



STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY

4601 N Monroe Street • Spokane, Washington 99205-1295 • (509)329-3400

December 31, 2015

The Honorable Craig George
City of Dayton
111 South First Street
Dayton, WA 99328

RE: City of Dayton NPDES Permit No. WA0020729 - Class I Compliance Inspection

Dear Mayor George:

On April 14, 2015, I conducted a Class I (routine) inspection of the City of Dayton Wastewater Treatment Plant (City). Please accept my apologies for the long delay in sending this report. I would like to thank Mike, Jim and Jake for their time in completing this inspection.

I have enclosed a copy of the inspection report for your records. The following are issues that Ecology identified in reviewing the facility's compliance record and during the inspection:

1. **Staffing.** The decreased level of staffing at this facility impacts daily operations which has resulted in numerous permit violations. The facility needs to have more staff time dedicated to keep operations running as smoothly as possible and to stay in compliance with the permit. Please note that Permit Condition S5.A requires that: "An operator certified for at least a Class II plant must be in charge during all regularly scheduled shifts."
2. **Facility Upgrade.** Ecology recognizes that the compliance schedule identified in Permit Condition S9 is a challenge. The City is currently meeting the compliance schedule. Ecology encourages the City to move forward as soon as possible to continue to comply with the permit schedule, which requires the City to submit a facilities plan or an engineering report by **August 31, 2016** (Permit Condition S9.B). The upgrades to the facility to meet the Touchet River water quality standards will also address the needs for upgrades to meet the basic permit requirements, including accurate reporting of the influent flow and fecal coliform limits.

We look forward to working with you and your staff to as you move forward with improving routine compliance and evaluating alternatives for meeting the permit compliance schedule. If you have any questions or concerns or would like to have a discussion in person, please contact me at (509) 329-3408 or at Lucy.Peterschmidt@ecy.wa.gov.

Sincerely,

Lucy JH Peterschmidt, P.E.
Reclaimed Water Engineer/Facility Manager
Water Quality Program
Department of Ecology, Eastern Regional Office

LJHP:jab
Enclosure

cc: Mike Bowhay, Lead Operator
Jim Costello, Public Works Superintendent
Jake Hollopeter, Anderson Perry



Water Compliance Inspection Report

Section A: National Data System Coding (i.e., PCS)

Transaction Code		NPDES										yr/mo/day				Inspection Type		Inspector		Fac Type						
1	N	5	W	A	0	0	2	0	7	2	9	1	5	0	4	1	4	C	S	1						
Remarks																										
21																										
Inspection Work Days		Facility Self-Monitoring Evaluation Rating										BI		QA		-----Reserved-----										
67	2	5	69									71	N	72	N	73			74	75						80

Section B: Facility Data

Name and Location of Facility Inspected <i>(For industrial users discharging to POTW, also include POTW name and NPDES permit number)</i> City Dayton STP 800 Stockton Road Dayton, WA 99328	Entry Time/Date 10:00 04/14/2015	Permit Effective Date 10/01/2011
	Exit Time/Date 1:00 04/14/2015	Permit Expiration Date 09/30/2016
Name(s) of On-Site Representative(s)/Title(s)/Phone and Fax Number(s) Jim Costello, Operator in Charge/Public Works Superintendent 509-386-4148 Mike Bowhay, Level II Operator 509-382-2937	Other Facility Data <i>(e.g., SIC NAICS, and other descriptive information)</i> Trickle filter with nitrification and UV disinfection; discharge to the Touchet River at River Mile 52.1.	
Name, Address of Responsible Official/Title/Phone and Fax Number Craig George, Mayor 111 S. First St. Dayton, WA 99328 509-382-2361	Biosolids sent to Columbia Compost in Dayton. <div> <div>Contacted</div> <div> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No </div> </div>	

Section C: Areas Evaluated During Inspection (Check only those areas evaluated)


<input checked="" type="checkbox"/> Permit	<input checked="" type="checkbox"/> Self-Monitoring Program	<input checked="" type="checkbox"/> Pretreatment	<input type="checkbox"/> MS4
<input checked="" type="checkbox"/> Records/Reports	<input checked="" type="checkbox"/> Compliance Schedules	<input type="checkbox"/> Pollution Prevention	
<input checked="" type="checkbox"/> Facility Site Review	<input checked="" type="checkbox"/> Laboratory	<input type="checkbox"/> Storm Water	
<input checked="" type="checkbox"/> Effluent/Receiving Waters	<input checked="" type="checkbox"/> Operations & Maintenance	<input type="checkbox"/> Combined Sewer Overflow	
<input checked="" type="checkbox"/> Flow Measurement	<input type="checkbox"/> Sludge Handling/Disposal	<input type="checkbox"/> Sanitary Sewer Overflow	

Section D: Summary of Findings/Comments

(Attach additional sheets of narrative and checklists, including Single Event Violation codes, as necessary)

SEV Codes	SEV Description
● ● ● ● ● ● ● ● ● ●	_____
● ● ● ● ● ● ● ● ● ●	_____
● ● ● ● ● ● ● ● ● ●	_____
● ● ● ● ● ● ● ● ● ●	

Please see narrative in Attachment A.

