OhioEPA

State of Ohio Environmental Protection Agency

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Ted Strickland, Governor
Lee Fisher, Lieutenant Governor
Chris Korleski, Director

March 12, 2009

RE: LORAIN COUNTY
CITY OF OBERLIN WWTP
COMPLIANCE ENFORCEMENT
INSPECTION
(OH0020427, 3PD00025)

Mr. Jeff Baumann, Public Works Director
City of Oberlin
Department of Public Works
85 South Main Street
Oberlin, OH 44074

Dear Mr. Baumann:

On January 29, 2009, a Compliance Enforcement Inspection (CEI) was conducted at the City of Oberlin WWTP. Present during the inspection was Mr. Steve Hoffert, representing the City of Oberlin; Mr. John Sabo, of the Lorain County Health Department; and this writer. The purpose of the inspection was to evaluate the facility's compliance with NPDES Permit effluent limits, as well as the terms and conditions of the permit. The last CEI was conducted on January 10, 2008.

At the time of the inspection all required treatment plant processes were in operation, with the exception of the disinfection facilities. Ultraviolet disinfection is not required during the winter season. General operation and maintenance of the plant could be rated as satisfactory at the time of the inspection. The effluent being discharged was clear, contained no visible solids or foam, and was causing no visible impact upon the stream at the time.

Observations made during the inspection included the following:

1) The aerated grit chamber contents were typical (turbid grayish brown color).

2) The circular primary (newer) settling tank was in use, and its contents were turbid gray. The effluent trough was clean and free of solids and algae.

3) The old rectangular primary settling tank was not in use, as it is reserved for use during high flow periods. A second rectangular settling tank is used as a gravity thickener for sludge.

4) The WWTP was being operated in the contact / stabilization mode. Solids content in the contact tank were being maintained in the 3000 ppm range. Solids content in the stabilization tank were in the 10,000 ppm operating range. Contents of the stabilization tank were medium brown with slight crisp white foam.

5) Two final settling tanks were in use. Contents of the final settling tanks were turbid gray, and the effluent weirs were clean.

6) The nitrification tower was in use.

7) All 3 rapid sand filters were online. Backwash of the rapid sand filters is based upon flow rate to the filters.

8) UV disinfection facilities were not in use, due to the time of year (Effluent disinfection only required May 1st through October 31st).

During the time period since our last inspection (January 1, 2008 through January 1, 2009), the Oberlin WWTP has reported the following NPDES Permit **final effluent numerical violations** in their electronic Discharge Monitoring Reports (eDMR):

***OBERLIN WWTP***
***NPDES PERMIT NO. 3PD00025***
***NUMERIC EFFLUENT VIOLATIONS***
***(JAN. 1, 2008 – JAN.1, 2009)***

| Reporting Period | Parameter | Limit Type | Limit | Reported Value | Violation Date |
|---|---|---|---|---|---|
| February 2008 | Nitrogen, Ammonia (NH3-N) | 7D Qty | 34 | 35.7373 | 2/15/2008 |
| March 2008 | Total Suspended Solids | 30D Qty | 68 | 68.9376 | 3/1/2008 |
| March 2008 | Nitrogen, Ammonia (NH3-N) | 30D Qty | 23 | 26.0068 | 3/1/2008 |
| March 2008 | Phosphorus, Total (P) | 30D Qty | 5.7 | 5.93964 | 3/1/2008 |
| March 2008 | Total Suspended Solids | 7D Qty | 102 | 185.658 | 3/15/2008 |
| March 2008 | Nitrogen, Ammonia (NH3-N) | 7D Qty | 34 | 40.5651 | 3/15/2008 |
| March 2008 | Phosphorus, Total (P) | 7D Qty | 8.5 | 9.60455 | 3/15/2008 |
| April 2008 | Mercury, Total (Low Level) | 30D Conc | 4.4 | 6.5 | 4/1/2008 |
| April 2008 | Mercury, Total (Low Level) | 30D Qty | 0.0000 | .00003 | 4/1/2008 |
| June 2008 | Mercury, Total (Low Level) | 30D Conc | 4.4 | 12.3 | 6/1/2008 |
| June 2008 | Mercury, Total (Low Level) | 30D Qty | 0.0000 | .00003 | 6/1/2008 |
| September 2008 | Mercury, Total (Low Level) | 30D Conc | 4.4 | 5.4 | 9/1/2008 |

Based upon eDMR data submitted to Ohio EPA for the same period, there also were some apparent violations of reporting codes for the following parameters:

