Ohio | **Environmental Protection Agency**
John R. Kasich, **Governor**
Mary Taylor, **Lt. Governor**
Scott J. Nally, **Director**

Re: Richland County
City of Mansfield
Community Public Water System
PWS ID # OH7002914

September 25, 2012

Mr. Angelo Klousiadis
City of Mansfield
30 North Diamond
Mansfield, Ohio 44902

OPERATIONAL EVALUATION LEVEL EXCEEDANCE – ACTION REQUIRED

Subject: Stage 2 Disinfectants/Disinfection Byproduct Rule Exceedance

Dear Mr. Klousadis:

The City of Mansfield has exceeded the Operational Evaluation Level (OEL) for Total Trihalomethanes (TTHM) and/or Five Haloacetic Acids (HAA5) for the third quarterly monitoring period. The OEL is calculated at each standard monitoring location using the three most recent quarters of monitoring data in accordance with Ohio Administrative Code 3745-81-24 (D)(21). As a result of exceeding the OEL, an OEL Report must be prepared and submitted to this office for acceptance, per the aforementioned rule.

Per our telephone discussion today, you will be required to prepare a full OEL Report evaluating the system treatment and distribution operational practices, including storage tank operations, excess storage capacity, distribution system flushing, changes in sources or source water quality, and treatment changes or problems that may contribute to TTHM and HAA5 formation and what steps could be considered to minimize future exceedences. The attached Ohio EPA Form 5031 should be used to report your evaluation. An electronic copy of this form is also available for your use on our website at http://epa.ohio.gov/ddagw/pws. The OEL Report must be completed and submitted to this office within **90 days of the date of this letter**. Failure to meet this deadline is a Monitoring and Reporting violation subject to Tier 3 public notification requirements.

You may wish to consult the US EPA Stage 2 Disinfectants and Disinfection Byproducts Rule Operational Evaluation Guidance Manual for assistance. It is available electronically at US EPA's website at http://www.epa.gov/ogwdw/disinfection/stage2/pdfs/draft_guide_stage2_operationalevaluation.pdf .

Northwest District Office
347 North Dunbridge Road
Bowling Green, OH 43402-9398

419 | 352 8461
419 | 352 8468 (fax)
www.epa.ohio.gov

The document reference is EPA 815-R-08-018. If you have any questions about the OEL Report, please contact me at (419) 373-4117.

Sincerely,

Linda Benham

Linda Benham
Environmental Supervisor
Division of Drinking and Ground Waters

/llr

Enclosure: Ohio EPA Form 5031 (Operational Evaluation Limit Report)

pc: Richland County Health Department
Mike Deal, Compliance Assurance Section, Central Office, DDAGW
DDAGW, NWDO File

ec: Paul Brock, PE, Ohio EPA, NW District Office, DDAGW
Musa Khaleq, PE, Ohio EPA, NW District Office, DDAGW

Ohio Environmental Protection Agency
Division of Drinking and Ground Waters

June 2012

Preparing an Operational Evaluation Level Report for Disinfectants/Disinfection Byproduct Rule

Ohio Administrative Code (OAC) 3745-81-24(D) requires all public water systems monitoring for Total Trihalomethanes (TTHM) and Haloacetic Acids, five (HAA5) to meet Operational Evaluation Levels (OELs).

A public water system exceeding an OEL at one or more locations in the distribution system shall submit a completed report (Ohio EPA Form 5031) to the appropriate Ohio EPA district office within 90 days of notification of an OEL exceedance.

How are OELs determined?

A public water system has exceeded the OEL at any monitoring location where the sum of the two previous quarters' results plus twice the current quarter's result, divided by 4 to determine an average, exceeds an MCL:

$$\frac{1Q + 2Q + (2 \times 3Q)}{4} \quad \begin{matrix} >0.080 \text{ (TTHM) or} \\ >0.060 \text{ (HAA5)} \end{matrix}$$

The OEL applies to each location a public water system monitors for TTHM and HAA5. *OELs are not violations*, but designed to warn water systems of potential future MCL exceedances. However, water systems who do not submit the required report (Ohio EPA Form 5031) *within 90 days of notification will receive a reporting violation* (per OAC 3745-81-24 (D)(21)(a)).

How do I complete Section 1 (Source Water and Treatment)?

Noteworthy changes in source water could include:

- *Surface water sources*: change in intake drawing from a creek to drawing from an impoundment supplied by the creek. Also identify any algal blooms or taste and odor events in the source water.
- *Ground water sources*: a change in which wells were operating during the time frame of an OEL exceedance.
- *Purchased water sources*: changes in the amount of water purchased from the wholesaler could have had an impact on TTHM/HAA5 formation. Always check with the wholesaler(s) for changes in their source water.