Name(s) and Signature(s) of Inspector(s) 	Agency/Office/Phone and Fax Numbers WA Dept. of Ecology, Eastern Region	Date 12/28/2015
Lucy JH Peterschmidt, P.E.	Phone: 509-329-3408	
Signature of Management Q A Reviewer	Agency/Office/Phone and Fax Numbers	Date

INSTRUCTIONS

Section A: National Data System Coding (*i.e.*, PCS)

Column 1: Transaction Code: Use N, C, or D for New, Change, or Delete. All inspections will be *new* unless there is an error in the data entered.

Columns 3-11: NPDES Permit No. Enter the facility's NPDES permit number - third character in permit number indicates permit type for U=unpermitted, G=general permit, etc.. (*Use the Remarks columns to record the State permit number, if necessary.*)

Columns 12-17: Inspection Date. Insert the date entry was made into the facility. Use the year/month/day format (e.g., 04/10/01 = October 01, 2004).

Column 18: Inspection Type*. Use one of the codes listed below to describe the type of inspection:

A Performance Audit	U IU Inspection with Pretreatment Audit	! Pretreatment Compliance (Oversight)
B Compliance Biomonitoring	X Toxics Inspection	@ Follow-up (enforcement)
C Compliance Evaluation (non-sampling)	Z Sludge - Biosolids	{ Storm Water-Construction-Sampling
D Diagnostic	# Combined Sewer Overflow-Sampling	} Storm Water-Construction-Non-Sampling
F Pretreatment (Follow-up)	\$ Combined Sewer Overflow-Non-Sampling	: Storm Water-Non-Construction-Sampling
G Pretreatment (Audit)	+ Sanitary Sewer Overflow-Sampling	~ Storm Water-Non-Construction-Non-Sampling
I Industrial User (IU) Inspection	& Sanitary Sewer Overflow-Non-Sampling	< Storm Water-MS4-Sampling
J Complaints	\ CAFO-Sampling	- Storm Water-MS4-Non-Sampling
M Multimedia	= CAFO-Non-Sampling	> Storm Water-MS4-Audit
N Spill	2 IU Sampling Inspection	
O Compliance Evaluation (Oversight)	3 IU Non-Sampling Inspection	
P Pretreatment Compliance Inspection	4 IU Toxics Inspection	
R Reconnaissance	5 IU Sampling Inspection with Pretreatment	
S Compliance Sampling	6 IU Non-Sampling Inspection with Pretreatment	
	7 IU Toxics with Pretreatment	

Column 19: Inspector Code. Use one of the codes listed below to describe the *lead agency* in the inspection.

A — State (Contractor)	O — Other Inspectors, Federal/EPA (Specify in Remarks columns)
B — EPA (Contractor)	P — Other Inspectors, State (Specify in Remarks columns)
E — Corps of Engineers	R — EPA Regional Inspector
J — Joint EPA/State Inspectors—EPA Lead	S — State Inspector
L — Local Health Department (State)	T — Joint State/EPA Inspectors—State lead
N — NEIC Inspectors	

Column 20: Facility Type. Use one of the codes below to describe the facility.

- 1 — Municipal. Publicly Owned Treatment Works (POTWs) with 1987 Standard Industrial Code (SIC) 4952.
- 2 — Industrial. Other than municipal, agricultural, and Federal facilities.
- 3 — Agricultural. Facilities classified with 1987 SIC 0111 to 0971.
- 4 — Federal. Facilities identified as Federal by the EPA Regional Office.
- 5 — Oil & Gas. Facilities classified with 1987 SIC 1311 to 1389.

Columns 21-66: Remarks. These columns are reserved for remarks at the discretion of the Region.

Columns 67-69: Inspection Work Days. Estimate the total work effort (to the nearest 0.1 work day), up to 99.9 days, that were used to complete the inspection and submit a QA reviewed report of findings. This estimate includes the accumulative effort of all participating inspectors; any effort for laboratory analyses, testing, and remote sensing; and the billed payroll time for travel and pre and post inspection preparation. This estimate does not require detailed documentation.

