



STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY

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February 2, 2021

Mark Isaacson, Director
King County Wastewater Treatment Division
King Street Center, KSC-NR-0500
201 S. Jackson Street
Seattle, WA 98104

Notice of Penalty Docket No.	18012
Site Location	King County South Wastewater Treatment Plant 1200 Monster Road SW Renton, WA 98057
Penalty Amount	\$10,000.00
Due Date	Within 30 days after receiving this Notice of Penalty

Re: Notice of Penalty

Dear Mark Isaacson:

The Department of Ecology (Ecology) has issued the enclosed Notice of Penalty (penalty) to King County Wastewater Treatment Division for violating provisions of:

- Chapter 90.48 Revised Code of Washington (RCW)
- Chapters 173-220 and 173-221 Washington Administrative Code (WAC)
- National Pollutant Discharge Elimination System (NPDES) Permit No. WA0029581.

Please read the enclosed Notice of Penalty describing the violation(s) and options for responding to the penalty.

Ecology issues news releases for all major penalties and enforcement actions, including this one. A draft news release is being provided by email to you, Marie Fiore and Doug Williams for a 24-hour courtesy review. If you have a comment or question on the news release, please contact Ecology communications manager Colleen Keltz at 360-791-3177 or colleen.keltz@ecy.wa.gov within 24 hours of when you first receive the draft news release.

Mark Isaacson, Director
February 2, 2021
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If you have questions about this notice of penalty, please contact Shawn McKone at (425) 649-7037 or by email at shawn.mckone@ecy.wa.gov.

Sincerely,



Rachel McCrea
Water Quality Section Manager
Water Quality Program
Northwest Regional Office

Enclosures: Notice of Penalty Docket No. 18012

By Certified Mail No.: 9171 9690 0935 0233 2086 07

ecc: Christie True, Director, Department of Natural Resources and Parks (DNRP)
Robert Waddle, Wastewater Operations Manager, KC-WTD, DNRP
Jeff Lafer, NPDES Permit Administrator, KC-WTD, DNRP
Thomas Buroker, Regional Director, Ecology
Ronald Lavigne, Attorney General of Washington Ecology Division
Laura Fricke, P.E., Municipal Unit Supervisor, Ecology
Shawn McKone, P.E., Facility Manager, Ecology
Greg Lipnickey, QEP, Municipal Compliance Specialist, Ecology
Larry Altose, PIO, Ecology
PARIS: King County South Treatment Plant; WA0029581
Fiscal-Penalty Desk, Ecology

STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY

IN THE MATTER OF PENALTY)	NOTICE OF PENALTY
ASSESSMENT AGAINST)	INCURRED AND DUE
KING COUNTY WASTEWATER)	PENALTY DOCKET NO. 18012
TREATMENT DIVISION)	
MR. MARK ISAACSON)	

To: Mark Isaacson, Director
King County Wastewater Treatment Division
King Street Center, KSC-NR-0500
201 S. Jackson Street
Seattle, WA 98104

Notice of Penalty Docket No.	18012
Site Location	King County South Wastewater Treatment Plant 1200 Monster Road SW, Renton WA 98057
Penalty Amount	\$10,000
Due Date	Within 30 days after receiving this Notice of Penalty.

The Department of Ecology (Ecology) has assessed a penalty against King County in the amount of \$10,000 for violating provisions of:

- Chapter 90.48 Revised Code of Washington (RCW);
- Chapters 173-220 and 173-221 Washington Administrative Code (WAC); and
- National Pollutant Discharge Elimination System (NPDES) Permit No. WA0029581.

Ecology has authority to issue this penalty under RCW 90.48.144 and is basing the penalties on the violations listed in this notice.

DETERMINATION OF VIOLATION(S)

Ecology's determination that violations have occurred is based on the violations listed in Table 1.

King County Wastewater Treatment Division (KC-WTD) owns and operates the King County South Wastewater Treatment Plant (STP), located in the City of Renton. Ecology regulates the facility under National Pollutant Discharge Eliminations System (NPDES) permit No. WA0029581 (Permit). The STP provides conventional secondary treatment of domestic wastewater, followed by disinfection with sodium hypochlorite (hypochlorite) prior to discharge. The facility discharges treated wastewater through outfalls into Puget Sound at a location approximately 10,000 feet offshore of Duwamish Head and at a depth of 600 feet. The facility is designed to treat up to 144 million gallons per day (MGD) of domestic wastewater.

