



John R. Kasich, Governor
Mary Taylor, Lt. Governor
Scott J. Nally, Director

June 6, 2013

RE: MEANDER WWTP
MAHONING COUNTY
NPDES PERMIT 3PK00011
INSPECTION REPORT

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

Ladies and Gentlemen:

On May 31, 2013, this writer conducted a pre-permit inspection of the Meander Publicly Owned Treatment Works (POTW). The POTW is regulated by National Pollutant Discharge Elimination System (NPDES) Permit No. 3PK00011 for the discharge of treated wastewater to Meander Creek.

The purpose of the inspection was to evaluate compliance with the terms and conditions of your NPDES permit and to evaluate the operation and maintenance of the plant. Representing the county during the inspection was Joe DeNiro, Superintendent and Operator of Record for the plant.

Observations and Discussions

Following are observations and discussions during the inspection:

1. Being a pure oxygen plant, the heart of the treatment system is the oxygen recovery and delivery system. It was explained by Mr. DeNiro that the oxygen system is inspected and routine maintenance performed twice per year to ensure ongoing operation of the system. Also, in the event of a problem with the oxygen recovery and delivery system, the wastewater plant maintains a 7-day supply of oxygen at the plant in order to continue operation of the treatment system. This is typical of plant procedures where effective preventive maintenance is routinely practiced in order to prevent downtime of critical operations.
2. The new screening and grit system was operating at the time of the inspection. Mr. DeNiro indicated that the grit system is taken out of service every six months for cleaning and routine maintenance. Approximately one cubic yard of grit is removed from the system every week. This reduces wear on moving parts such as pumps and mixers, and it reduces the amount of grit that accumulates in tanks downstream of the grit removal system.
3. The influent sampler was located within the influent screen building. Two problems were identified with the sampler.

- i. The thermometer that is necessary to monitor the internal temperature of the sampler was broken. All samples must be refrigerated to 4°C, and the plant must be able to show that the refrigeration system for the sampler is properly set. Without a working thermometer, the Meander POTW cannot show that samples are being properly stored. The thermometer must be immediately replaced and properly stored inside the sampler.
 - ii. The sampler is not an explosion proof system. It is understood that the screening building is a Class I, Division 1, Group D hazardous location requiring explosion proof electrical facilities. For safety purposes, the sampler should either be relocated outside of the building, or it should be replaced with a sampler rated for Class I, Division 1, Group D locations. This concern was previously identified in a September 11, 2012 letter to the county.
4. First stage treatment was operational at the time of the inspection. All mixers in the oxidation tank appeared to be in operation. All three clarifier tanks for the first stage were in service.
5. The oxidation tank and two of the three clarifier tanks for the second stage of treatment were in service at the time of the inspection. It was stated by Mr. DeNiro that the north clarifier tank was out of service due to a bearing problem in a drive mechanism.
6. The polishing clarifier receives wastewater from the second stage clarifier for additional solids removal. Wastewater discharging from the polishing clarifier was discharging clear water at the time of the inspection. No concerns were noted.
7. The tertiary sand filters were off-line at the time of the inspection. Mr. DeNiro indicated that no water or air was available in cell one and no air was available in cell 2 for backwashing the filters. Mr. DeNiro indicated that he anticipated the filters will be back online in August 2013.

Compliance Review

A compliance review was conducted for the period covering August 2012 through April 2013. The results of the review are identified in Table 1 on page 5 of this report. Be advised that the violations identified in Table 1 have placed the Meander POTW in Significant Noncompliance with the NPDES Permit.

Table 1 demonstrates that the plant had compliance problems with ammonia starting in March 2013. It is understood that the compliance issues have been addressed and the plant was back in compliance at the time of the inspection.

Losing the ability to remove ammonia from wastewater seems to be a re-occurring problem in the spring of each year. It has been indicated that one possible cause is an industrial source that is toxic to the nitrifying bacteria at the wastewater plant. It was also understood that the county was monitoring the collection system in March, 2013 in an attempt to locate any source that may be responsible for this problem; however, no potential sources were identified.

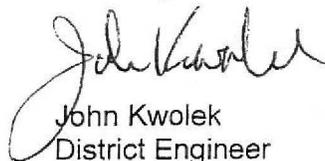
This office agrees with the county's plan to survey the collection system for possible upset sources. A response to this inspection report must be submitted to this office detailing the actions that will be taken in the event the problems occur in 2014. The response should include, but not be limited to, the following information.

1. The steps that were taken in the spring of 2013 to locate and identify any industrial users of the collection system that may have been responsible for the upset at the Meander POTW.
2. A map of the Meander collection system that identifies any locations where samples were collected in 2013.
3. A plan of action for 2014 in the event an upset is documented during the spring. The plan of action should include locations in the collection system where the county will monitor for potential sources, parameters that will be monitored, the frequency of monitoring, the types of samples that will be collected (i.e., grab vs. composite), and actions that will be taken to move further into the collection system in the event problems are identified at the initial sampling locations.