Column 70: Facility Evaluation Rating. Use information gathered during the inspection (regardless of inspection type) to evaluate the quality of the facility self-monitoring program. Grade the program using a scale of 1 to 5 with a score of 5 being used for very reliable self-monitoring programs, 3 being satisfactory, and 1 being used for very unreliable programs.

Column 71: Biomonitoring Information. Enter D for static testing. Enter F for flow through testing. Enter N for no biomonitoring.

Column 72: Quality Assurance Data Inspection. Enter Q if the inspection was conducted as followup on quality assurance sample results. Enter N otherwise.

Columns 73-80: These columns are reserved for regionally defined information.

Section B: Facility Data

This section is self-explanatory except for "Other Facility Data," which may include new information not in the permit or PCS (e.g., new outfalls, names of receiving waters, new ownership, other updates to the record, SIC/NAICS Codes, Latitude/Longitude).

Section C: Areas Evaluated During Inspection

Check only those areas evaluated by marking the appropriate box. Use Section D and additional sheets as necessary. Support the findings, as necessary, in a brief narrative report. Use the headings given on the report form (e.g., Permit, Records/Reports) when discussing the areas evaluated during the inspection.

Section D: Summary of Findings/Comments

Briefly summarize the inspection findings. This summary should abstract the pertinent inspection findings, not replace the narrative report. Reference a list of attachments, such as completed checklists taken from the NPDES Compliance Inspection Manuals and pretreatment guidance documents, including effluent data when sampling has been done. Use extra sheets as necessary.

*Footnote: In addition to the inspection types listed above under column 18, a state may continue to use the following wet weather and CAFO inspection types until the state is brought into ICIS-NPDES: K: CAFO, V: SSO, Y: CSO, W: Storm Water 9: MS4. States may also use the new wet weather, CAFO and MS4 inspections types shown in column 18 of this form. The EPA regions are required to use the new wet weather, CAFO, and MS4 inspection types for inspections with an inspection date (DTIN) on or after July 1, 2005.

Attachment A
Inspection Report Narrative

Pre-Inspection

I arranged this site visit with the City of Dayton for several purposes. I planned to introduce myself in person as the new permit manager, I needed to perform an inspection prior to beginning to write their new permit, and I wanted to inspect all of the facilities to better understand a bypass event that occurred in January of 2015.

Prior to the inspection I reviewed the fact sheet, permit, process information, DMR data from Ecology's PARIS database, and previous inspection reports. Review of the city's DMR data for a 14 month period (January 2014 through February 2015) showed one fecal coliform exceedance in July 2014 and four fecal coliform results of "too many to count" in August 2014 and January 2015. The only other numerical violations were for the minimum pH. In this period there were three pH exceedances.

A review of previous inspections by the former Ecology permit manager showed that the City used to dedicate two operators to run the facility. The City of Dayton won the Outstanding Treatment Plant award for perfect compliance in 2002. The lead operator at that time retired in 2003. Subsequent inspections in 2008 and 2010 reported Ecology's concerns regarding the need for greater staffing for the facility, which then had only one operator dedicated to running the facility.

Bypass Event, January 2015

In January of 2015, one of the trickling filter pumps that pumps effluent from the primary clarifier to the trickling filter failed. This caused the primary clarifier effluent to back up in the trickling filter wet well in the pump building until flow backed up into the secondary clarifier through the recycle diversion vault. Unfiltered effluent then flowed to the UV channel and discharged into the river. Bypassing the trickling filter led to high solids in the unfiltered effluent flow to the UV channel. The solids shaded the bacteria in the effluent so that the UV lights were not able to adequately disinfect the effluent.

City staff discovered the pump failure and tried to restart the pump. When that didn't work staff tried to turn on the backup pump but it did not start. Staff removed the primary failed pump to try to fix it but it did not work. In trying to remove the backup pump from the wet well, a cable on the pump guide rail system snapped and the pump was inaccessible until the operator was able to devise a special tool to retrieve it. (Each pump is about 260 pounds.) The electrician fixed the rotation on the backup pump. Staff also discovered a problem with the sealing gasket on the flange of the backup pump. No gaskets were available locally so the City special ordered them. In the meantime, staff were able to use the flange and gasket from the failed backup pump and restore the treatment facilities back to normal operations.

The city reported the events of the pump failure and the resumption of operations to me by phone and followed up with a detailed written report. The city purchased a new pump and stainless steel cable.

