Appendix G

Chapter 4 Lead/Copper Rule
Compliance with the Water Quality Parameter Ranges

Water Quality Parameter Ranges Overview

After a supply completes installation of OCCT, they must conduct follow-up monitoring to determine the effectiveness of the corrosion control treatment. Follow-up monitoring verifies the relationship between water quality parameters and levels of lead and copper in drinking water. During follow-up monitoring, the supply monitors for lead and copper, and begins to collect bi-weekly water quality samples (WQSs). This also applies to satellite systems that purchase all water and have corrosion control treatment added by the source water supply. After follow-up monitoring is completed, the Illinois EPA uses the lead and copper tap and WQS data collected before and after the installation of corrosion control treatment to set WQP ranges or minimums (called optimal water quality parameters or OWQPs) that indicate that a system is operating corrosion control treatment at a level that most effectively minimizes the lead and copper concentrations at users' taps.. Once the Illinois EPA sets the WQP ranges, the supply is notified by Special Exception Permit (SEP). The SEP specifies the parameters, ranges, and the date when monitoring begins.

If your water system serves more than 50,000 people and does not qualify as a (b)(3) system, you must collect WQP samples and operate in compliance with the OWQPs designated for your system.

If your water system serves 50,000 or fewer people, you are only required to collect WQP samples during those monitoring periods in which an action level exceedance occurs.

The Illinois EPA sets ranges or minimums for the following OWQPs at entry points and within the distribution system (i.e., tap samples) after the installation of OCCT:

- *pH;*
- *Alkalinity (when alkalinity is adjusted);*
- *Orthophosphate (when a phosphate inhibitor is used);*
- *Silica (when a silicate inhibitor is used); and*
- *Calcium (when calcium carbonate stabilization is used as part of corrosion control).*

For example, the Illinois EPA might require you to maintain pH between 7.8 and 8.2 at each entry point and a pH between 7.0 to 8.0 at all sampling sites in the distribution system. Similarly, the Illinois EPA might require you to inject sodium bicarbonate at a dosage rate of 10 mg/L (measured at each entry point) to maintain alkalinity above 20 (measured at all distribution system sites). The Illinois EPA can also designate values for additional water quality control parameters.

The concentration of each applicable WQP is measured at entry points and at a specified number of sites within the distribution system. Measurements at the entry points also include a reading of the dosage rate of the chemical used to adjust the alkalinity (if applicable) and a reading of the dosage rate of the inhibitor used (if applicable).

Determining Compliance

The Lead and Copper Rule Minor Revisions (LCRMR) have significantly changed the method of compliance determination for the water quality parameter ranges. **As previously indicated, if your water system serves 50,000 or fewer people, you are only required to collect WQP samples during those monitoring periods in which an action level exceedance occurs.** While reading this information, think about the importance of having the equipment to perform WQP monitoring at the water plant. Under the revisions, if WQP ranges are exceeded, a supply will need to know results immediately in order to take the necessary follow-up actions within the time constraints. Sending WQP samples to a laboratory (Illinois EPA or certified) will not allow the supply enough time to collect follow-up samples due to the laboratory turn-around-time. **Since WQP monitoring is an ongoing process, the Illinois EPA feels that the up-front monetary cost to purchase equipment will actually save money in the long run. Additional information concerning on-site monitoring equipment is listed on the last page of the Appendix.**

As with most rules, the supply always has the option to increase the frequency and number of samples collected. As you will realize by reading the examples, collecting more WQP samples than the required minimum amount has advantages.

Two terms that the water system operator must be familiar with is the term "**daily value**" and "**excursion**". The following pages explain these two terms.

Daily Value

CWS that directly add a chemical (or have made adjustments to water treatment) for corrosion control will be required to record a daily value most days of the month. "Daily" in this case refers to a minimum of **20** samples per month.

CWS that only purchase water and does not directly add a chemical (or have made adjustments to water treatment) added for corrosion control will normally be required to sample bi-weekly. "Daily" in this case refers to a minimum of **2** samples per month per sample location.

A sampling location can be either an entry point or a point in the distribution system. Daily values are calculated for each WQP at each sampling location. The procedure for determining the daily value is based on the sampling frequency for that WQP and sampling point. Although the term "daily values" contains the word "daily", in many instances, the daily value represents a measurement that was collected more or less frequently than once per day. Daily values will be calculated for each WQP sampling location.

