



Environmental
Protection Agency

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

June 8, 2012

Brad Stanton, Director of Public Utilities
Upper Olentangy Water Reclamation Center
225 Cherry Street
Delaware, OH 43015

**Re: Upper Olentangy Water Reclamation Center
NPDES Permit 4PD00004/ OH0024911
Compliance Evaluation Inspection
Delaware County**

Dear Mr. Stanton:

On May 22, 2012, a Compliance Evaluation Inspection was conducted at the Upper Olentangy Water Reclamation Center. Present for the inspection were yourself and Bill White representing the City of Delaware and myself of the Ohio EPA, Central District Office, Division of Surface Water.

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.

If you have any questions or comments concerning the enclosed inspection report, please contact me at (614) 728-3848 or e-mail at mike.sapp@epa.ohio.gov.

Sincerely,

Michael Sapp
Compliance and Enforcement Unit
Division of Surface Water
Central District Office

ec: Mike Sapp

MS/nsm UOWRC

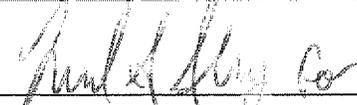
NPDES Compliance Inspection Report

SECTION A: NATIONAL DATA SYSTEM CODING				
Permit #	NPDES #	Inspection Type	Inspector	Facility Type
4PD00004	OH0024911	CFI	S	
Inspection Date	Entry Time	Exit Time	Notice of Violation	Significant Non-Compliance
5/22/2012	9:00 AM	11:30 AM	No	No

SECTION B: FACILITY DATA	
Name and Location of Facility Inspected	Permit Effective Date
Upper Olentangy Water Reclamation Center 225 Cherry Street Delaware, Ohio 43015	1/1/2011
	Permit Expiration Date
	7/31/2015
Name(s) and Title(s) of On-Site Representatives	Phone Numbers
Brad Stanton – Plant Superintendent and Utilities Director Bill White – Class III Operator	(740) 203-1900
Name and Title of Responsible Official	Phone Number
Brad Stanton, Director of Public Utilities	(740) 203-1900

SECTION C: AREAS EVALUATED DURING INSPECTION	
Key: S = Satisfactory, M = Marginal, U = Unsatisfactory, N = Not Evaluated	
S	NPDES Compliance
S	Operations & Maintenance
S	Facility Site Review
S	Collection System
S	Flow Measurement
S	Receiving Waters
S	Laboratory

Comments:

Signatures	
 6/6/12	 6/7/12
Mike Sapp, Inspector Compliance & Enforcement Division of Surface Water Central District Office	Erin Sherer, Reviewer Compliance & Enforcement Supervisor Division of Surface Water Central District Office

SECTION D: PERMIT VERIFICATION

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

Comments:

SECTION E: COMPLIANCE

- (a) Any significant violations since the last inspection N*
- (b) Permittee is taking actions to resolve violations Y*
- (c) Permittee has a compliance schedule Y*
- (d) Permittee is meeting compliance schedule Y*

Comments:

SECTION F: OPERATION AND MAINTENANCE

- (a) Standby power available Y*
If yes, what type? Diesel generator
- (b) Adequate alarm system available for power or equipment failures Y*
- (c) All treatment units in service other than backup units N*
- (d) Wastewater Treatment Works classification IV
- (e) Operator of Record holds unexpired license of class required by Permit Y
Class held: IV
- (f) Copy of certificate of Operator of Record displayed on-site Y
- (g) Minimum operator staffing requirements fulfilled Y*
- (h) Routine and preventative maintenance scheduled and performed Y*
- (i) Any major equipment breakdown since last inspection N*
- (j) Operation and maintenance manual provided and maintained Y
- (k) Any plant bypasses since last inspection N*
- (l) Regulatory agency notified of bypasses Y*
By MOR and/or Spill Hotline (1-800-282-9378)
- (m) Any hydraulic or organic overloads since last inspection Y

Comments:

SECTION G: RECORD KEEPING

- a) Log book provided Y
- b) Format of log book (i.e. computer log, hard bound book)
Hard bound book
- c) Log book(s) kept onsite in an area protected from weather..... Y
- d) Log book contains the following:
 - i) Identification of treatment works Y
 - ii) Date/times of arrival/departure for Operator of Record and any other operator required by OAC 3745-7 Y
 - iii) Daily record of operation and maintenance activities (including preventative maintenance, repairs and request for repairs) Y
 - iv) Laboratory results (unless documented on bench sheets) Y
 - v) Identification of person making log entries Y
- e) Has the Operator of Record submitted written notification to the permittee, Ohio EPA and any applicable local environmental agencies when a collection system overflow, treatment plant bypass or effluent limit violation has occurred?... Y

