



State of Ohio Environmental Protection Agency

Northeast District Office

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

January 18, 2008

RE: PUBLIC WASTEWATER
MEANDER WWTP
NPDES PERMIT NO. 3PK00011
2008 CEI

Board of Mahoning County Commissioners
21 West Boardman Street
Youngstown, OH 44503

Gentlemen:

On January 8, 2008, this writer conducted an unannounced Compliance Evaluation Inspection (CEI) of the Meander Wastewater Treatment Plant (WWTP). Representing the county during the inspection was Joe DeNiro.

Observations

The condition of the treatment system was unsatisfactory at the time of the inspection. Stage I of the treatment system continued to be off-line. This critical step in the treatment process has been off-line since approximately April 2007 and was not placed back into service until January 14, 2008. Stage 1 was taken off-line to clean grit from the aeration tank and to re-build the clarifier. The grit was cleaned from the aeration tank in a timely manner; however, delivery of clarifier equipment was delayed by the county. As a result, the Meander WWTP has been in Significant Noncompliance for ammonia since April 2007. This situation is unacceptable and unsatisfactory. The county must provide a response to this office explaining the cause of the delay and describing any administrative actions that have or will be taken to ensure that such delays do not occur in the future. The county administration must modify procedures to place a priority on these types of projects that require immediate attention in order to minimize impacts on area streams and to minimize the extent of noncompliance with NPDES Permits.

Other observations made during the inspection are as follows.

1. The new air compressor for the oxygen delivery system has been installed and is operational. According to Mr. DeNiro, the system will be inspected annually by an outside contractor experienced with the operation of oxygen delivery systems. Actuators in the system had been replaced and spare actuators are available. Having spare actuators available is important since they are critical to the system.
2. Stage 2 was operating at the time of the inspection. The clarifiers had significant foam due to Stage I being out of service. However, the effluent from the clarifier was clear.

3. The effluent from the final clarifier and from the treatment plant was clear and was free of odor. However, as stated earlier, the county continues in Significant Noncompliance for ammonia.
4. This office previously stated that a grit removal system must be installed to collect and remove grit was from the waste stream prior to entering the aeration tanks. When asked about the grit removal system, Mr. DeNiro indicated that work on the new system was progressing, and that the installation of the system will begin in 2009. However, cleaning of the Stage 2 aeration tanks and clarifiers will be completed in 2008. Therefore, it is recommended that installation of the grit removal system be accelerated to begin in 2008 to prevent the deposition of grit in the aeration tanks.
5. It was previously pointed out by this office that the lift station for the wastewater treatment plant be cleaned of grit and other debris. It has been reported by the county that the lift station had not been cleaned for at least two decades. When asked about the lift station during this inspection, Mr. DeNiro stated that it was his understanding that the project was being considered by the county for 2008. It is recommended that the county complete cleaning of the lift station in 2008 in order to reduce the wear on the lift station pumps and to provide what is considered routine maintenance for the lift station.
6. This office previously recommended that the county employ a system-wide maintenance tracking system. The system should be incorporated on the county's computer system for county-wide use. Such a system will enable personnel to track and record maintenance activities for all collection and treatment systems operated by the county. When asked about the maintenance system, Mr. DeNiro indicated that the county was going to purchase and implement such a system along with a maintenance package for the system. No schedule was provided for installation and implementation of the system.
7. Mr. DeNiro indicates that the Stage 2 clarifier will be cleaned and re-built in the spring of 2008 at the same time the Stage 2 aeration tank is cleaned and inspected. When asked about the new parts for re-building the Stage 2 clarifier, Mr. DeNiro stated that the parts have been approved and will be ordered once the Stage 1 clarifier is brought on line.
8. Mr. DeNiro indicated that during last year's disinfection season there were operational problems with the ozone disinfection system. Mr. DeNiro indicated during the inspection that the plastic piping material in the ozone disinfection system will be replaced with stainless steel. There is concern that the plastic material is not durable enough for the application. The modification of the ozone system is necessary to address violations of the NPDES Permit limit for fecal coliform. Additional comments will be made below.

Compliance Review

A review of the compliance record for the Meander WWTP was made for the months covering April through November 2007. Following is a list of permit limit violations identified for the review period. The data covering June through October 2007 were recently provided to Mahoning County in a Notice of Violation dated January 17, 2007.