On days when more than one measurement for the WQP is collected, the daily value shall be the average of all results collected during the day, regardless if they are collected by continuous monitoring, grab sampling, or a combination of both.

Below are some examples of determining **daily values for entry point monitoring**:

Example 1: A water system has a pH WQP range of 7.0 or above, has one entry point, and must collect one sample (or measurement) every two weeks (bi-weekly).

Date	pH level	Daily Value
7/1/2001	7.2	7.2
7/2/2001*	No sample collected (NS)	7.2
7/3/2001*	No sample collected (NS)	7.2

7/4/2001 – 7/13/2001*	No samples collected (NS)	7.2
7/14/2001	7.6	7.6
7/15/2001*	No sample collected (NS)	7.6

** Even though no samples for pH were collected on these days, a daily value is calculated using the most recent sample.*

In this example, 13 days had a daily value of 7.2 and two days had a daily value 7.6.

Example 2: A water system has a pH WQP range of 7.0 or above, has one entry point, and must collect one sample (or measurement) every day.

Date	pH level	Daily Value
7/1/2001	7.2	7.2
7/2/2001	7.5	7.5
7/3/2001*	No sample collected-Saturday (NS)	7.5
7/4/2001*	No samples collected-Sunday (NS)	7.5
7/5/2001	7.6	7.6
7/6/2001	7.4	7.4

** Even though no samples for pH were collected on these days, a daily value is calculated using the most recent sample.*

In this example, one day had a daily value of 7.2, three days had a daily value of 7.5, one day had a 7.6 daily value, and one day had a daily value of 7.4.

Example 3: A water system has a orthophosphate WQP range of 1.0 or above, has one entry point, and collects three samples (or measurements) a day.

Date	Orthophosphate level	Daily Value
7/1/2001 (7 a.m.)	1.2	
7/1/2001 (1 p.m.)	1.5	
7/1/2001 (2 p.m.)	0.9	
Calculation (average)	(1.2+1.5+0.9) / 3 = 1.2	1.2
7/2/2001 (7 a.m.)	1.3	
7/2/2001 (1 p.m.)	1.0	
7/2/2001 (2 p.m.)	1.1	
Calculation (average)	(1.3+1.0+1.1) / 3 = 1.13	1.1

In this example, one day had a daily value of 1.2 and the other day had a daily value of 1.1. Averaging was used.

Excursion

An **excursion** is any "daily value" for a WQP that is outside the established WQP range. The duration of an excursion is the number of days that elapse between the day the excursion first occurs, and the day that the daily value is back within the WQP range. These figures are based on when the sample was collected, not the date the system received the sample results.

You cannot be outside the OWQP ranges or below the OWQP minimum (also known as an excursion) for more than a total of **nine** days at a specific sampling point or combination of sampling points, or for a specific WQP or combination of WQPs during a six-month period. The nine days can occur anytime during the six-month period and do not have to be consecutive days. The nine days allow you to make necessary repairs that may be causing your system to not meet its OWQP specifications.

To determine the duration of excursion, count the first day the sample is outside the WQP range and stop counting days when the parameter meets the range. Do not count the day that the sample falls within the WQP range. This procedure is repeated any time a daily value exceeds the WQP range.

Determining "daily values" and "excursions" with Entry Point monitoring

Example A1: A water system has a pH WQP range of 7.0 or above, has one entry point, and must collect one sample (or measurement) every two weeks (bi-weekly).

Date	pH level	Daily Value
7/1/2001	6.9	**6.9**
7/2/2001*	No sample collected (NS)	**6.9**
7/3/2001*	No sample collected (NS)	**6.9**
7/4/2001 – 7/13/2001*	No samples collected (NS)	**6.9**
7/14/2001	7.2	7.2
7/15/2001*	No sample collected (NS)	7.2

** Even though no samples for pH were collected for these days, a daily value is calculated using the most recent sample.*

In this example, 13 days had a daily value of 6.9 and two days had a daily value 7.2. Since the supply was required to maintain a pH of 7.0 or better, the supply had an **excursion for 13 days** (July 1st through July 13th).