Comments:

SECTION H: COLLECTION SYSTEM

- a) Percent combined system: 0%
- b) Any collection system overflows since last inspection N
CSO SSO
- c) Regulatory agency notified of overflows NA
- d) CSO O&M plan provided and implemented..... NA
- e) CSOs monitored and reported in accordance with permit NA
- f) Portable pumps are used to relieve system..... N
- g) Lift station alarms provided and maintained Y*
- h) Lift stations equipped with permanent standby power or equivalent Y*
- i) Is there an inflow/infiltration problem (separate sewer system), or were there any major repairs to collection system since last inspection..... Y*
- j) Any complaints received since last inspection of basement flooding N
- k) Are any portions of the sewer system at or near capacity N
- l) Are operations changed during high-flow events?..... Y

Comments:

SECTION I: SLUDGE MANAGEMENT

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

Comments:

SECTION J: SELF-MONITORING PROGRAM

- a) Primary flow measuring device operated and maintained Y
Type of device: ultrasonic Device location: parabolic effluent weir
- b) Calibration frequency adequate Y*
Date of last calibration: quarterly
- c) Secondary instruments operated and maintained Y
- d) Flow measurements equipment adequate to handle full range of flows Y
- e) Actual flow discharged is measured Y
- f) Flow measuring equipment inspection frequency: daily
- g) Sampling location(s) are as specified by permit Y*
- h) Parameters and sampling frequency agree with permit Y
- i) 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) Y

Comments:

SECTION K: Laboratory

- a) EPA applicable analytical testing procedures used (40 CFR 136.3) Y
- b) If alternate procedures are used, are they properly approved? Y
- c) Analysis performed more frequently N
 If yes, are results recorded in permittee's report? N/A
- d) Commercial laboratory used: yes
 Name: Alloway
 Parameters analyzed: metals, inorganic nitrogen, nitrate, phosphorus, oil & grease
- e) Quality assurance manual provided and maintained Y*
- f) Calibration and maintenance of instruments is satisfactory? Y
- g) Results of last U.S. EPA quality assurance Y*
 Date:

Comments:

SECTION L: EFFLUENT/RECEIVING WATER OBSERVATIONS

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

Comments:

SECTION M: MULTIMEDIA OBSERVATIONS

- a) Are there indications of sloppy housekeeping or poor maintenance in work and storage areas or laboratories..... N
- b) Do you notice staining or discoloration of soils, pavement or floors N
- c) Do you notice distressed (unhealthy, discolored, dead) vegetation..... N
- d) Do you see unidentified dark smoke or dust clouds coming from sources other than smokestacks..... N
- e) Do you notice any unusual odors or strong chemical smells..... N
- f) Do you see any open or unmarked drums, unsecured liquids, or damaged containment facilities N

If any of the above are observed, ask the following questions:

- 1) What is the cause of the condition?
- 2) Is the observed condition or source a waste product?
- 3) Where is the suspected contaminant normally disposed?
- 4) Is this disposal permitted?
- 5) How long has the condition existed and when did it begin?

Comments:

Compliance Data for Upper Olentangy Water Reclamation Center between 6/1/2011 to 5/1/2012

Summary

Permit Effluent Limit Violations: 1
Permit Effluent Code Violations: 0
Permit Effluent Frequency Violations: 0
Compliance Schedule Violations: 0

Limit Violations						
Reporting Period	Station	Parameter	Limit Type	Limit	Reported Value	Violation Date
August 2011	001	Nitrogen, Inorganic, T	30D Conc	6.3	6.32	8/1/2011

Flow Data for Upper Olentangy Water Reclamation Center between 6/1/2011 and 5/1/2012

	Date	Flows (MGD)
Ten Highest Flows	12/6/2011	16.030
	1/27/2012	14.445
	11/29/2011	13.804
	11/28/2011	12.150
	12/5/2011	11.793
	10/20/2011	10.475
	12/21/2011	10.210
	6/11/2011	10.189
	11/30/2011	10.173
	1/26/2012	10.078
Average Flow Rate		4.680

ADDITIONAL INFORMATION

Upper Olentangy Water Reclamation Center
4PD00004 - OH0024911

General

The Upper Olentangy Water Reclamation Center (UOWRC) has a design average flow of 10 MGD with a direct discharge to the Olentangy River. Wet stream process provided at the facility include an influent pump station, flow equalization, septage receiving, screening, grit removal, primary clarification, single-stage aeration with a chemical feed system for nutrient removal, final clarification, tertiary sand filtration, ultraviolet disinfection and post-aeration. Solids handling facilities consist of storage, aeration, gravity belt thickening, dewatering with a belt filter press and sludge storage followed by disposal at a landfill. Odor control systems are installed in the preliminary treatment area (biofilter) and on the solids handling units (chemical treatment).