Station	Parameter	Limit Type	Limit	Reported Value	Violation Date
001	Nitrogen, Ammonia	30D Conc	5.0	12.3983	4/1/2007
001	Nitrogen, Ammonia	7D Conc	7.5	12.7	4/1/2007
001	Nitrogen, Ammonia	30D Qty	75.7	171.416	4/1/2007
001	Nitrogen, Ammonia	7D Qty	113.6	182.779	4/1/2007
001	Silver, Total Recoverable	30D Conc	1.3	2.13	4/1/2007
001	Silver, Total Recoverable	30D Qty	0.02	.02869	4/1/2007
001	Mercury, Total (Low Level)	30D Conc	12	12.3	4/1/2007
001	Nitrogen, Ammonia	7D Conc	7.5	13.4666	4/8/2007
001	Nitrogen, Ammonia	7D Qty	113.6	167.192	4/8/2007
001	Nitrogen, Ammonia	7D Conc	7.5	9.62667	4/15/2007
001	Nitrogen, Ammonia	7D Qty	113.6	133.672	4/15/2007
001	Nitrogen, Ammonia	7D Conc	7.5	13.8	4/22/2007
001	Nitrogen, Ammonia	7D Qty	113.6	202.021	4/22/2007
001	Nitrogen, Ammonia	30D Conc	2.1	12.2225	5/1/2007
001	Nitrogen, Ammonia	7D Conc	3.15	11.6	5/1/2007
001	Nitrogen, Ammonia	30D Qty	31.8	150.537	5/1/2007
001	Nitrogen, Ammonia	7D Qty	47.7	145.507	5/1/2007
001	Phosphorus, Total (P)	7D Qty	22.9	23.5355	5/1/2007
001	Nitrogen, Ammonia	7D Conc	3.15	11.7233	5/8/2007
001	Nitrogen, Ammonia	7D Qty	47.7	143.875	5/8/2007
001	Nitrogen, Ammonia	7D Conc	3.15	14.3666	5/15/2007
001	Nitrogen, Ammonia	7D Qty	47.7	209.881	5/15/2007
001	Nitrogen, Ammonia	7D Conc	3.15	11.2	5/22/2007
001	Nitrogen, Ammonia	7D Qty	47.7	102.887	5/22/2007
001	Nitrogen, Ammonia	30D Conc	2.1	15.3230	6/1/2007
001	Nitrogen, Ammonia	7D Conc	3.15	11.6333	6/1/2007
001	Nitrogen, Ammonia	30D Qty	31.8	154.594	6/1/2007
001	Nitrogen, Ammonia	7D Qty	47.7	105.449	6/1/2007
001	Nitrogen, Ammonia	7D Conc	3.15	16.75	6/8/2007
001	Nitrogen, Ammonia	7D Qty	47.7	144.070	6/8/2007
001	Nitrogen, Ammonia	7D Conc	3.15	15.9	6/15/2007
001	Nitrogen, Ammonia	7D Qty	47.7	184.775	6/15/2007
001	Nitrogen, Ammonia	7D Conc	3.15	16.5333	6/22/2007
001	Nitrogen, Ammonia	7D Qty	47.7	187.587	6/22/2007
001	Nitrogen, Ammonia	30D Conc	2.1	14.5	7/1/2007
001	Nitrogen, Ammonia	7D Conc	3.15	14.5	7/1/2007
001	Nitrogen, Ammonia	30D Qty	31.8	151.394	7/1/2007