Example A2: A water system has a pH WQP range of 7.0 or above, has one entry point, and must collect one sample (or measurement) every two weeks (bi-weekly).

In this example, the pH was measured in the field and the sample collector reacted and collected another measurement the next day.

Date	pH level	Daily Value
7/1/2001	6.9	**6.9**
7/2/2001	7.1	7.1
7/3/2001*	No sample collected (NS)	7.1
7/4/2001 – 7/13/2001*	No samples collected (NS)	7.1
7/14/2001	7.2	7.2
7/15/2001*	No sample collected (NS)	7.2

** Even though no samples for pH were collected for these days, a daily value is calculated using the most recent sample.*

In this example, the **excursion was for only one day**, rather than 13 as in Example A1. **This is why purchasing on-site testing equipment is so important.**

Example A3: A water system has a pH WQP range of 7.0 or above, has one entry point, and must collect one sample (or measurement) every day.

Date	pH level	Daily Value
7/1/2001	7.2	7.2
7/2/2001	6.8	6.8
7/3/2001*	No sample collected-Saturday (NS)	6.8
7/4/2001*	No samples collected-Sunday (NS)	6.8
7/5/2001	7.6	7.6
7/6/2001	7.4	7.4

** Even though no samples for pH were collected on these days, a daily value is calculated using the most recent sample.*

In this example, 3 days had a daily value of 6.8. Since the supply was required to maintain a pH of 7.0 or better, the supply had an **excursion for 3 days** (July 2nd through July 4th).

Example A4: In this example, the pH was measured in the field and the sample collector reacted and collected another reading on Saturday.

Date	pH level	Daily Value
7/1/2001	7.2	7.2
7/2/2001	6.8	**6.8**
7/3/2001	7.0 – Saturday	7.0
7/4/2001*	No samples collected-Sunday (NS)	7.0
7/5/2001	7.6	7.6
7/6/2001	7.4	7.4

** Even though no samples for pH were collected on these days, a daily value is calculated using the most recent sample.*

In this example, **only one daily value had an excursion**, rather than three as in Example A3.

Example A5: A water system has a pH WQP range of 7.0 or above, has one entry point, and collects more than one reading (or sample) a day.

Date	pH level	Daily Value
7/1/2001 (7 a.m.)	7.0	
7/1/2001 (1 p.m.)	6.9	
7/1/2001 (2 p.m.)	6.8	
Calculation	(7.0+6.9+6.8) / 3 = 6.9	**6.9**
7/2/2001 (7 a.m.)	7.1	
7/2/2001 (1 p.m.)	7.2	
7/2/2001 (2 p.m.)	7.1	
Calculation	(7.1+7.2+7.1) / 3 = 7.13	7.1

On days when more than one measurement for a WQP is collected, the daily value shall be the average of all results collected during the day, regardless if they are collected by continuous monitoring, grab sampling, or a combination of both.

In this example, only **one** daily value had an excursion.

Most supplies will have multiple parameter ranges that must be maintained. It is important to remember, that excursions for multiple parameters that occur on the same day are only counted once.

To assist water supplies in calculating daily values and excursions, The Illinois EPA has created customized WQP range report worksheets. Below is an example of a completed entry point WQP range report worksheet for July 2001**. These worksheets should be completed daily and kept on file by the water supply. These worksheets are not required to be submitted; however, you are required to maintain accurate data.** The Illinois EPA reserves the right to request this information at any given time and/or may be reviewed during your sanitary survey.

*****EXAMPLE*****

In this example, the supply has one entry point, a pH WQP range of 7.0 or above, and an orthophosphate WQP range of 0.25 mg/l or above. The supply measures pH twice a day and orthophosphate once a day. The two pH measurements are averaged together to obtain one daily value. On July 9th, both the pH and orthophosphate ranges were not met; however, it only counted as one excursion. For the month, the supply had four excursions.