Note any significant changes in treatment including:

- increasing or decreasing critical chemical feeds (alum or chlorine)
- a change in specific types or manufacturer chemicals
- PWS purchasing water should check with their wholesaler(s) on possible treatment changes.

How do I calculate the average daily fluctuation of water in our storage tanks for Section 3?

The *Percent Daily Fluctuation* is the difference in elevation between the high and low water levels for each drain/fill event.

$$\frac{\text{(high water level-low water level)}}{\text{high water level}} \times 100 = \%$$

For example, a 105-foot tall standpipe has a high water level of 100 feet and is the point at which the supplying pump(s) shut off. The tank then drains to 85 feet of water depth, which is the low water level that directs the supplying pumps to turn on and the tank begins filling.

Therefore, the percent fluctuation of this drain/fill event is calculated:

$$\frac{(100-85)}{100} \times 100 = 15\%$$

Drain/fill events may happen several times a day and for this example, the percent daily fluctuation is always 15%. If the tank drains/fills three times a day, the percent daily fluctuation is still 15% (do not add 15% together 3 times to 45%.) If the daily fluctuation varies, use the largest daily fluctuation.

The same calculation applies for elevated tanks: use the sidewall depth of the bowl as the working volume and ignore the elevation of the riser pipe since this volume is inconsequential. A water system has a 140-foot tall elevated tank with a 42-foot bowl depth. The recorded high water level is 40 feet and the recorded low water level is 30 feet. The percent daily fluctuation of each drain/fill event is calculated:

$$\frac{(40-30)}{40} \times 100 = 25\%$$

Ohio EPA, Division of Drinking and Ground Waters
P.O. Box 1049
Columbus, Ohio 43216-1049
(614) 644-2752

Where do I find disinfectant residual monitoring information for Section 4?

The average plant tap chlorine residual may be obtained from the Plant-Distribution Monthly Operating Report. The number of disinfection samples includes both the daily distribution system residual samples and the number of disinfection samples collected with total coliform sampling as required of the water system.

Review the results of all disinfectant residual samples and determine the number of samples where:

- the free chlorine residual was less than 0.2 mg/L **or**
- the combined chlorine residual was less than 1.0 mg/L.

Repeat for each month of the quarter on the report form, as indicated.

For Water Systems Filing Repeat OEL Reports:

Systems previously exceeding an OEL may request to limit the scope of the OEL report, but are still required to complete and submit a report within 90 days of the OEL exceedance letter.

The purpose of completing repeated reports is to provide Ohio EPA with an update on the status of operational changes identified earlier and to provide additional considerations for improving water quality. Please note that you must complete an OEL Report every time you exceed an OEL including quarterly monitoring periods in which a LRAA MCL is incurred.

Water systems approved to limit the scope of the report may use the space in Section 5 to capture this information or choose to complete other sections of the report, if desired or requested by Ohio EPA. Additional information on the operating conditions of the water system may also be provided as an attachment to the OEL report or through a separate letter addressed to Ohio EPA.

Submission and contact information:

Compliance with OELs is determined in Central Office in Columbus. Call (614) 644-2752 and ask to speak with someone in the Compliance Assurance Section.

Please provide clear and accurate information on the operating conditions of the water system over the previous quarter in all sections of the report.

Send completed OEL reports to your local Ohio EPA district office:

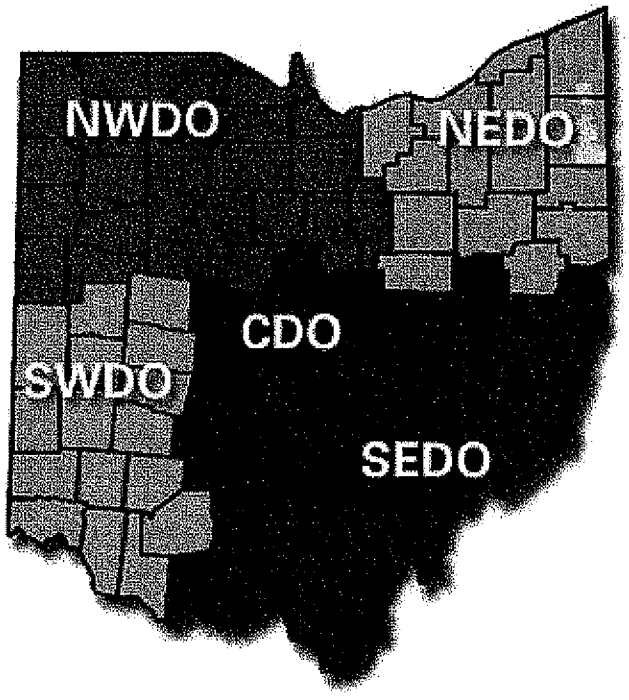
Central District Office
PO Box 1049
Columbus, Ohio 43216-1049
614-728-3898