The discharge to Puget Sound is subject to the discharge limits and prohibitions set forth in Special Condition S1.A of its Permit and all other Special and General Requirements specified in the Permit. Monitoring requirements, listing parameters, sample points, sampling frequency, and sample type can be found in Special Condition S2 of the Permit. Reporting requirements are found in Special

Condition S3. The duty to mitigate, or prevent discharges that can adversely affect human health or the environment, is covered in Special Condition S4. Operation and maintenance requirements are found in Special Condition S5.

On July 18, 2019, KC-WTD experienced a “loss of disinfection” at the STP while staff performed maintenance work on automated control system components at the plant. The operations and maintenance (O&M) manual for the STP’s disinfection process includes the following definition for a “loss of disinfection” (page 5-4 of August 2015 manual):

Loss of disinfection. South Plant has defined a loss of disinfection a loss of hypochlorite dosing for 5 minutes or a chlorine residual less than 0.1 mg/L.

The flow of hypochlorite to the STP disinfection system stopped at approximately 12:28 pm on July 18, 2019, and did not resume until 79 minutes later at 1:47 pm. Due to the lack of hypochlorite flow, the chlorine residual concentration at the plant’s Effluent Transfer Station (ETS) started to decline at 1:15 pm. The residual concentration reached a minimum of 0.03 mg/L by 2:19 pm and remained below 0.1 mg/L until 2:32 pm. During this two-hour period, the STP discharged approximately 4.7 million gallons of secondary-treated wastewater, of which a minimum of 3.43 million gallons (based on KC-WTD estimate) did not receive adequate disinfection.

Violations:

This notice of penalty is being issued to King County Department of Natural Resources and Parks – Wastewater Treatment Division (KC-WTD) for violations listed in Table 1 that are related to the loss of disinfection incident on July 18, 2019.

Table 1. Permit violations related to Loss of Disinfection at STP on July 18, 2019

Violation	Permit Section, RCW or WAC
1. Failure to collect and analyze representative sample(s) of unusual discharge condition.	S2.B. Sampling and analytical procedures
2. Failure to immediately report loss of disinfection.	S3.F.a. Reporting permit violations – Immediate reporting
3. Failure to take adequate steps to minimize or prevent the loss of disinfection discharge while performing control system maintenance.	S4.C. Duty to mitigate
4. Failure to properly operate the disinfection system at the permitted facility	S5. Operation and Maintenance (O&M); Chapter 70.95B RCW; Chapter 173-230 WAC
5. Failure to provide operators with adequate or correct O&M manual; failure to follow instructions and procedures in the manual.	S5.G. Operations and maintenance manuals; Chapter 173-240-080 WAC

Violation description:

KC-WTD notified Ecology at 9:02 am on July 19, 2019, of a loss of disinfection at the South Treatment Plant (STP) on July 18, 2019 (Figure 1). The initial report (ERTS #690712) stated that a “residual was reestablished by 2:30 pm” and that an estimated 1.45 million gallons of treated

wastewater discharged to Puget Sound without adequate disinfection. KC-WTD submitted a revised estimate of 3.43 million gallons in the written follow-up letter Ecology received on July 25, 2019. KC-WTD committed the following violations in relation to this incident.

- 1. Failure to collect and analyze representative sample(s) of unusual discharge condition.** Permit Special Condition *S2.B, Sampling and analytical procedures*, states that “The Permittee must conduct representative sampling of any unusual discharge or discharge condition, including bypasses, upsets, and maintenance-related conditions that may affect effluent quality.” A loss of disinfection qualifies as an unusual discharge condition that affected effluent quality. As was noted above, the STP met both conditions that KC-WTD established to define a loss of disinfection. The facility operated for more than 5 minutes on July 18, 2019, without hypochlorite flowing to the disinfection system and, as a result, the continuously monitored chlorine residual concentration fell below a threshold of 0.1 mg/L (Figure 1). The STP supervising operator on duty during the incident acknowledged that he knew the situation met the plant’s definition for a loss of disinfection, but failed to collect an appropriate effluent sample necessary to determine the level of fecal coliform bacteria in the discharge during the failure period. Fecal coliform bacteria indicate the presence of pathogens in the effluent that endanger human health and is the parameter treated by the disinfection process at the treatment plant.
- 2. Failure to immediately report a loss of disinfection.** Permit Special Condition *S3.F.a, Reporting permit violations – Immediate reporting*, states that “The Permittee must immediately report to Ecology and the Department of Health, Shellfish Program, and Public Health of Seattle-King County (phone numbers listed below), all ... Failures of the disinfection system...” The operators on duty July 18, 2019, discovered at approximately 1:47 pm that isolation valves on the hypochlorite supply tanks had closed and stopped the flow of hypochlorite to the disinfection system failure. The operators also observed that chlorine residual concentration at the ETS fell below 0.1 mg/L for a period prior to 2:32 pm. The supervising operator acknowledged that he was aware that these conditions were consistent with the “Loss of Disinfection” definition in the plant’s O&M manual and, therefore, was aware of the loss of disinfection the afternoon of July 18, 2019. However, the loss of disinfection was not immediately reported to Ecology by STP operators or management. Reporting did not occur until 9:02 am on July 19, 2019, approximately 19 hours after the incident.
- 3. Failure to take adequate steps to minimize or prevent the loss of disinfection discharge while performing control system maintenance.** Permit Special Condition *S4.C, Duty to mitigate*, states that “The Permittee must take all reasonable steps to minimize or prevent any discharge...in violation of this permit that has a reasonable likelihood of adversely affecting human health or the environment”. Inherent in this requirement is the expectation that wastewater treatment plant owners and operators carefully plan maintenance and construction activities to prevent or minimize impacts to the plant’s performance while work is being executed. KC-WTD violated this condition by failing to adequately evaluate all alternatives for keeping the disinfection system operating as instrument technicians replaced the power supplies in critical automated control systems.