Water Quality Parameter (WQP) Range Worksheet for the month of July 2001 (month/year)**.**

Entry Point Test Results

Facility: **02345678, Watertown**	
TAP NO.	**01 (Water Treatment Plant)**
Frequency:	**Once per day***
	**This is the minimum number of measurements per month. It is your option to monitor more frequently.*
Corrosion Control Treatment	**Blended Phosphate**
Water Quality Parameters and Ranges	
PH	**7.0 or greater**
Orthophosphate	**0.25 mg/l or greater**

Date	**PH** Range 7.0 or greater		**Orthophosphate (mg/l)** as PO4 Range 0.25 mg/l or greater		**Check if excursion of either Daily Value**
	No. of samples	**Daily Value**	**No. of samples**	**Daily Value**	
1	2	7.0	1	0.26	
2	2	7.1	1	0.25	
3	2	7.0	1	0.27	
4	2	7.2	1	0.26	
5	2	7.6	1	**0.23**	+
6	2**	7.6	1**	0.26	
7	NS*	7.6	NS*	0.26	
8	2	7.2	1	0.26	
9	2	**6.9**	1	**0.21**	+
10	2	7.0	1	0.27	
11	2	7.0	1	0.28	
12	2	7.1	1	0.27	
13	NS*	7.1	NS*	0.27	
14	NS*	7.1	NS*	0.27	
15	2	7.2	1	0.26	
16	2	7.3	1	**0.23**	+
17	2	7.3	1	0.26	
18	2	7.3	1	0.24	
19	2	7.0	1	0.26	
20	NS*	7.0	NS*	0.26	
21	NS*	7.0	NS*	0.26	
22	2	7.1	1	0.26	
23	2	7.1	1	0.25	
24	2	7.2	1	0.25	
25	2	7.1	1	0.25	
26	2	7.3	1	0.27	
27	NS*	7.3	NS*	0.27	
28	NS*	7.3	NS*	0.27	
29	2	7.2	1	0.26	
30	2	7.0	1	**0.20**	+
31	2	7.2	1	0.25	
				Total Excursions for Month (total all checks)	**4**

NS - No actual sample measurement taken that day

* No sample collected - Saturday and Sunday. Daily Value for the day is the last recorded measurement.

** Supply collected a sample on Saturday due to an excursion on Friday.

Determining "daily values" and "excursions" with Distribution monitoring

Each monitoring period is six-months in duration; however, supplies are required to measure distribution WQP every three months (quarterly). The number of samples or measurements required every three months depends on the population served.

Number of Distribution WQS Samples		
System Size	**No. of Sites**	**No. of Samples (2 per site*)**
>100,000	25	50
10,001 to 100,000	10	20
3,301 to 10,000	3	6
501 to 3,300	2	4
=<500	1	2
** It is recommended that samples be collected 30 to 90 days apart (not collected on the same day)*		

All water supplies have only one distribution WQP range which is the same for all facilities: a pH range of 7.0 or greater. This range must be maintained at all distribution sampling points.

The steps identified below will guide you through the distribution WQP monitoring requirements. An example (A7) follows the steps outlined below.

Step 1: Determine the number of sampling points required every three months. The number of sample points required is identified above. For our example on the next page, **two samples** (or measurements) are required every three months.

Step 2: Make one copy of the WQP distribution worksheet for **EACH SAMPLING POINT.** For this example, two copies of the form are required.

Step 3. Select distribution sample locations. Record each location on the space provided on the worksheet. For our example, we selected 2 locations.

Step 4: Measure the pH at each location and record it on the worksheet. If the pH is 7.0 or greater, record at the **bottom** that the **Total Excursions** for the period is **0**. In this case, you are done for three months.

If the pH is less than 7.0, check the "**Excursion" column** on the worksheet. The next day, you must return to the same location and repeat the pH measurement. This process must continue until the pH is 7.0 or greater. When a 7.0 pH measurement is achieved, total all checks in the **Excursion column** and record that number in the **Total Excursions** box**.**

Step 5: Repeat steps 1 through 4 during the next three-month period.

Like entry point data, these worksheets should be kept on file by the water supply. The information is not required to be submitted; however, you are required to maintain accurate data. The Illinois EPA reserves the right to request this information at any given time.

Example A7: – Distribution WQP Range Worksheet for two sample locations during the first three months.