Northeast District Office
2110 East Aurora Road
Twinsburg, Ohio 44087
330-963-1200

Northwest District Office
347 North Dunbridge Road
Bowling Green, Ohio 43402
419-352-8461

Southeast District Office
2195 Front Street
Logan, Ohio 43138
740-385-8501

Southwest District Office
401 East Fifth Street
Dayton, Ohio 45402
937-285-6357



Ohio Environmental Protection Agency
Division of Drinking and Ground Waters

Disinfectants/Disinfection Byproducts Operational Evaluation Level Report OHIO EPA FORM 5031

PUBLIC WATER SYSTEM INFORMATION
PWS Name: _____
PWSID# OH_____ **Period OEL Exceeded**_____

Please use this Report to explain the likely causes of the high TTHM and/or HAA5 Operational Evaluation Level(s) identified on the Operational Evaluation Level (OEL) exceedance letter. This Report shall be submitted to the Ohio EPA district office within 90 days of the date of the OEL exceedance letter. Please note that Ohio EPA may request additional information.

Is this the first time this PWS has exceeded an OEL? ☐ Yes ☐ No

Were you granted a limited scope OEL report? ☐ Yes ☐ No

SECTION 1 – Source Water and Treatment

Were any changes in the raw water source made this quarter? ☐ Yes ☐ No
Were any significant changes in treatment made this quarter? ☐ Yes ☐ No

If you answered yes to either of the two questions above, please describe in detail how these changes may have contributed to the elevated OEL reported during this quarter.

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SECTION 2 – Distribution System Operations

Were any changes in pump station operation made during the past quarter? ☐ Yes ☐ No
Did you flush hydrants last quarter during the sampling timeframe? ☐ Yes ☐ No
Were there any major line breaks last quarter during the sampling timeframe? ☐ Yes ☐ No
Were there any valve closures that significantly rerouted flow during the last quarter? ☐ Yes ☐ No
Were there any significant fire demands that rerouted flow patterns during the last quarter? ☐ Yes ☐ No

If you answered yes to any of the above questions, please describe in detail how these changes may have contributed to the elevated OEL reported during this quarter. Use additional pages as necessary.

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OEL Report continues on next page

SECTION 3 – Storage Tank Operations

Identify each distribution system storage tank (reservoirs, standpipes, and elevated tanks) and report the following information below: Tank Name, Tank Volume, and the Average Daily Fluctuation of water level (as a percentage of the tank volume) in each tank during each month of the last quarter.

TANK NAME	TANK VOLUME	PERCENT DAILY FLUCTUATION

What was the Average Daily Production for the entire system during the time frame the TTHM/HAA5 samples were collected? _____

SECTION 4 – Chlorine Residual Monitoring

Indicate the number of distribution chlorine residual results taken during the quarter, on a monthly basis. For each month, identify the number of samples in which the free chlorine residual was less than 0.2 mg/L or the combined chlorine residual was less than 1.0 mg/L. Additionally, identify the average monthly plant tap free chlorine residual (if not chloraminating) or combined chlorine residual (if chloraminating).

MONTH	AVERAGE PLANT TAP CHLORINE RESIDUAL FOR THE MONTH	# OF DISTRIBUTION CHLORINE SAMPLES COLLECTED	# OF SAMPLES <0.2 mg/L FREE OR <1.0 mg/L COMBINED

SECTION 5 – Additional Information

Any additional information of interest with regards to TTHM or HAA5 monitoring results? How do you intend on ensuring the TTHM or HAA5 MCL is met during the upcoming monitoring period? If this is not the first time you have filed this report, use the space below (and additional pages as necessary) to explain the status of previously identified objectives to minimize TTHM or HAA5.

_____

_____

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_____

I certify under penalty of law that I have personally examined and am familiar with the data submitted in this report; that the data in this report is true, accurate and complete; and I am aware that falsification thereof could result in the imposition of fines and penalties including revocation of my certification as a public water system operator.

Operator in Responsible Charge Name and Certification Number	Operator in Responsible Charge Signature	Date