



King County | Wastewater Treatment

South Treatment Plant

1200 Monster Rd. SW
Renton, WA 98057

April 29, 2025

Sean Wilson, P.E.
Washington Department of Ecology
Northwest Regional Office
PO Box 330316
Shoreline, WA 98133-9716

Dear Mr. Wilson:

King County is providing this written report in follow-up to a Loss of Disinfection reported to Ecology on April 25, 2025 (ERTS # 738498) as required by Section S3.F of the Vashon Wastewater Treatment Plant (VTP) National Pollutant Discharge Elimination System Permit No. WA0022527.

On April 25, 2025, at 12:11 pm, the ultraviolet (UV) disinfection system at the VTP lost power for 79 minutes, resulting in discharge of approximately 9,200 gallons of undisinfected secondary effluent to the VTP outfall in Puget Sound.

At 12:11 p.m., the VTP control system generated an alarm indicating a loss of disinfection, but the operator was out in the field and could not see it. Simultaneously, Main Control at South Plant received the UV disinfection alarm. The operator at Main Control believed it was a false alarm associated with preventative maintenance work being performed in the area by the VTP operator. As a result, the Vashon operator was not notified of the alarm.

At approximately 1:15 p.m., the Vashon operator entered the UV building and discovered that the UV disinfection system was not operational and could not be restarted. The operator immediately began the process of storing influent in the equalization basin, and by 1:30 p.m., the effluent flow had subsided, ending the loss of disinfection event.

An electrician determined the cause of the power loss to be a faulty fuse holder within the UV disinfection apparatus, which resulted in a fuse losing electrical contact. The worn fuse holder was replaced with a more robust design. By 4:51 p.m., the root cause of the power issue was resolved, the UV disinfection was restarted, and flow to the plant resumed. Effluent flow resumed at 5:59 p.m. The delay between influent and effluent flow

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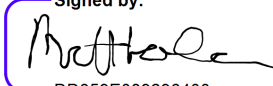
was due to re-establishing the level in the online clarifier, which had dropped when flow was diverted to the offline clarifier.

An effluent fecal coliform sample was not collected during the loss of disinfection. However, had an effluent sample been analyzed, the result would likely be similar to a set of ten undisinfected secondary effluent samples analyzed by the King County Department of Health on May 28, 2024. These samples yielded a range of 17,000 to 170,000 colony forming units (CFU)/100 mL, with a median of 23,000 CFU/100mL. For compliance calculations of the weekly and monthly fecal coliform limit, the maximum value of 170,000 CFU/100mL will be used for April 25.

To minimize the chance of recurrence, operations and maintenance staff are investigating other locations where this style of fuse holder is installed to determine whether they should be replaced or can be replaced with more robust designs. Operations is also investigating additional methods of notifying the VTP operator when a critical alarm is generated

If you have additional questions concerning this event, please contact me at 206-263-9483.

Sincerely,

Signed by:

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Matt Nolan
Acting Operations Manager

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: Kamuron Gurol, Director, Wastewater Treatment Division (WTD), Department of Natural Resources and Parks (DNRP)
Bruce Kessler, Deputy Director, WTD, DNRP
Jeff Lafer, Project/Program Manager IV, WTD, DNRP
Dustin Harris, Supervisor, East Section Offsite, WTD, DNRP
Norm Cook, Wastewater Treatment Plant Manager, East Section Offsite and Facilities Maintenance, WTD, DNRP
Chapin Brackett, Process and Environmental Compliance Manager, WTD, DNRP