------ Distribution Location 1 -------

Water Quality Parameter (WQP) Range Worksheet July 2001 through September 2001 (enter three month period)
Distribution Test Results

Facility: **02345678, Watertown**	
Number of distribution points that must be monitored every three months	**2**
	This is the minimum number of measurements per quarter. It is your option to monitor more frequently.
Water Quality Parameters and Ranges	
PH	**7.0 or greater**

Distribution Site Location: **808 Fifth Street**

Date	PH Range 7.0 or greater		Check if excursion of Daily Value
	No. of samples	Daily Value	
1	1	**6.8**	+
2	1	**6.9**	+
3	1	7.2	
4			
5			
6			
7-31			
Total Excursions for Month (total all checks)			**2**

-------- Distribution Location 2 ------

Water Quality Parameter (WQP) Range Report July 2001 through September 2001 (enter three month period)
Distribution Test Results

Facility: **02345678, Watertown**	
Number of distribution points that must be monitored every three months	**2**
	This is the minimum number of measurements per quarter. It is your option to monitor more frequently.
Water Quality Parameters and Ranges	
PH	**7.0 or greater**

Distribution Site Location: **1721 College Street**

Date	PH Range 7.0 or greater		Check if excursion of Daily Value
	No. of samples	Daily Value	
1	1	7.1	
2			
3			
4			
5			
6			
7-31			
Total Excursions for Month (total all checks)			**0**

Please notice on Distribution Location 1 that a second sample was collected on 7/2 and that no sample was collected on 7/2 for Distribution Location 2. In addition, a third sample was even collected on 7/3 at Distribution Location 1. Sampling should continue at least daily when an excursion occurs until the level falls within acceptable limits.

Compliance is determined for both the entry point and distribution point(s) at the end of each six-month period. At the end of the six-month period, total the number of daily value excursions that occurred at all sampling locations (both entry point and distribution). This **MUST** be reported at the end of each six-month compliance period using the "**Illinois EPA Compliance with the Water Quality Parameter (WQP) Ranges Certification of Results**" form (enclosed in this Appendix).

The total number of excursions for the six-month period **cannot exceed nine**. If there are more than nine excursions throughout the entire system during the six-month period, the system has incurred a treatment technique violation for the period. **If a treatment technique violation occurs, the supply must issue public notification, and if the system was on a reduced lead/copper monitoring schedule, return to routine lead and copper monitoring for a minimum of two-consecutive six-month monitoring periods.**

It is strongly recommended that a representative from your water supply contact the Illinois EPA Compliance Assurance Section at 217-785-0561 for additional consultation and guidance at any time during the six-month period when excursions occur.

Key Points to Remember About Water Quality Monitoring

- If you serve more than 50,000 people, you must conduct some WQP monitoring.
- If you serve 50,000 or fewer people, you do not have to collect WQP samples unless you exceed an action level. However, you must collect WQP samples during any monitoring period in which you exceed the lead or copper action level.
- Samples must be collected from entry points to the distribution system and from a set of representative sites located throughout the distribution system (coliform sites may be used).
- Unlike lead and copper tap samples, WQP samples should be fully flushed. Samples collected at entry points to the distribution system must be collected at locations representative of each source of water after treatment.
- Before collecting a sample for pH and temperature (or dissolved oxygen, if needed) remove the faucet aerator and run the water gently to flush the line.
- After you install corrosion control treatment, entry point monitoring changes from two sets of samples per site every six months to one sample per site every two weeks.
- You are in compliance with your OWQP requirements if you have excursions for no more than a total of nine days at a specific sampling point or combination of sampling points, or for a specific WQP or combination of WQPs during a six-month period.
- WQP six-month monitoring periods are July 1 - December 31 and January 1 - June 30 for all systems except medium and small that had an exceedance during a reduced lead and copper tap monitoring period. For these systems, the six-month WQP periods are June 1 - November 30 and December 1 - May 31.
- Sending WQP samples to a laboratory (Illinois EPA or certified) will <u>not</u> allow the supply enough time to collect additional samples due to the laboratory turn-around-time. Since WQP monitoring is an ongoing process, the Illinois EPA feels that the up-front monetary cost to purchase field equipment will actually save money in the long run (see next page).

For example: A supply is monitoring bi-weekly for orthophosphate and is sending the sample to a laboratory for analysis. Most likely, it would be over two weeks before the sample collector knows the test results. If an excursion has occurred, at least 14 days would have elapsed, therefore, the supply would have 14 daily value excursions. The supply would have incurred a treatment technique violation.