Site Inspection

I met with the following representatives of the City of Dayton: Mike Bowhay, Wastewater Operator II, Jim Costello, the Operator in Charge and Public Works Superintendent, and Jake Hollopeter, Anderson Perry consultant for the city. We met at the City of Dayton's wastewater treatment plant (WWTP) administration building prior to the site inspection. The administration building also houses the Dayton laboratory which performs all the required testing.

During our meeting we discussed relevant items listed in the inspection form. The WWTP provides grinding, fine screening, grit removal, and primary clarification before the wastewater flows to the trickling filter. Flow is distributed over the rock media of the trickling filter with a recycle stream back into the trickling filter. The wastewater then flows to the secondary clarifier and then to the UV channel for disinfection. The UV channel has two banks of lights. The disinfected wastewater flows through a Parshall and then to the outfall diffuser in the Touchet River. Under high flow conditions the facility is able to pump the treated effluent to the river.

My review of the plant flows showed no capacity issues at this time. Mike let me know that flows were reduced since the Seneca food processing plant closed a few years ago. He reported no pretreatment issues at that time. The influent flow is measured in the headworks building with a magnetic flow meter. While the O&M Manual refers to a 10 inch diameter mag meter, Mike let me know that it is a 16 inch mag meter which is oversized. Because the pipe for the mag meter must flow full for an accurate reading, Mike is unable to report influent flows accurately. He has been using the effluent flow for reporting purposes.

The facility occasionally experiences some problems with solids getting into the trickling filter resulting in poor disinfection performance. The effluent may then contain non-settling solids. High fecal coliform counts have been reported in the receiving water. During the inspection we noticed rather a lot of solids in the secondary clarifier. On this day Mike was running both banks of UV lights to keep up with disinfection. Typically the facility only runs one bank at a time. At the time of this inspection there were some lights out in the UV channels. Mike also noted that he had recently had a vacuum pump (needed for fecal coliform analysis) fail, and there were problems with the incubator.

At this time it appears there is no licensed operator on Fridays and Saturdays. An unlicensed backup technician performs sampling if needed on these days. An unlicensed staff person also runs the facility when the operator is absent for illness or vacation. During the site visit we also discussed the need for the operator to begin using electronic DMRs within the Water Quality Permitting Portal using WQWebDMR. [Note: the facility subsequently went through this process and switched to web DMRs.]

We discussed the compliance schedule (Permit Condition S9) for the City of Dayton to meet the wasteload allocations for dissolved oxygen, pH and temperature during the critical season for the Touchet River. At one time the city was considering upgrading to a reclaimed water facility with a primary beneficial use of irrigation at the city golf course. The capital and operating costs and the likely negative results of the required water rights impairment analysis have basically precluded this option. One new option we discussed was using the site of the old Seneca food processing plant, an area just under 160 acres in size, for a land treatment or land application site. This would remove the discharge from the river during the critical season, which is also the irrigation season, and may prove more cost effective than pursuing treatment technologies to meet the wasteload allocations.

The city is currently meeting its compliance schedule with its submittal of and Ecology's acceptance of the Scope of Work. The next permit milestone requires the City of Dayton to submit a facilities plan or engineering report by **August 31, 2016**.

Post Inspection

After learning more about the staffing level at the facility, I reviewed the facility's *paper* DMRs in the office. The paper DMRs contain a lot more detailed information than is available in our PARIS database.

The DMRs show many times when an analysis was not conducted. It appears from the DMRs that while sometimes this was due to failing equipment, most often it was due to licensed staff being unavailable and the unlicensed staff neglecting to take the sample or being untrained in proper sampling techniques. My detailed review of this 14 month time period showed a total of 60 sampling events required by permit that were not conducted. In contrast, there were only a total of eight numeric effluent violations during this time.

Recommendations

Ecology has the following recommendations.

1. **Staffing.** The decreased level of staffing at this facility impacts daily operations and has resulted in numerous permit violations. The facility needs to have more staff time (appropriately licensed) dedicated to keep operations running as smoothly as possible and to stay in compliance with the permit.

Permit Condition S5.A requires that: "An operator certified for at least a Class II plant must be in charge during all regularly scheduled shifts."

2. **Facility Upgrade.** Ecology recognizes that the compliance schedule is a challenge for the city. Ecology encourages the city to move forward as soon as possible to remain in compliance with the permit schedule.

The upgrades to the facility to meet the Touchet River water quality standards will also address the needs for upgrades to meet the basic permit requirements, including accurate reporting of the influent flow and fecal coliform limits.

