



John D. Kasich, Governor  
Mary Taylor, Lt. Governor  
Scott J. Maly, Director

June 5, 2013

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, 2013, a Compliance Evaluation Inspection was conducted at the Upper Olentangy Water Reclamation Center. Present for the inspection were yourself and Bill Simpson 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.

Please refer to the Summary of Findings and Comments section of this report for additional information regarding the inspection. 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.state.oh.us](mailto:mike.sapp@epa.state.oh.us).

Sincerely

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

ec: Michael Sapp

MS/nsm OWRC 13

**NPDES Compliance Inspection Report**

**SECTION A: NATIONAL DATA SYSTEM CODING**

Permit #	NPDES #	Inspection Type	Inspector	Facility Type
4PD00004	OH0024911	CEI	S	Public
Inspection Date	Entry Time	Exit Time	Notice of Violation	Significant Non-Compliance
5/22/2013	9:30 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, Director of Public Utilities Bill Simpson, 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

 5/31/13	 6/3/13
Michael Sapp, Inspector Date Compliance & Enforcement Division of Surface Water District Office	Erin Sherer, Reviewer Date Compliance & Enforcement Supervisor Division of Surface Water 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 ..... Y\*
- (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: transfer to bioenergy facility
- c) If sludge is incinerated, where is ash disposed of ..... NA
- d) Is sludge disposal contracted ..... Y  
Name: Ringler/Quasar
- 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 3/1/2012 to 5/1/2013

**Summary**

Permit Effluent Limit Violations: 2  
 Permit Effluent Code Violations: 0  
 Permit Effluent Frequency Violations: 1  
 Compliance Schedule Violations: 2

Limit Violations						
Reporting Period	Station	Parameter	Limit Type	Limit	Reported Value	Violation Date
September 2012	001	Nitrogen, Inorganic, T	30D Conc	6.3	7.14	9/1/2012
November 2012	001	Nitrogen, Inorganic, T	30D Conc	8.1	8.465	11/1/2012

Missing Compliance Schedule Milestones				
Schedule Due Date	Completion Date	Event Code	Schedule Type	Schedule Milestone
January 2014		95999	Other	Status Report
January 2015		1299	Construction	Final Plan Submitted

Flow Data for Upper Olentangy Water Reclamation Center between 3/1/2012 and 5/1/2013

	Date	Flows (MGD)
Ten Highest Flows	4/12/2013	12.730
	3/18/2013	11.462
	1/11/2013	10.716
	1/14/2013	9.101
	1/12/2013	8.920
	4/29/2013	8.902
	12/21/2012	8.550
	1/13/2013	8.185
	1/30/2013	8.137
	2/27/2013	8.113
<b>Average Flow Rate</b>		4.297

## **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 March 2012 – April 2013 was 4.30 MGD. The peak flow during this period was 12.73 MGD which occurred on April 12, 2013. Both the average and peak daily flows have decreased since the previous inspection (4.68 and 16.0 for average daily and peak flows, respectively).
- (f.) No new treatment processes have been added since the previous inspection; however, the plant switched back to ferric chloride for nutrient removal due to alum clogging-up the chemical feed lines.

### **Section E. - Compliance Schedule Violations**

- (a.) The plant has reported two violations since the previous inspection was conducted in May 2012. One of the exceedances was attributed to the seasonal change over between aeration trains. The other violation occurred when an aeration tank was temporarily taken off-line for maintenance. During the seasonal switch over of aeration tanks, the plant will now keep the existing tanks in service until it is verified that all parameters are in compliance with final effluent limits.
- (b.) During the seasonal switch over of aeration tanks, the plant will now keep the existing tanks in service until it is verified that all parameters are in compliance with final effluent limits.
- (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 limits has not been a problem since it became effective in January 2012. The permittee has met all of the 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 (aeration trains 4-7)
  - Two final clarifiers.

The new aeration tanks (tanks 1-3) are generally placed in service on November 1<sup>st</sup> when the flows are down since they provide more freeboard if foaming becomes problematic. The older, modified aeration tanks (tanks 4-7) are placed into service on May 1<sup>st</sup> and tanks 1-3 are taken out of service. 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 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.
- (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 13 lift stations in the collection system serving the plant. A new lift station was added at Smith Park since the previous inspection. 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.
- (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. Upcoming projects will focus on several areas of town including Montrose, Park Avenue and South Sandusky Street.

## **Section I.-Sludge Management**

- (b.) All sludge generated is at the facility receives limited digestion before it is dewatered and hauled to the Ringler/Quasar bioenergy recovery facility in Morrow County. Ringler does all of the hauling from the plant to the bioenergy facility.
- (f.) The press produces a cake at 18-20% solids. The plant now has several roll-off dumpsters on site for temporary sludge storage. The belt filter press is operated 3 days per 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 quarterly 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.
- (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.

**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, CBOD<sub>5</sub>, 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 CBOD<sub>5</sub>, 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 #31) study results were acceptable for all in-house parameters.

## SUMMARY OF FINDINGS AND COMMENTS

### Upper Oientangy 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 2200-2400 and 2600-2800 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 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 approximately 1.2 million gallons of septage each year.
  - 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 ferric chloride is based on these readings. Ferric chloride is currently being fed prior to the primary clarifiers.
  - The post aeration tank is drained cleaned twice a year in the spring and fall.
  - The solids blankets in the clarifiers are maintained at less than 1 foot.

- A new Vanton pump was installed in the secondary odor control system which has improved the effectiveness of the unit.
  - A flow-weighted composite sample is being collected at outfall 602.
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. The plant operator estimate that flow was directed to the equalization basin on two occasions over the past year.

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