



STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY

PO Box 47775 • Olympia, Washington 98504-7775 • (360) 407-6300

April 20, 2016

Mr. Denny Richards
City Administrator
City of Woodland
230 Davidson Ave, PO Box 9
Woodland, WA 98674

RE: City of Woodland Wastewater Treatment Plant Inspection, April, 2016

Dear Mr. Richards:

I visited the City's wastewater treatment plant on April 7, 2016 for an unannounced inspection. I want to thank you and your operator Mr. Derrek Amburgey for assisting. The most significant items I observed include the following:

1. Staffing was below approved O&M Manual projections (of 2.5 FTE's, or 2.0 FTE's minus laboratory work) of staff needed to properly operate the facility.
2. Funds appear to be needed to promptly repair three components found not to be in a serviceable or ready condition including:
 - a) The non-potable water system (broken pump)
 - b) The spiral screen at the headworks that screens out inert materials (brushes were completely worn out allowing significant solids pass through), and
 - c) The third sequencing reactor basin is not in a condition where it can be put into service when needed to allow periodic maintenance on other basins.
3. Flow-paced composite samplers are needed to provide representative samples.
4. Proscriptive operating instructions given to the operator are counter to Ecology rules (details follow).
5. Staff assigned to overseeing the POTW during weekend shifts and overseeing collection system components were not subordinate to the operator in charge.
6. Telemetry and control systems are marginally adequate. The facility would be able to be operated more efficiently and with less labor if refit with more modern instrumentation, control systems, alarms, and pump stations telemetry.

With respect to bullet #4 above, in June, 2015 we received an Email with a document attached from Mark Morgan titled "City of Woodland SBR Plant Operation Process Control". As an informal submittal with no Department of Ecology (Ecology) approval requested I presumed it merely memorialized the general guidelines presently used by the operator. It appeared to be part of a broader operations review going on at the time.



Mr. Denny Richards

April 20, 2016

Page 2

However, it came to light during this inspection and in follow-up conversations with Mr. Stepp that he relied on this as the basis for instructing Mr. Amburgey, a licensed operator in responsible charge, to take actions to stay within a specific MLSS (mixed liquor suspended solids) range and he ordered the operator to increase wasting according to Mr. Stepp "five or six times".

Ecology does not accept this plan provides appropriate instruction to the POTW's present certified operator, or that Mr. Stepp was acting in accordance with Ecology rules at Chapter 173-230 in instructing the operator in responsible charge to operate the POTW within the boundaries of that plan. The narrow range of MLSS concentrations (up to 2,800 mg/L) in the subject document is far below the Ecology approved design MLSS concentration of 4,500 mg/L for the City's treatment works. Ecology expects licensed POTW operators to use their skills and judgment in operating their facilities.

With respect to Item #5, when I asked Mr. Stepp who was assigned to be in charge of the POTW, he informed me that both of the City's licensed operators were in charge, Mr. Amburgey during the week, and Mr. Choate during the weekend. He was having the operator in charge of the weekend shift report to him. In contrast, Ecology rules at 173-230-020(16) require "The operator in charge of each shift is subordinate to the operator in responsible charge." Since Mr. Stepp is not a licensed operator, he cannot be the "Operator in responsible charge", and thus the operator in charge of weekend shift cannot properly be subordinate to him.

The attached inspection form provides further details on the observed deficiencies. Recent brief Fecal Coliform excursions (February, 2016) appear to have been corrected by maintenance and repair of the UV bulb cleaning system and don't require further address. We would appreciate a written response to the six bulleted items on page 1 by July 1, 2016.

If we can assist in this matter or if you have questions regarding this review, please contact me at (360) 407-6277.

Sincerely,

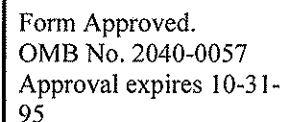


David J. Knight, PE
Environmental Engineer
Municipal Unit
Southwest Regional Office
Water Quality Program

DK:

Enclosure: EPA inspection form

cc: City Engineer, City of Woodland,
Robert Choate, City of Woodland,
File: Clark County, Woodland STP, NPDES Permit Correspondence



Transaction Code		NPDES						yr/mo/dy		Inspection Type		Inspector		Facility Type		
1	2 S	3 W	4 A	5 0	6 0	7 2	8 0	9 4	10 0	11 1	12 1	13 6	14 0	15 4	16 7	17
Remarks																
21 A N N U A L I N S P E C T I O N																
Inspection Work Days		Facility Self-Monitoring Evaluation Rating						B1		QA		-----Reserved-----				
67	68 0	69 1	70 1	71 6	72 5	73	74	75 N	76	77 N	78	79	80	81	82	

Name and Location of Facility Inspected <i>(For industrial users discharging to POTW, also include POTW name and NPDES permit number)</i> City of Woodland 100 Treatment Plant Road Woodland, WA 98674	Entry Time/Date 9:00 AM 04/07/16	Permit Effective Date 04/01/2012
	Exit Time/Date 11:30 AM 04/07/16	Permit Expiration Date 03/31/2017
	Name(s) of On-Site Representative(s)/Title(s)/Phone and Fax Number Derrek Amburgey, Group IV Operator 360-225-7007	
Name, Address of Responsible Official/Title/Phone and Fax Number Mr. Denny Richards. 360 City Administrator (225) 8281		Other Facility Data
Contacted <input type="checkbox"/> Yes <input type="checkbox"/> No		

Permit	Flow Measurement	Operations & Maintenance	CSO/SSO (Sewer Overflow)
Records/Reports	Self-Monitoring Program	Sludge Handling/Disposal	Pollution Prevention
Facility Site Review	Compliance Schedules	Pretreatment	Multimedia
Effluent/Receiving Waters	Laboratory	Stormwater	Other:

Laboratory Equipment & Procedures: I observed that process control monitoring of the settleability of the secondary activated sludge was being tested, that the laboratory appeared properly clean and collected samples were properly stored and delivered to a courier from a contract laboratory. However, because the laboratory accreditation was suspended, I did not inspect the laboratory procedures.