***NPDES PERMIT NO. 3PD00025***
***Reporting Code Violations***
***(JAN. 1, 2008 – JAN.1, 2009)***

| Reporting Period | Station | Reporting Code | Parameter | Limit Type | Limit | Reported Value | Violation Date |
|---|---|---|---|---|---|---|---|
| September 2008 | 801 | 31616 | Fecal Coliform | | | AK | 9/30/2008 |
| September 2008 | 901 | 31616 | Fecal Coliform | | | AK | 9/30/2008 |

Items discussed during the inspection were the following:

1) The NPDES Permit Compliance Schedule requirements (Part II, Sections R.2, R.3, and R.4) for submittal of Free Cyanide Pollutant Minimization Program (PMP) annual reports. The annual reports could not be found in Ohio EPA files. Mr. Hoffert indicated that a summary would be prepared, and submitted to Ohio EPA by March 1, 2009. The report was received on February 20, 2009.

2) The NPDES Permit Compliance Schedule conditions for the General Mercury Variance (Part II, Section P), which was granted to the City of Oberlin in the NPDES Permit that went effective October 1, 2004 (3PD00025*ID), were discussed.

   Conditions of the mercury variance stipulate that the City shall meet an effluent mercury concentration of < 4.4 ng/l on a 30 day average, and < 12 ng/l for an annual average. Values reported by the City for the effluent mercury analyses, dating back to October 1, 2004, were tabulated and the results presented to Mr. Hoffert.

   There were 51 mercury results reported for the October 1, 2004 through January 1, 2009 period, and 4 results exceeded the 4.4 ng/l limit for the 30 day average. The annual mercury average is below the 12 ng/l limit, as well as below 4.4 ng/l for a yearly average.

   The mercury variance also requires the submittal of mercury Pollutant Minimization Program (PMP) annual reports by February 15th of each year. The annual reports could not be found in Ohio EPA files. Mr. Hoffert indicated that a summary would be prepared, and submitted to Ohio EPA by February 15, 2009. The report was received on February 4, 2009.

3) Mr. Hoffert requested a copy of the bioassay results from testing Ohio EPA conducted in June 2008. A copy of the bioassay results is attached for Mr. Hoffert's records. Results of the 2008 bioassay found the Oberlin WWTP effluent was not acutely toxic. However, the report did state that the tests did not address the possibility of chronic toxicity, and that chronic tests may be required to adequately evaluate the possibility of chronic toxicity in the WWTP discharge.

4) There have been no bypasses of the storm water storage basins in the past year.

5) Variable frequency drives have been installed for pumps leading up to the storm water storage basins.

6) The heat controls in the screening room have been replaced.

7) Screen sections have been replaced on the influent screening equipment. Replacement of the influent screening equipment, with perforated plate screening equipment, is being considered for a couple of years in the future.

8) PLC programming / SCADA system software has been updated.

9) Control of the entire WWTP is now capable via cell phone or laptop from any remote location.

10) Consideration is being given to requesting purchase of a 30 KW generator for the WWTP.

11) Variable frequency drives have been installed for the lift pumps to the rapid sand filters.

12) Both rapid sand filter backwash pumps have been rebuilt in the last year.

13) The sand/media in the rapid sand filters is to be replaced this coming year, and the underdrains checked.

14) Hydrogen peroxide is utilized in cleaning the rapid sand filters.

15) There are 6 full time employees at the WWTP. Coverage at the WWTP is for 12 of 24 hours, 7 days per week, 365 days per year. The SCADA allows the WWTP to be monitored 24 hours per day.

16) Lab analysis for all NPDES permitted parameters are conducted in the Oberlin WWTP lab, with the exception of heavy metals, total kjeldahl nitrogen, cyanide, and oil & grease, which are sent out to a contracted lab for analysis.

17) Sludge generated at the Oberlin WWTP is treated and stored in two lagoons at the WWTP. The Class B sludge (6% to 7% solids) is hauled by Agri-Sludge and spread on farm sites in Lorain County.

18) Screenings and grit removed at the WWTP are disposed of at the BFI landfill.

The City of Oberlin should continue implementation of operation and maintenance practices that will enable the WWTP to consistently meet its NPDES Permit effluent limits. The City should also continue with the implementation of the PMP for both mercury and free cyanide.

Should you have any questions or comments on the contents of this letter, please contact me at (330) 963-1110.

Respectfully,

Charles E. Allen

Charles E. Allen
Environmental Engineer
Division of Surface Water

CEA/mt

Enclosure