Ohio Environmental Protection Agency

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

December 6, 2011

Tom Hines, Superintendent
City of Delaware Water Treatment Plant
3080 US 23 North
Delaware, OH 43015

Re: **Delaware WTP**
NPDES Permit 4IW00050/ OH0009024
Reconnaissance Inspection
Delaware County

Dear Mr. Hines:

This correspondence serves as Notice of Violation for non-compliance with effluent limits at the wastewater treatment plant serving the Delaware Water Treatment Plant in Delaware County.

On November 14, 2011, a Reconnaissance Inspection was conducted at the Delaware WTP. Present for the inspection were yourself and Brad Stanton from the City of Delaware, Jeremy Cook from URS Consultants, Kelly Thiel and myself of the Ohio EPA, Central District Office, Division of Surface Water. The purpose of the inspection was to evaluate the status of efforts to resolve issues of non-compliance with the effluent limits in your effective National Pollutant Discharge Elimination System (NPDES) permit. This facility is currently in Significant Non-Compliance (SNC) due to the frequency and magnitude of suspended solids violations.

The suspended solids violations were generally attributed to the fact that the filters and disinfection facilities are not utilized under the present mode of operation and to a bad seal on a lime sludge pump which has been repaired. This Agency will continue to exercise enforcement discretion with respect to the solids violations with the understanding that the package plant will be eliminated when the water plant is upgraded.

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 Unit
Division of Surface Water
Central District Office

ec: Michael Sapp

MS/nsm Delaware WTP 11

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NPDES Compliance Inspection Report

SECTION A: NATIONAL DATA SYSTEM CODING				
Permit #	NPDES #	Inspection Type	Inspector	Facility Type
4IW00050	OH0009024	Ri	S	Municipal
Inspection Date	**Entry Time**	**Exit Time**	**Notice of Violation**	**Significant Non-Compliance**
11/14/2011	12:30 PM	1:45 PM	Yes	Yes

SECTION B: FACILITY DATA	
Name and Location of Facility Inspected	Permit Effective Date
Delaware WTP 3080 US 23 North Delaware, Ohio 43015	6/1/2007 Permit Expiration Date 5/31/2012
Name(s) and Title(s) of On-Site Representatives	Phone Numbers
Tom Hines and Brad Stanton – City of Delaware Jeremy Cook - URS	(740) 368-1504
Name and Title of Responsible Official	Phone Number
Tom Hines, Superintendent	(740) 368-1504

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	
U	Receiving Waters	Significant Non-Compliance with TSS limits at outfall 002
S	Laboratory	

Comments:
See attached report

Signatures	
Michael E. Sapp 11/28/11	Erin Sherer 11/28/11
Michael Sapp, Inspector Date Compliance & Enforcement Division of Surface Water Central District Office	Erin Sherer, Reviewer Date Compliance & Enforcement Supervisor Division of Surface Water Central District Office

SUMMARY OF FINDINGS AND COMMENTS
City of Delaware Water Treatment Plant
4IW00050*DD -OH0009024

The Delaware Water Treatment Plant has an annual average production of 3.6-3.7 mgd of potable water with a peak operating capacity of 6.6 mgd. Source water is supplied by on-site wells and from the Olentangy River. Approximately 30% of the incoming water is supplied by wells. The source water is treated through lime soda softening. Raw materials used in the water treatment process include lime, alum, caustic soda, phosphate, powdered activated carbon and potassium permanganate. The water is also chlorinated and fluorinated prior to distribution.

The effective NPDES permit for this facility contains two permitted outfalls. Outfall 001 is the discharge pipe from the lime settling lagoons. This waste stream consists of decant water from the lime sludge and filter backwash. Outfall 002 is the discharge from the wastewater package plant which serves 10 employees of this facility. The package plant consists of a trash trap, extended aeration, clarification, a dosing station for the tertiary sand filters, tertiary sand filters and a chlorine contact tank. The plant is designed to treat 4,000 gpd. There is no direct discharge from outfall 002 to the Olentangy River. Instead, the tertiary dosing pumps are utilized to direct the treated wastewater to the lime sludge lagoons where it is subsequently discharged through outfall 001. The tertiary sand filters and the disinfection unit are not utilized when the effluent is directed to the lagoons.

1. At the time of the inspection, the following general observations were made with respect to the operational practices at the package plant (outfall 002):

   - Operation of the package plant is currently overseen by staff at the WTP. It's likely that the renewal NPDES permit will require the plant to be under the oversight of a Class A operator. Tom Hinson oversees management of the lime sludge lagoons.

     The solids under aeration in the package plant appeared thin. The plant was pumped out and reseeded in September following a leak from a seal on one of the lime sludge pumps.

   - The trash trap was pumped out once over the past year although the pumping frequency will soon be increased to quarterly.