Water Quality Parameters – Analytical Equipment

The Illinois EPA strongly encourages all water supplies that are required to measure water quality parameters (WQPs) to purchase analytical equipment that allows the water operator to measure the WQPs on-site. **Since WQP monitoring is an ongoing process, the Illinois EPA feels that the up-front monetary cost to purchase equipment will actually save money in the long run.**

Water supplies will be asked to begin measuring all WQPs **on-site**. Therefore, you will need to purchase the necessary analytical equipment. Below is a list of some reputable distributors from whom equipment may be purchased:

HACH COMPANY 1-800-227-4224	COLE PALMER 1-800-323-4340	THOMAS SCIENTIFIC 1-800-345-2100
FISHER SCIENTIFIC 1-800-766-7000	BLUE BOOK 1-800-548-1234	

You are **not** limited to these distributors. Since these results will be used for determining compliance, it is essential that quality equipment be purchased. It is also important that you follow the equipment maintenance schedule provided by the distributor.

The ability to measure WQPs on-site has many advantages as described below:

- If WQP ranges are exceeded, a supply will be able to quickly respond with follow-up actions within the very restricted time constraints. Sending WQP samples to a laboratory, Illinois EPA or certified, will not allow the supply enough time to collect follow-up samples due to the laboratory turn-around-time.
- Save on costly public notification for a one-time WQP excursion.
- Save on mailing cost of sample bottles to laboratory.
- You will know immediately if adjustments are needed to the corrosion control treatment.

The cost of purchasing the analytical equipment will vary depending on the distributor and equipment model. A water supply required to measure pH and orthophosphate can expect to pay between $100 and $500 for the orthophosphate test kit, and between $100 to $300 for a pH meter. After the initial equipment investment, the supply could expect to spend annually between $50 and $150 for orthophosphate reagents. Again, the cost per year will depend upon the type of equipment purchased and the number of measurements collected.

If additional information is needed on types, models, and/or quality of equipment available, please contact the Illinois Rural Water Association at (217) 287-2115. For more information on your monitoring requirements, please contact the Illinois EPA Lead and Copper Coordinator at (217) 785-0561.

Recording Water Quality Parameter (WQP) Monitoring Results and Illinois EPA Reporting Requirements

Once WQP ranges are established, your supply is required to maintain water quality parameter values at or above minimum levels or within ranges approved by the Illinois EPA in each WQP sample collected as required in 35 Ill. Adm. Code Section 611.352(g)(1). The Illinois EPA does **not** require that you submit each WQP sample result. However, the Illinois EPA does require that the day to day (or bi-weekly if applicable) sampling is recorded and can be submitted or viewed upon request.

Depending on your required monitoring frequency, daily vs. bi-weekly, the Illinois EPA has developed worksheets to assist the water system in recording the individual test values and tracking excursions. These worksheets are strictly for the water systems use and do not have to be submitted to the Illinois EPA. However, these worksheets, or something comparable, should be available upon request.

While individual WQP range sample results are not required to be submitted, the Illinois EPA does require that a "summary" report of WQP excursions be submitted every six month (January 10th and July 10th).

The following pages include 3 forms:

1. **Illinois EPA Compliance with the Water Quality Parameter (WQP) Ranges Certification of Results Form**
   This is the s**ummary reporting form** discussed above**.** This form is required to be submitted within 10 days following each six-month monitoring period. Submit to:

   Lead/Copper Coordinator
   Illinois EPA /BOW/CAS #19
   1021 North Grand Avenue East
   P.O. Box 19276
   Springfield, IL 62794-9276

2. **<u>Entry Point</u> Monitoring Water Quality Parameter (WQP) Range Worksheet**
   This worksheet is intended to be used by systems that are required to sample daily or bi-weekly for WQP (or for those that are directly adding OCCT) at the entry point. It is not required to be submitted to the Illinois EPA. It is for CWS use only (as discussed above). You will need one worksheet per entry point.

3. **<u>Distribution</u> Monitoring Water Quality Parameter (WQP) Range Worksheet**
   This worksheet is intended to be used by systems that are required to sample distribution WQP. It is not required to be submitted to the Illinois EPA. It is for CWS use only (as discussed above). You will need one worksheet per distribution sample location.