Section D. - Permit Verification

- (d.) The average daily flow at outfall 001, for the time period between June 2011 – April 2012 was 4.68 MGD. The peak flow during this period was 16.03 MGD which occurred on December 6, 2011. Both the average and peak daily flows have decreased significantly since the previous inspection (6.0 and 18.27 for average daily and peak flows, respectively).
- (f.) No new treatment processes have been added since the previous inspection; however, the plant switched from ferric chloride to alum for phosphorus removal in January 2012.

Section E. - Compliance Schedule Violations

- (a.) The plant has reported one violation since the previous inspection was conducted in June 2011. The reported violation occurred on October 2011 was a minor exceedance of the total inorganic nitrogen limit.
- (b.) The plant increased the recycle rate in the aeration tanks (250%) based on influent flow values to facilitate compliance with the total nitrogen limit. The SCADA system is used to control the recycle rate. Operators also try to maintain a dissolved level less than 4.0 mg/L in the last aeration tank to help with denitrification.
- (c.) The effective NPDES permit contains a schedule with the following milestones:
 - Total Phosphorus Limits – UOWRC is required to meet final loading limits (19 kg/d – summer/fall) for phosphorus on or before January 1, 2021. The plant must also meet a 30-day average concentration limit of 1.0 mg/L and a 30-day average loading of 38 kg/d on or before January 1, 2012.

- Bis(2-ethylhexyl) Phthalate – UOWRC is required to meet final 30-day average concentration and loading limits for bis(2-ethylhexyl) phthalate of 8.4 ug/L and 0.32 kg/d, respectively, no later than January 1, 2013.
- Local Limits Evaluation – Evaluation of local pretreatment limits no later than July 1, 2011.

Compliance with the phosphorus loading limit has not been a problem since it became effective in January 2012. The permittee expects to comply with all of the other milestones in the schedule of compliance.

Section F. - Operation and Maintenance

- (a.) The diesel generator is capable of providing back-up power to the entire plant.
- (b.) A SCADA system provides enhanced monitoring, control and alarm features for plant operations.
- (c.) At the time of the inspection the following units were off-line due to low flows:
 - Three of four primary clarifiers
 - All of the aeration tanks in the new plant
 - Two final clarifiers

The new aeration tanks (tanks 1-3) are generally placed in service during the winter months when the flows are down since they provide more freeboard if foaming becomes problematic. The older, modified aeration tanks (tanks 4-7) are primarily used during the summer months. The new aeration tanks provide 40% of the design treatment capacity and the older modified tanks provide 60%.

- (g.) A staffing hour reduction request was approved such that Brad Stanton is now required to be present at the plant for 20 hours/week.
- (h.) Routine and preventative maintenance is performed in accordance with the CMMS program.
- (i.) No major equipment breakdowns have been experienced since the last inspection. At the time of the inspection, one of the influent pumps was out of service due to a seal failure. The plant has performed upgrades or replacements to several aeration and sludge blowers (e.g. installation of soft starts and surge protection). In addition, one of the tertiary screw pumps was rebuilt last year. The paddle drive on the grit removal system was rebuilt since the previous inspection.
- (k.) The plant experiences bypasses of the tertiary treatment units when flows exceed 5 mgd.
- (l.) Tertiary filter bypasses are reported at outfall 602. This was initiated in July 2011

Section H. Collection System

- (g.) There are currently 12 lift stations in the collection system serving the plant. All of these units are equipped with some type of audible or visual alarm; 6 of the larger units are equipped with autodialer units. The lift stations at Pittsburgh Ave., E. Winter St., Blue Limestone, Botown and David St. are not equipped with dialers. A new lift station at Smith Park is currently under construction.
- (h.) None of the pump stations are equipped with a dedicated generator for standby power. The City utilizes a portable generator to provide back-up power to 10 of the units.
- (i.) The City has an ongoing program to identify and repair problematic areas in the collection system. Approximately \$150,000 is budgeted for repair work in the upcoming year. During the past year, the City performed work in the areas of Sunnyview Farms and Grandview Avenue. Upcoming projects will focus on several areas on the east side of town including Baywood (Squirrel Village) and Reid Street.