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Station	Parameter	Limit Type	Limit	Reported Value	Violation Date
001	Nitrogen, Ammonia	7D Qty	47.7	154.147	7/1/2007
001	Fecal Coliform	30D Conc	1000	11902.4	7/1/2007
001	Fecal Coliform	7D Conc	2000	14364.9	7/1/2007
001	Nitrogen, Ammonia	7D Conc	3.15	14.1666	7/8/2007
001	Nitrogen, Ammonia	7D Qty	47.7	151.529	7/8/2007
001	Fecal Coliform	7D Conc	2000	16799.9	7/8/2007
001	Phosphorus, Total (P)	7D Conc	1.5	2.67	7/8/2007
001	Phosphorus, Total (P)	7D Qty	22.9	28.1753	7/8/2007
001	Nitrogen, Ammonia	7D Conc	3.15	15.4666	7/15/2007
001	Nitrogen, Ammonia	7D Qty	47.7	159.396	7/15/2007
001	Fecal Coliform	7D Conc	2000	8478.72	7/15/2007
001	Nitrogen, Ammonia	7D Conc	3.15	13.8666	7/22/2007
001	Nitrogen, Ammonia	7D Qty	47.7	140.506	7/22/2007
001	Fecal Coliform	7D Conc	2000	10294.5	7/22/2007
001	Nitrogen, Ammonia	30D Conc	2.1	10.4483	8/1/2007
001	Nitrogen, Ammonia	7D Conc	3.15	14.5466	8/1/2007
001	Nitrogen, Ammonia	30D Qty	31.8	142.016	8/1/2007
001	Nitrogen, Ammonia	7D Qty	47.7	184.090	8/1/2007
001	Fecal Coliform	30D Conc	1000	2147.17	8/1/2007
001	Nitrogen, Ammonia	7D Conc	3.15	9.05667	8/8/2007
001	Nitrogen, Ammonia	7D Qty	47.7	115.529	8/8/2007
001	Nitrogen, Ammonia	7D Conc	3.15	9.28667	8/15/2007
001	Nitrogen, Ammonia	7D Qty	47.7	146.773	8/15/2007
001	Fecal Coliform	7D Conc	2000	4935.84	8/15/2007
001	Nitrogen, Ammonia	7D Conc	3.15	8.90333	8/22/2007
001	Nitrogen, Ammonia	7D Qty	47.7	121.670	8/22/2007
001	Fecal Coliform	7D Conc	2000	2691.20	8/22/2007
001	Nitrogen, Ammonia	30D Conc	2.1	16.9333	9/1/2007
001	Nitrogen, Ammonia	7D Conc	3.15	19.3666	9/1/2007
001	Nitrogen, Ammonia	30D Qty	31.8	185.112	9/1/2007
001	Nitrogen, Ammonia	7D Qty	47.7	222.029	9/1/2007
001	Nitrogen, Ammonia	7D Conc	3.15	14.7	9/8/2007
001	Nitrogen, Ammonia	7D Qty	47.7	163.256	9/8/2007
001	Fecal Coliform	7D Conc	2000	2247.87	9/8/2007
001	Nitrogen, Ammonia	7D Conc	3.15	17.8	9/15/2007
001	Nitrogen, Ammonia	7D Qty	47.7	184.866	9/15/2007
001	Nitrogen, Ammonia	7D Conc	3.15	15.8666	9/22/2007
001	Nitrogen, Ammonia	7D Qty	47.7	170.296	9/22/2007
001	Fecal Coliform	7D Conc	2000	28405.2	9/22/2007
001	Nitrogen, Ammonia	30D Conc	2.1	14.4341	10/1/2007
001	Nitrogen, Ammonia	7D Conc	3.15	15.8	10/1/2007
001	Nitrogen, Ammonia	30D Qty	31.8	144.589	10/1/2007
001	Nitrogen, Ammonia	7D Qty	47.7	161.492	10/1/2007
001	Fecal Coliform	7D Conc	2000	2800.14	10/1/2007

Station	Parameter	Limit Type	Limit	Reported Value	Violation Date
001	Nitrogen, Ammonia	7D Conc	3.15	17.0666	10/8/2007
001	Nitrogen, Ammonia	7D Qty	47.7	169.562	10/8/2007
001	Nitrogen, Ammonia	7D Conc	3.15	14.1666	10/15/2007
001	Nitrogen, Ammonia	7D Qty	47.7	134.373	10/15/2007
001	Nitrogen, Ammonia	7D Conc	3.15	10.7033	10/22/2007
001	Nitrogen, Ammonia	7D Qty	47.7	112.930	10/22/2007
001	Fecal Coliform	7D Conc	2000	37890.7	10/22/2007
001	Nitrogen, Ammonia	30D Conc	5.0	10.65	11/1/2007
001	Nitrogen, Ammonia	7D Conc	7.5	12.2	11/1/2007
001	Nitrogen, Ammonia	30D Qty	75.7	139.162	11/1/2007
001	Nitrogen, Ammonia	7D Qty	113.6	123.426	11/1/2007
001	Nitrogen, Ammonia	7D Conc	7.5	10.9166	11/8/2007
001	Nitrogen, Ammonia	7D Qty	113.6	139.444	11/8/2007
001	Nitrogen, Ammonia	7D Conc	7.5	9.37333	11/15/2007
001	Nitrogen, Ammonia	7D Conc	7.5	9.59333	11/22/2007
001	Nitrogen, Ammonia	7D Qty	113.6	189.593	11/22/2007
001	Phosphorus, Total (P)	7D Qty	22.9	32.3286	11/22/2007

In addition to the limit violations noted above, the following frequency violations for failure to report in accordance with the NPDES Permit were also identified.