Illinois Environmental Protection Agency
Compliance with the Water Quality Parameter (WQP) Ranges
Certification of Results

By completing this form, you are verifying information about entry-point and distribution WQP measurements taken during a six-month period at this water supply. Fill-out all required information below including information specific to each month of the six-month period. This form must be submitted within 10 days following the end of each six-month monitoring period (either July 10th or January 10th). Submit completed forms to: Lead and Copper Coordinator, DWCU #19, 1021 North Grand Ave. East, P.O. Box 19276, Springfield, IL 62794-9276.

Facility Number_____ **Facility Name**_____

Report is for the **6-month period** beginning _____ **and ending** _____**Year 20**____
(January or July) (June or December)

Frequency of Entry Point Monitoring (circle one): *Daily* *Bi-weekly* *Other*_____

Fill in the table for each month of the 6-month period

Circle Month **January** / **July**		Circle Month **February** / **August**		Circle Month **March** / **September**	
Total Entry Point Excursions for the Month		**Total Entry Point Excursions for the Month**		**Total Entry Point Excursions for the Month**	
Total number of Distribution Samples collected for the 1st three-month period				**Total Distribution Point Excursions for the 1st three-month period**	

Circle Month **April** / **October**		Circle Month **May** / **November**		Circle Month **June** / **December**	
Total Entry Point Excursions for the Month		**Total Entry Point Excursions for the Month**		**Total Entry Point Excursions**	
Total number of Distribution Samples collected for the 2nd three-month period				**Total Distribution Point Excursions for the 2nd three-month period**	

Signature of Owner or Official Custodian

I hereby certify that the above information is accurate. I also certify the above information was calculated using the methodology described in Section 2 of the "Determining Compliance with the Water Quality Parameter Ranges Guidance Manual" and is documented at the water supply using the Water Quality Parameter (WQP) Range Reports kept on file at the water supply. I also certify that all water quality parameters were measured accurately and reliably.

_____ _____

(Signature) (Date)

This Agency is authorized to require this information under Illinois Revised Statutes, 1987, Chapter 111 1/2, Section 1004(H). Disclosure of this information is required. Failure to do so may result in a civil penalty up to $10,000.00 and an additional civil penalty up to $1,000.00 for each day the failure continues. a fine up to $1,000.00 and imprisonment up to one year. This form has been approved by the Forms Management Center.

IL 532-2728 WPC 713 5/2001 rev.7/2004

Entry Point Water Quality Parameter (WQP) Range Worksheet for the Month of _____(month/year)

Facility : IL_____ Name:_____	
ENTRY POINT(s)	
Frequency:	Daily or Bi-weekly *(circle applicable frequency)*
Corrosion Control Treatment	
Water Quality Parameters and Ranges	
pH range	
_____Inhibitor range	**_____ to _____**

Directions for completing form is below

Date	**pH**		**_____(mg/l)** *(list inhibitor e.g. orthophosphate as PO4)*		**Check if excursion of either Daily Value**
	No. of samples	**Daily Value**	**No. of samples**	**Daily Value**	
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
31					
Total Excursions for Month (total all checks)					

Directions for completing entry point WQP form

1. **Your are required to sample for each WQP at least once each day with the exception of Holidays, Saturdays, and Sundays.**
2. **Insert the month and year** in the space provided at the top of the form.
3. **Date:** There is nothing to complete in this field. The number represents the date.

pH column and inhibitor (e.g. orthophosphate) column

4. **No. of samples:** The supply has the option to collect more than one sample per day. In this column, record the number of samples (or measurements) collected for that day. For compliance purposes, the number of samples collected from day to day must be constant. If you did not collect a sample for a day, enter "**NS**" (no sample).

   For example: If you are only taking one measurement for the day, then enter 1. If you take four measurements throughout the day for that WQP, enter 4.
5. **Daily Value:** If only one sample was collected during the day: enter concentration. If more than one sample is collected for the day, calculate an average using all results. Enter the average concentration.

   Every day MUST have a Daily Value recorded even if no measurements were collected for that day. If no measurement were collected for a day, the Daily Value would be the last Daily Value in which a measurement was recorded.

6. **Check if excursion of either Daily Value occurred.** If the Daily Value exceeds the WQP ranges for either or both parameters, put a checkmark in this column.
7. **Total Excursions for Month:** Total all checkmarks for the month. If you have nine or more checkmarks, your supply has incurred a treatment technique violation.