   - Effluent samples for Outfall 002 are collected from the tertiary dosing station.

   - The dosing pumps are not equipped with time elapsed meters; however, flows at outfall 002 are periodically measured using a bucket and stopwatch.

   - The effluent line from the package plant has been closed to preclude a direct discharge from the river

2. At the time of the inspection, the following general observations were made with respect to the operational practices at the lime settling lagoons (outfall 001);

   - Each lagoon is equipped with three outlet locations (one on each end and one in the middle) which can be alternately used to maximize the settling time and minimize short-circuiting. Water levels in the lagoons are controlled by placing wood boards in a gate structure.

   - The east lagoon was on-line at the time of inspection.

   - Flow between the two lagoons is switched every 6 months.

   - Lime sludge can be directed to the lagoons at various locations using valves on the distribution piping.

   - Flows from outfall 001 are periodically measured using a bucket and stopwatch at the outfall

3. Laboratory analyses required through the NPDES permit are performed at the Upper Olentangy Water Reclamation Facility.

4. Outfall signage, which was required to be installed on or before October 1, 2007, was not present at either of the two permitted outfalls at the time of the inspection. The required signage was installed shortly following the inspection and a photograph was e-mailed to this office on November 18, 2011.

5. A review of the Monthly Operating Report data for this facility from October 2009-October 2011 revealed a number of violations for fecal coliform and suspended solids at outfall 002 (see attached table). The suspended solids violations in August and September 2011 were of a sufficient magnitude so as to result in the placement of this facility on the Significant Non-compliance list. These violations were generally attributed to the fact that the filters and disinfection facilities are not utilized under the present mode of operation and to a leak on lime sludge pump. I would encourage the plant to continue the current mode of operation where effluent from the package plant goes through the lime sludge lagoons before being discharged to the river. This Agency will continue to exercise enforcement discretion with respect to the solids violations with the understanding that the package plant will be eliminated when the water plant is upgraded.

6. The City will break ground on new water plant in the upcoming year. The new plant will utilize membrane filtration and eliminate the use of lime and the lime sludge lagoons. The existing lagoons will be maintained and utilized to store membrane reject water and acid washes for controlled discharges to

the Olentangy River. The upgrade will also provide for a small pump station and force main to convey sanitary wastewater to the Upper Olentangy Water Reclamation Center.

Compliance Data for Delaware WTP between 11/1/2009 to 10/30/2011

Summary
Permit Effluent Limit Violations: 25
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
December 2009	002	Total Suspended Solids	30D Conc	12	75.	12/1/2009
December 2009	002	Total Suspended Solids	30D Qty	0.18	.56775	12/1/2009
December 2009	002	Total Suspended Solids	1D Conc	18	75.	12/8/2009
December 2009	002	Total Suspended Solids	1D Qty	0.27	.56775	12/8/2009
April 2010	002	Total Suspended Solids	30D Conc	12	34.	4/1/2010
April 2010	002	Total Suspended Solids	30D Qty	0.18	.25738	4/1/2010
April 2010	002	Total Suspended Solids	1D Conc	18	34.	4/13/2010
May 2010	002	Total Suspended Solids	30D Conc	12	44.	5/1/2010
May 2010	002	Total Suspended Solids	30D Qty	0.18	.33308	5/1/2010
May 2010	002	Total Suspended Solids	1D Conc	18	44.	5/4/2010
May 2010	002	Total Suspended Solids	1D Qty	0.27	.33308	5/4/2010
July 2010	002	Total Suspended Solids	30D Conc	12	14.	7/1/2010
July 2010	002	Fecal Coliform	30D Conc	1000	3397.	7/1/2010
July 2010	002	Fecal Coliform	1D Conc	2000	3397.	7/6/2010
March 2011	002	Total Suspended Solids	30D Conc	12	16.4	3/1/2011
August 2011	002	Total Suspended Solids	30D Conc	12	22.	8/1/2011
August 2011	002	Total Suspended Solids	1D Conc	18	22.	8/2/2011
September 2011	002	Total Suspended Solids	30D Conc	12	72.	9/1/2011
September 2011	002	Total Suspended Solids	30D Qty	0.18	.54504	9/1/2011
September 2011	002	Total Suspended Solids	1D Conc	18	68.	9/12/2011
September 2011	002	Total Suspended Solids	1D Qty	0.27	.51476	9/12/2011

September 2011	002	Total Suspended Solids	1D Conc	18	76.	9/23/2011
September 2011	002	Total Suspended Solids	1D Qty	0.27	.57532	9/23/2011
October 2011	002	Total Suspended Solids	30D Conc	12	19.	10/1/2011
October 2011	002	Total Suspended Solids	1D Conc	18	28.	10/11/2011