It is possible that the source may not be one of the permitted industrial users. The county should not limit itself to only the permitted industrial users; rather, it should also be conducting system-wide surveys to identify any possible non-permitted sources. These procedures are standard practices when upsets of unknown origin occur at other wastewater treatment plants. In the response to this inspection report, the county should propose any other options for identifying and addressing potential industrial sources. Any other likely problems, both internal and external to the POTW that may be causing the annual upsets, should also be identified in the response. The response should be provided no later than July 31, 2013.

If you have any questions or comments concerning the enclosed inspection report, please contact this office at (330) 963-1251 or e-mail at john.kwolek@epa.ohio.gov.

Sincerely



John Kwolek
District Engineer
Division of Surface Water
Northeast District Office

JK/cs

CC: Patrick T. Ginnetti, P.E., P.S, Mahoning County Engineer's Office
Joseph DeNiro, Plant Superintendent, Meander WWTP

NPDES Compliance Inspection Report

SECTION A: NATIONAL DATA SYSTEM CODING				
Permit #	NPDES #	Inspection Type	Inspector	Facility Type
3PK00011	OH0045721	CEI	S	P
Inspection Date	Entry Time	Exit Time	Notice of Violation	Significant Non-Compliance
5/31/2013	10:30 am	2:30 pm	Yes	No

SECTION B: FACILITY DATA	
Name and Location of Facility Inspected	Permit Effective Date
Meander WWTP	8/1/2009
	Permit Expiration Date
	10/31/2013
Name(s) and Title(s) of On-Site Representatives	Phone Numbers
Joe DeNiro	
Name and Title of Responsible Official	Phone Number
Joseph DeNiro, Plant Superintendent	(330) 652-1782

SECTION C: AREAS EVALUATED DURING INSPECTION	
Key: S = Satisfactory, M = Marginal, U = Unsatisfactory, N = Not Evaluated	
NPDES Compliance	U (system was in significant noncompliance for NH ₃)
Operations & Maintenance	S
Facility Site Review	S
Collection System	Not Applicable
Flow Measurement	S
Receiving Waters	S
Laboratory	N

Comments:

One clarifier out of service along with tertiary rapid sand filters during the inspection. Facility in Significant Noncompliance with NPDES Permit limits for ammonia.

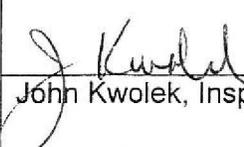
Signatures	
	6/6/2013
John Kwolek, Inspector	Date
District Engineer Division of Surface Water	Northeast District Office

Table 1. Compliance Data for Meander WWTP between 8/1/2012 to 5/1/2013

Summary

Permit Effluent Limit Violations: 15
 Permit Effluent Code Violations: 0
 Permit Effluent Frequency Violations: 0

Limit Violations						
Reporting Period	Station	Parameter	Limit Type	Limit	Reported Value	Violation Date
March 2013	001	Nitrogen, Ammonia (NH3	30D Conc	5.0	6.61917	3/1/2013
March 2013	001	Nitrogen, Ammonia (NH3	30D Qty	75.7	124.337	3/1/2013
March 2013	001	Nitrogen, Ammonia (NH3	7D Qty	113.6	157.094	3/15/2013
March 2013	001	Nitrogen, Ammonia (NH3	7D Conc	7.5	13.9333	3/22/2013
March 2013	001	Nitrogen, Ammonia (NH3	7D Qty	113.6	252.283	3/22/2013
April 2013	001	Nitrogen, Ammonia (NH3	30D Conc	5.0	11.2783	4/1/2013
April 2013	001	Nitrogen, Ammonia (NH3	7D Conc	7.5	11.6	4/1/2013
April 2013	001	Nitrogen, Ammonia (NH3	30D Qty	75.7	168.822	4/1/2013
April 2013	001	Nitrogen, Ammonia (NH3	7D Qty	113.6	163.724	4/1/2013
April 2013	001	Nitrogen, Ammonia (NH3	7D Conc	7.5	12.3333	4/8/2013
April 2013	001	Nitrogen, Ammonia (NH3	7D Qty	113.6	173.419	4/8/2013
April 2013	001	Nitrogen, Ammonia (NH3	7D Conc	7.5	9.61333	4/15/2013
April 2013	001	Nitrogen, Ammonia (NH3	7D Qty	113.6	158.541	4/15/2013
April 2013	001	Nitrogen, Ammonia (NH3	7D Conc	7.5	11.5666	4/22/2013
April 2013	001	Nitrogen, Ammonia (NH3	7D Qty	113.6	179.604	4/22/2013