Section I.-Sludge Management

- (b) The facility no longer land applies sludge. All sludge generated is dewatered and landfilled with limited digestion. The City is evaluating a privately contracted bioenergy treatment system for sludge. Sludge is currently being disposed of at the Cherokee Landfill. Disposal fees are approximately \$19/ton with the City performing the hauling. Sargents is contracted to perform hauling only if the City trucks can't keep up. One press is used for thickening (3 days/week) and the other is used for dewatering (5 days/week).
- (f.) The press produces a cake at 15-16% solids. Two roll-off dumpsters are hauled to the landfill every day (5 days/week). The belts on the press are replaced every 18 months.
- (h.) A chemical odor control agent (VX-456) is feed into the sludge wet well to try to reduce the release of hydrogen sulfide.

Section J. - Self Monitoring Program

- (b.) The plant performs quarter internal calibrations of the effluent weir and ultrasonic meter. Outside vendors will not certify the calibration of this unit due to uncertainties or the unfamiliarity associated with the parabolic weir. Plant staff will periodically stop flow from the plant to test the unit to ensure that it reads zero flow under this test condition.

- (g.) Plant staff are continuing their efforts to relocate the influent sampler to a location where it does not include plant recycle streams such as press filtrate. Attempts to place it in the influent wet well have been challenging due to the depth and grit and grease clogging the collection tube. I appreciate your efforts in this endeavor.

The plant is now collecting a flow-weighted effluent sample.

Section K. - Laboratory

- (e.) Bill Simpson, performs the in-house analyses for NPDES reporting purposes. Second shift operators will perform analyses for operational control parameters. In-house parameters include dissolved oxygen, pH, ammonia, CBOD₅, suspended solids, and E. coli. Alloway performs sampling for metals, total inorganic nitrogen, nitrate, phosphorus and oil & grease, all pretreatment parameters.
- (g.) Duplicates are run for CBOD₅, E. coli and ammonia samples. Checks with standards are performed every other day. Calibration was satisfactory for all instrumentation. Discharge Monitoring Report - Quality Assurance (DMR-QA #30) study results were acceptable for all in-house parameters.

SUMMARY OF FINDINGS AND COMMENTS Upper Olentangy Water Reclamation Center

1. At the time of the inspection, the following general observations were made with respect to the operational practices at the plant:
 - Target summer and winter MLSS concentrations are maintained at 2500 and 3000 mg/L, respectively.
 - The influent storm pumps can pump directly to the flow equalization basin; however, the normal practice is to divert to the basin following primary treatment to minimize solids deposition and maintenance in the basin.
 - Approximately 3 mgd can be directed to the flow equalization basin.
 - All six influent pump lines (4 pumps at 7 mgd and 2 at 5 mgd) are equipped with a magmeter connected to a totalizer unit. These pumps are rotated monthly.
 - The wet well level is generally kept below 5 feet. It can take up to 20 during wet weather events before surcharges would occur in the Southeast Highland sewer near Eckels Lake.
 - Operational tests for MLSS, dissolved oxygen and 30-minute settleabilities are performed on a daily basis. Microscopic examinations are performed weekly.
 - The plant has recently purchased a dewatering dumpster and has plans to use it instead of the vac truck pad.
 - The septage receiving facility consists of a Lakeside unit followed by two 4000 receiving tanks which can either be directed to the headworks for treatment or to the solids handling facilities for processing. The plant processes between 20,000-25,000 gallons of septage each week.
 - Solids concentrations from the primaries are approximately 5% solids.
 - A Hach test kit is used to monitor daily effluent phosphorus concentrations. The feed rate for alum is based on these readings. The use of alum has decreased the amount of sludge produced and does not adversely affect UV transmittance like ferric chloride.
 - The post aeration tank is drained cleaned twice a year in the spring and fall.

2. The protocol for operation during sustained high flow events consists of the following series of events: fill all empty primary clarifiers, fill flow equalization basin bring all additional secondary units on-line, fill interceptor sewer, feed polymer to RAS to facilitate retention of solids.