Example of completed form

Date	pH Range 7.0 or greater		**Orthophosphate (mg/l)** as PO4 Range 0.25 mg/l or greater		**Check if excursion of either Daily Value**
	No. of samples	**Daily Value**	**No. of samples**	**Daily Value**	
1	2	7.0	1	0.26	
2	2	7.1	1	0.25	
3	2	7.0	1	0.27	
4	2	7.2	1	0.26	
5	2	7.6	1	**0.23**	+
6	NS	7.6*	1**	0.26**	
7	NS	7.6*	NS	0.25*	
8	2	7.2	1	0.26	
9	2	**6.9**	1	0.26	+
10	2	7.0	1	0.27	
11	2	7.0	1	0.28	
12	2	7.1	1	0.27	
13	NS	7.1*	NS	0.27*	
14	NS	7.1*	NS	0.27*	
15	2	7.2	1	0.26	
16	2	7.3	1	**0.23**	+
17	2	7.3	1	0.26	
18	2	7.3	1	0.24	
19	2	7.0	1	0.26	
20	NS	7.0*	NS	0.26*	
21	NS	7.0*	NS	0.26*	
22	2	7.1	1	0.26	
23	2	7.1	1	0.25	
24	2	7.2	1	0.25	
25	2	7.1	1	0.25	
26	2	7.3	1	0.27	
27	NS	7.3*	NS	0.27*	
28	NS	7.3*	NS	0.27*	
29	2	7.2	1	0.26	
30	2	7.0	1	**0.20**	+
31	2	7.2	1	0.25	
				Total Excursions for Month (total all checks)	**4**

* No sample collected - Saturday and Sunday. Daily Value for the day is the last recorded measurement.

** Supply collected a sample on Saturday due to an excursion on Friday.

Distribution Water Quality Parameter (WQP) Range Worksheet for the Month of _____(month/year)

Facility: IL_____ Name_____	
Number of distribution points that must be monitored **every three months**	
**This is the minimum number of measurements per quarter. It is your option to monitor more frequently.*	
pH	**7.0 or greater**

Distribution Site Location: _____

Directions for completing this form is below

Date	**pH** Range 7.0 or greater		**Check if excursion of Daily Value**
	No. of samples	**Daily Value**	
1			
2			
3			
4			
5			
6			
7			
8			
9			
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14			
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26			
27			
28			
29			
30			
31			
Total Excursions (total all checks)			

Directions for completing Distribution WQP form

8. **Your are required to sample for distribution WQPs every three months. One copy of this reporting form is needed per sampling location every three months.**
9. **Insert the first month/year and last month/year** of the three-month period in the space provided at the top of the form (i.e., July 2001 through October 2001).
10. Record the distribution sample location on the space provided in the space provided.
11. **No. of samples:** The supply has the option to collect more than one sample per day. In this column, record the number of samples (or measurements) collected for that day. For compliance purposes, the number of samples collected from day to day must be constant. For example: If you are only taking one measurement for the day, then enter 1. If you take four measurements throughout the day for that WQP, enter 4.
12. **Record the pH daily value.** If more than one sample is collected for the day, calculate an average using all results. Enter the average concentration.
13. If the pH is 7.0 or greater, record at the **bottom** that the **Total Excursions** for the period is **0**. In this case, you are done for three months at this location.
14. If the pH is less than 7.0, check the **Excursion column** on the reporting form. The next day, you must return to the same location again and measure the pH. This process must continue until the pH is 7.0 or greater. Once this process is completed, total all checks in the **Excursion column** and record at the **bottom** that next to the **Total Excursions** box**.**
15. Repeat steps 1 through 7 during the next three-month cycle.

Example of completed form

Date	**PH** Range 7.0 or greater		**Check if excursion of Daily Value**
	No. of samples	**Daily Value**	
1	1	**6.8**	+
2	1	**6.9**	+
3	1	7.2	
4			
5			
6			
7			
8			
9			
10			
11			
12			
13			
14			
15			
16			
17			
18			
19			
20			
21			
22			
23			
24			
25			
26			
27			
28			
29			
30			
31			
Total Excursions for Month (total all checks)			**2**