



King County

Department of Natural Resources and Parks
Wastewater Treatment Division

West Point Treatment Plant

1400 Discovery Park Blvd
Seattle, WA 98199-1004

December 7, 2018

Shawn McKone
Department of Ecology
Northwest Regional Office
3190 160th Avenue SE
Bellevue, WA 98008-5452

Re: November 30 and December 5, 2018 Secondary Diversions

Dear Mr. McKone:

This report provides details of two secondary diversions. The first occurred on November 30, and the second occurred December 5. Both were due to two different pumps shutting down, but are not connected to each other in any way.

November 30 diversion

On November 30 at 9:08 p.m., an estimated 0.4 million gallons (MG) of primary-treated flow was diverted around the secondary process at West Point Treatment Plant. The secondary diversion was reported to the Department of Ecology and was assigned Incident Number 685680.

The diversion occurred when Pump No. 1 at the intermediate pump station (IPS) tripped on a vibration fault. Plant flow was approximately 140 mgd and rising at the time of the incident. Before the back-up pump could be brought up to speed, the IPS wet well level caused the CSO gates to open and bypass flow around secondary treatment. This diversion lasted nine minutes with gate 1 open from 9:09 p.m. to 9:18 p.m. and gate 2 open from 9:12 p.m. to 9:16 p.m.

In response to the alarm and shutdown, operations staff quickly ramped down the influent/raw sewage pumps (RSPs) until the back-up IPS pumps could be brought on-line. Once the pumps were on-line and the plant was hydraulically stable, the CSO gates were closed.

As programmed, the plant's control systems automatically responded to the pump's shutdown and to the rising IPS wet well level. No flow bypassed the treatment plant.

Staff are currently investigating the cause of the vibration alarm. The alarm had identified the motor's top bearing as the source of the vibration, so staff have installed additional equipment to better measure the vibrations. With the additional monitoring equipment in place, staff will be performing tests with IPS 1 in operation. The tests will be conducted under manageable flow

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conditions and the CSO gates will be closed during the tests to prevent an inadvertent secondary diversion. These tests have not yet been completed so a follow-up report will be provided within 30 days.

The 0.4 MG of diverted primary-treated flow was blended with secondary-treated flow and the combined flow continued to receive disinfection. A total of 90.3 MGD of wastewater received treatment on November 30, and effluent quality was not measurably impacted. The effluent suspended solids composite sample concentration was 6 mg/L.

December 5 diversion

On December 5 at 11:05 a.m., an estimated 0.4 million gallons (MG) of primary-treated flow was diverted around the Secondary process. The secondary diversion was reported to the Department of Ecology and was assigned Incident Number 685750.

The diversion occurred when Pump No. 3 at the IPS tripped on a low lube oil flow alarm. Plant flow was approximately 79 mgd at the time of the incident. Before another IPS pump could be brought up to speed, the IPS wet well level triggered the CSO gates to open. The diversion lasted 11 minutes with both gates open from 11:06 a.m. to 11:17 a.m.

In response to the alarm and shutdown, operations staff ramped down the RSPs until the back-up IPS pump could be brought on-line. Once the pump was on-line and the plant was hydraulically stable, the CSO gates were closed.

As programmed, the plant's control systems automatically responded to the pump's shutdown and to the rising IPS wet well level. No flow bypassed the treatment plant.

Prior to the event, maintenance was working on IPS Pump No. 3. Unfortunately, the work being done on the pump's lube oil flow rate led to an alarm condition causing the pump to shut down. In the future, maintenance will coordinate this type of work with Main Control.

The 0.4 MG of diverted primary-treated flow was blended with secondary-treated flow and the combined flow continued to receive disinfection. A total of 67.6 MGD of wastewater received treatment on December 5, and effluent quality was not measurably impacted. The effluent suspended solids composite sample concentration was 4 mg/L.

If you have additional questions concerning this event, please contact me at 206-263-9481 or Eugene Sugita at 206-477-9782.

Sincerely,



Robert Waddle
Operations & Maintenance Manager

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I certify under penalty of law that this document and all attachments were prepared under my direction or supervision, in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

cc: Amy Jankowiak, Compliance Specialist, Department of Ecology
Mark Isaacson, Division Director, Wastewater Treatment Division (WTD),
Department of Natural Resources and Parks (DNRP)
Jeff Lafer, Project/Program Manager IV, WTD, DNRP
Al Williamson, West Section Assistant Manager, WTD, DNRP