	Using the drop-down list, select "Yes" if you had any ClO_2 violation and did the required public notification. Select "No" if you did not have a ClO_2 violation that required public notification or failed to do proper notification. If you have already issued the notice, attach a copy of the notice and the Certificate of Delivery.
Date(s)	Enter the date(s) that you notified the public.

INSTRUCTIONS FOR COMPLETING THE MONTHLY OPERATING REPORT FOR CHLORINE DIOXIDE AND CHLORITE MONITORING (cont)

Chlorite M&R Violations

Monitoring	If you are using the electronic copy of the CLO2MOR, the **Monitoring** violations will be calculated automatically. If you are filling the form out by hand, enter the number of Monitoring violations that occurred during the reporting month. There are three types of Monitoring violations: 1. Failing to test the chlorite level at the POE on any day that ClO_2 was used. 2. Failing to test the chlorite levels at all three points in the distribution system on any day when the chlorite level at the POE was 1.05 mg/L or higher. 3. Failing to conduct the required routine monthly chlorite sampling in the distribution system. Enter the number of times that you committed any of the three violations.
TCEQ Notified?	If you are using the electronic version of the CLO2MOR, the spreadsheet will automatically provide this data. If you are filling the form out by hand, enter "Yes" if you had a chlorite monitoring violation and are submitting the report by the 10th of the following month. Enter "No" if you failed to do the proper notification.
Date(s)	If you are using the electronic version of the CLO2MOR, the spreadsheet will automatically provide this data. Enter the date that you submit your CLO2MOR.
Public Notified?	Using the drop-down list, select "Yes" if you had a chlorite M&R violation and have already issued the required public notice. Select "No" if you will issue the notice later. If you issued a public notice, attach a copy of the notice(s).
Date(s)	Enter the date(s) that you notified the public.

INSTRUCTIONS FOR COMPLETING THE MONTHLY OPERATING REPORT FOR CHLORINE DIOXIDE AND CHLORITE MONITORING (cont)

General Remarks

General Remarks About ClO_2 Generator	Enter any required maintenance and feed adjustments made to the ClO_2 generator during the reporting month.

Optional Data

Total Water Treated this Month	Enter the total amount of water, in million gallons (MG), treated during the reporting month.
Sodium Chlorite Used this Month	Enter the total amount of sodium chlorite, in pounds (lbs.), used by the water treatment plant during the reporting month.

Signatures

Operator's Signature	Sign your name. By signing this report, you are certifying that to the best of your knowledge the information contained within this report is complete and accurate. The operator completing this report must hold a Class C or higher certification.
License No. & Class	Enter your Certificate No. & Class.
Date	Enter the date you completed and signed this report.