Sampling: The influent sampler tube was clean but neither the influent or effluent sampler were capable of taking a flow paced composite samples. Since flows are quite variable throughout the day, this means that they are not truly “representative” of the influent or effluent. In its next upgrade, the treatment works needs to install flow proportionate composite samplers. This will entail including an effluent flow meter (devices that are installed on the outside of the effluent pipe are generally acceptable and if such a device can be located may preclude the need for a major retrofit). Effluent flow monitoring that is linked to the sampler is needed on SBR facilities so that effluent samples are only taken when a basin is decanting.

The UV system had some recent problems with meeting effluent disinfection standards which the operator was able to correct by adjusting the sleeve wiper system. The UV system appears adequately sized, but instrumentation is marginally adequate as it presently only causes an alarm when "UV intensity" is down to 70%. It is not possible to confirm that the effluent is properly disinfected at this intensity level, as bulbs nearer the meter could mask the effects of bulbs burned out on the other side of the UV chamber. Any bulb burnout should cause an alarm.

Maintenance Management programs and procedures: Given the present significant understaffing of the POTW, I decided it would be misleading to undertake a critical inspection of the O&M systems and records until full staffing was restored to the facility. That said, I did review equipment function and standby status, finding three significant shortcomings: These were the non-potable water system which was not functional (pump appeared to be inoperative), the spiral screen at the headworks which had brushes that were completely worn out (they were worn down so much they appeared to be completely flush with the metal screw), and the third reactor basin which was not in a "ready" status to facilitate the

periodic maintenance of either of the other two reactors. Ecology requires two reactor basins to be online at all times, so any maintenance involving taking a reactor basin offline requires the third reactor basin to be put into service first.

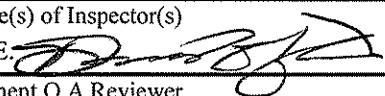
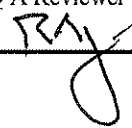
Given the third basin has not routinely been employed (I observed in prior inspections it did not appear to have ever been used and needed to be in a ready status for backup), I suggested the operator may wish to approach this as a commissioning using a system checklist and either clean water or disinfected effluent. This would allow assuring that all components (e.g. diffuser system, decanter mechanism, sludge wasting pump, etc.) work properly before putting the basin online with actual influent and mixed liquor. There was mention of using a Vactor truck to remove solids from the two online basins. I clarified that before attempting such, the third basin would need to be put online, and then the basin to be cleaned could be dewatered, cleaned, and refitted. Other important activities such as repainting the walls, and de-ragging the air diffusers could be accomplished at that time.

POTW Operations: POTW was still being operated in a narrow range of MLSS concentrations. Operator relayed that he had been instructed to operate it that way. When I asked about sludge thickening procedures, he also relayed that he didn't have the OK to settle and thicken the waste sludge prior to hauling them off. Proscriptive instructions given to the operator on how to operate and maintain the plant were inconsistent with his role as the Operator in Responsible Charge. Unlicensed persons, regardless of whether they are the supervisor of the POTW operator, cannot make process control decisions without violating Chapter 173-230-130 WAC. An "operations plan" reflecting such a narrow target mixed liquor concentration operating range would not be approvable by Ecology as representing good practice. Any plan substantially altering the approved O&M manual needs to be approved as a change to that manual.

Recommend the operator begin tracking performance data such as settleability and effluent quality over time versus other key metrics such as sludge age, the food to micro-organism ratio, effective time under aeration, and power use per loading or unit volume treated. I had previously observed a process control worksheet which could help fulfill this purposes if routinely used.

Collection System: When asked about the management of the collection system and pump station O&M the operator relayed that the staff assigned these tasks were not working for him. Since staff assigned to oversee collection system and pump station operation, maintenance, and repair were not providing regular reports to the operator in charge, I couldn't confirm through the operator that the City was complying with certain reporting requirements of the City's NPDES permit. While it might work to have a supervisor over both the collections staff and treatment works, that person would need to assure that reports of collection system spills were properly reported through the NPDES permit.

Overall Evaluation: The POTW was built with the minimum necessary control and telemetry features at the time. However, over the years, control and telemetry systems have improved considerably. Modern systems allow for more efficient operation of the treatment works, generally saving both money and time and enhancing the ability of the treatment works to respond to unusual situations (such as a slug load or spill in the collection system). I strongly recommend the POTW engage an engineering firm which specializes in retrofitting POTWs with modern monitoring and control systems and is capable of estimating the cost of, and benefits to the City.

Name(s) and Signature(s) of Inspector(s) David J. Knight, P.E. 	Agency/Office/Hone and Fax Numbers Ecology/SWRO (360) 407-6277	Date 4/20/2016
Signature of Management Q A Reviewer Greg Zentner, P.E. 	Agency/Office/Phone and Fax numbers Ecology/SWRO (360) 407-6272	Date 4/20/2014