SECTION D: PERMIT VERIFICATION

- (a) Correct name and mailing address of permittee Yes
- (b) Correct name and location of receiving waters Yes
- (c) Products and production rates conform with permit application NA
- (d) Flows and loadings conform with NPDES permit..... Yes
- (e) Treatment processes are as described in permit application Yes
- (f) New treatment process added since last inspection NA
- (g) Notification given to State of new, different or increased discharges NA
- (h) All discharges are permitted Yes
- (i) Number and location of discharge points are as described in permit..... Yes

Comments:

SECTION E: COMPLIANCE

- (a) Any significant violations since the last inspection Yes
- (b) Permittee is taking actions to resolve violations Yes
- (c) Permittee has a compliance schedule..... Complete
- (d) Permittee is has met compliance schedule..... Yes

Comments:

SECTION F: OPERATION AND MAINTENANCE

- (a) Standby power available Yes
If yes, what type? *Second Feed into Plant*
- (b) Adequate alarm system available for power or equipment failures Yes
- (c) All treatment units in service other than backup units No
- (d) Wastewater Treatment Works classification IV
- (e) Operator of Record holds unexpired license of class required by Permit Yes
Class held: IV
- (f) Copy of certificate of Operator of Record displayed on-site Yes
- (g) Minimum operator staffing requirements fulfilled..... Yes
- (h) Routine and preventative maintenance scheduled and performed Yes
- (i) Any major equipment breakdown since last inspection..... No
- (j) Any plant bypasses since last inspection..... No
- (k) Regulatory agency notified of bypasses
By MOR and/or Spill Hotline (1-800-282-9378)
- (l) Any hydraulic or organic overloads since last inspection No^a

Comments:

^a Based on comments from Mr. DeNiro

SECTION G: RECORD KEEPING

- a) Log book provided..... Yes
- b) Format of log book (i.e. computer log, hard bound book) computer

- c) Log book(s) kept onsite in an area protected from weather Yes
- d) Log book contains the following:
 - i) Identification of treatment works No
 - ii) Date/times of arrival/departure for Operator of Record and any other operator required by OAC 3745-7 No
 - iii) Daily record of operation and maintenance activities (including preventative maintenance, repairs and request for repairs)..... Yes
 - iv) Laboratory results (unless documented on bench sheets) No
 - v) Identification of person making log entries Yes

Comments:

Computer log was not reviewed as part of this inspection. Entries are based on discussion with Mr. DeNiro

SECTION H: COLLECTION SYSTEM

- a) Percent combined system: 100%
- b) Any collection system overflows since last inspection
CSO SSO
- c) Regulatory agency notified of overflows
- d) CSO O&M plan provided and implemented.....
- e) CSOs monitored and reported in accordance with permit.....
- f) Portable pumps are used to relieve system.....
- g) Lift station alarms provided and maintained.....
- h) Lift stations equipped with permanent standby power or equivalent
- i) Is there an inflow/infiltration problem (separate sewer system), or were there any major repairs to collection system since last inspection.....
- j) Any complaints received since last inspection of basement flooding
- k) Are any portions of the sewer system at or near capacity.....
- l) Are operations changed during high-flow events?

Comments:

Collection system is maintained by a separate group.

SECTION I: SLUDGE MANAGEMENT

- a) Sludge management plan (SMP) last audited by Ohio EPA:
Audit Date: March 2, 2011
- b) Sludge adequately disposed Yes
Method: *Landfill*
- c) If sludge is incinerated, where is ash disposed of.....
- d) Is sludge disposal contracted No
Name:
- e) Has amount of sludge generated changed significantly No
- f) Adequate sludge storage provided at plant Yes
- g) Records kept in accordance with State and Federal law Yes
- h) Any complaints received last year regarding sludge No
- i) Is sludge adequately processed (digestion, pathogen control) Yes

Comments:

Sludge is thickened in thickening tanks and belt pressed for disposal in the landfill.

SECTION J: SELF-MONITORING PROGRAM

- a) Primary flow measuring device operated and maintained.....
Type of device: Parshall Flume/Ultrasonic Device location: Effluent
- b) Calibration frequency adequate.....
Date of last calibration: Record of calibration not identified
- c) Flow measurements equipment adequate to handle full range of flows Yes
- d) Actual flow discharged is measured Yes
- e) Flow measuring equipment inspection frequency 1/mo.
- f) Sampling location(s) are as specified by permit..... Yes
- g) Parameters and sampling frequency agree with permit Yes
- h) Monitoring records (i.e., flow, pH, DO) maintained for a minimum of three years including all original strip chart recordings (i.e. continuous monitoring instrumentation, calibration and maintenance records)..... Yes

Comments:

SECTION L: EFFLUENT/RECEIVING WATER OBSERVATIONS

Outfall Number	Outfall sign in place	Oil Sheen	Grease	Turbidity	Foam	Solids	Color	Other
001	No	No	No	No	Slight	No	No	

Comments:

- *Slight foam that dissipated quickly.*
- *Upstream to downstream had same appearance. Plant discharge was having no impact on stream appearance.*