Ecology's conclusion is based in part on statements from STP operators that were collected during our investigation. The operators commented that the control system work planning did not generally include input for the plant's certified operators. Ecology also identified through a review of the plant's O&M manual that multiple alternatives existed that may have allowed the operators to maintain positive control of the hypochlorite dosing system while technicians performed the maintenance work.

- 4. Failure to properly operate the disinfection system at the permitted facility.** Permit Special Condition S5 (1st paragraph), *Operation and Maintenance*, states that "the Permittee must at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances), which are installed to achieve compliance with the terms and conditions of this permit." Under this condition, staff at the permitted facility must take all reasonable and appropriate actions to ensure that treatment components at the facility function according to their intended design and collectively discharge treated wastewater that complies with the permit limits and water quality standards. *Chapter 70.95B RCW* requires that the supervision and operation of wastewater treatment plants rely on operators certified by Washington State. *Chapter 173-230 WAC* defines an "operator" as "an individual who performs routine duties, onsite at a wastewater treatment plant, that affect plant performance or effluent quality."

The actions taken by KC-WTD staff on July 18, 2019, resulted in the disinfection system at the STP failing to operate properly and caused the facility to discharge between 4.7 million gallons and 3.43 million gallons of treated wastewater without adequate disinfection. In addition, the certified operators that routinely operate the STP are not adequately empowered to perform their duties in a manner consistent with their professional certification. Plant management did not adequately involve the certified operators that routinely oversee the plant's day-to-day operations in planning for this control system work. KC-WTD's policies require an operator to first consult with the plant's process monitoring group to verify that a loss of disinfection occurred and then to report the incident to plant management prior to notifying Ecology. KC-WTD does not specifically designate an "operator in charge" for each of the defined shifts. Therefore, KC-WTD violated the permit's requirement to properly operate and maintain the permitted facility.

- 5. Failure to provide operators with adequate or correct O&M manual; failure to follow instructions and procedures in the manual.** Permit Special Condition S5.G, *Operations and maintenance (O&M) manuals*, states, in part, that "The Permittee must...follow the instructions and procedures of the [O&M] manuals". The condition also specifies that the O&M manual must comply with the requirements of *WAC 173-240-080* and specifically requires the inclusion of "reporting protocols for submitting reports to Ecology to comply with the reporting requirements in the discharge permit."

Ecology's investigation concluded that the facility's O&M manual contains incorrect information and did not contain adequate instructions for operating the facility during the control cabinet work. The manual incorrectly instructs the operators that they must notify Ecology of a disinfection failure within 24 hours rather than "Immediately", as required by the permit. In addition, the operators were directed to use a SOP from the O&M

manual to configure the disinfection system for gravity feed of hypochlorite. This SOP was inadequate to ensure that the disinfection system would operate properly while the instrument technicians replaced the power supplies in the control cabinets. Finally, although the manual includes a clear definition for a “Loss of Disinfection” and instructions for collecting representative samples in response to a loss of disinfection, the operators on duty failed to follow the instructions and did not perform the required sampling.