Station	Parameter	Sample Frequency	Expected	Reported	Violation Date
601	Lead	1/Month	1	0	05/01/2007
601	Lead	1/Month	1	0	06/01/2007
901	Cadmium	1/Month	1	0	06/01/2007
601	Lead	1/Month	1	0	07/01/2007
901	Cadmium	1/Month	1	0	08/01/2007
601	Lead	1/Month	1	0	08/01/2007
001	Cadmium	1/Month	1	0	09/01/2007
601	Lead	1/Month	1	0	09/01/2007
601	Lead	1/Month	1	0	10/01/2007
001	Bromomethane	1/Month	1	0	11/01/2007
601	Lead	1/Month	1	0	11/01/2007
601	Bromomethane	1/Month	1	0	11/01/2007

Based on the above data, the Meander WWTP is in Significant Noncompliance with the NPDES Permit limits for ammonia, phosphorus and fecal coliform. As you know, Mahoning County has been referred by this office for enforcement action as a result of violations at the Meander, Boardman and Campbell WWTPs.

In addition to ammonia, the Meander WWTP was in significant noncompliance for fecal coliform during the disinfection season which covers May 1st through October 31st of

each year. Fecal coliform is an indicator for pathogenic organisms in the wastewater. The wastewater treatment plant has an ozone disinfection system intended to reduce pathogenic organisms discharged to Meander Creek.

It was understood from Mr. DeNiro that the disinfection system from July throughout the remainder of the disinfection season was incapable of providing proper disinfection of wastewater. As stated above, it was understood by this writer that the plastic pipe material was, and remains, in need of replacement.

Be advised that failure to properly maintain and operate the disinfection system resulted in the discharge of pathogens to Meander Creek and has endangered the health of any individuals downstream of the wastewater discharge. It is unacceptable that the disinfection system remained out of service for most of the disinfection season. Procedures must be modified within the county to make these types of problems priority issues requiring immediate attention.

In addition, the county has failed to notify this Agency of problems with the disinfection system. Per Section III.12 of the NPDES Permit, the county is required to notify this Agency of operational problems that result in violations of the NPDES Permit. Failure to properly report problems with the disinfection system and the subsequent violations of the NPDES Permit in accordance with Part III.12 of the NPDES Permit constitute violations of R.C. 6111.07.

In addition, the Operator of Record for any of the wastewater treatment plants operated by Mahoning County is required to report operational problems and violations of the NPDES Permit in accordance with OAC 3749-7-09. A copy of the rule is attached. You will also note that per OAC 3749-7-09 the Operator of Record is required to maintain a log of operation and maintenance activities. Failure to maintain the operation and maintenance log constitutes a violation of OAC 3749-7-09. The new computer maintenance program should incorporate the means to comply with OAC 3749-7-09.

Finally, a discussion with a representative of U.S. EPA that conducted an inspection of the Meander wastewater treatment plant in the fall of 2007 indicated that the sand filter was out of service at the time of his inspection. To the knowledge of this writer, this Agency was not notified that the sand filter was off-line. In addition, the Operator of Record for the Meander wastewater treatment plant did not maintain a log of maintenance activities for repair work done on the filter. Failure to properly notify this Agency of problems with the sand filter places the county in violation of Part III.11 of the NPDES Permit.

The county must immediately comply with Part III of the NPDES Permit and the Operators of Record must immediately comply with the requirements of OAC 3749-7-09 by:

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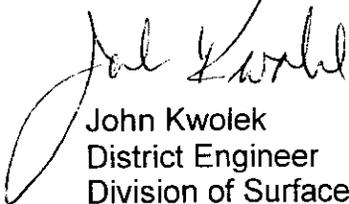
1. Reporting all violations of the NPDES Permit to this Agency with 24 hours of becoming aware of the violations in accordance with Part III.12 of the NPDES Permit,
2. Submitting a 5-day report of violations in accordance with the requirements of Part III.12 of the NPDES Permit,
3. Reporting all bypass events per Part III, 11 of the NPDES Permit, and
4. Maintain a log of all operation and maintenance activities at the wastewater treatment plants in accordance with OAC 3745-7-09

Response Required

You must provide a response to this letter indicating the cause for delay in placing Stage I back into service and any administrative actions that have been taken to ensure that such delays are not experienced in the future. The response must also include an explanation for the disinfection system being off-line during the disinfection season. A schedule for repairs of the system to ensure that wastewater will be properly disinfected throughout the 2008 disinfection season must be provided. The response should be submitted no later than January 31, 2008.

You may contact this office at (330) 963-1251 to discuss any questions you may have.

Respectfully,



John Kwolek
District Engineer
Division of Surface Water

JK/mt

enclosures (1)

cc: Joseph Warino, County Sanitary Engineer
Joe DeNiro, Meander POTW
Tom Behlen, AGO/EES

File: Public/Mahoning County/Meander WWTP/Permit and Compliance