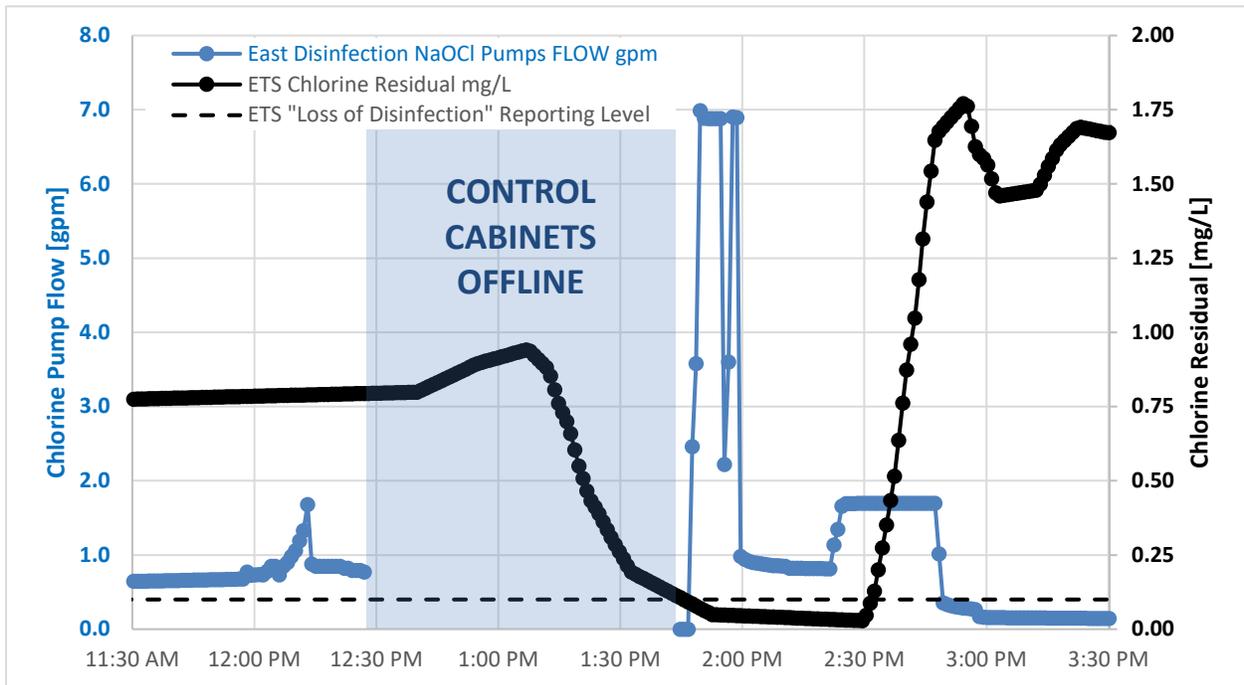


Figure 1. East Disinfection chlorine (NaOCl) pump flow and resulting chlorine residual measured at the STP Effluent Transfer Station (ETS) on July 18, 2019. Pump flow data could not be collected during shaded timeframe when the control cabinets were offline.

FAILURE TO COMPLY WITH THIS NOTICE OF PENALTY

Continued failure to correct the violations listed in this Notice of Penalty may result in additional, escalated penalties.

OPTIONS FOR RESPONDING TO A NOTICE OF PENALTY

Option 1: Pay the penalty within thirty (30) days after receiving the Notice of Penalty.

Make your payment payable to the *Department of Ecology*. Please include the penalty docket number on your payment.

Mail payment to:

WA State Department of Ecology
Cashiering Unit
PO Box 47611
Olympia, WA 98504-7611

Note: Ecology may take legal action to collect the penalty if you have not paid 30 days after receiving the Notice of Penalty, and have not appealed.

Option 2: Appeal to the PCHB and serve Ecology within thirty (30) days after the date of receipt of the Notice of Penalty.

The appeal process is governed by Chapter 43.21B RCW and Chapter 371-08 WAC. "Date of receipt" is defined in RCW 43.21B.001(2).

To appeal, you must do both of the following within thirty (30) days after the date of receipt of this Notice of Penalty:

- File your appeal and a copy of this Notice of Penalty with the Pollution Control Hearings Board (PCHB) during regular business hours.
- Serve a copy of your appeal and this Notice of Penalty on Ecology in paper form, by mail or in person. E-mail is not accepted.

You must also comply with other applicable requirements in Chapter 43.21B RCW and Chapter 371-08 WAC.

ADDRESS AND LOCATION INFORMATION

Street Addresses	Mailing Addresses
Department of Ecology Attn: Appeals Processing Desk 300 Desmond Drive SE Lacey, WA 98503	Department of Ecology Attn: Appeals Processing Desk PO Box 47608 Olympia, WA 98504-7608
Pollution Control Hearings Board 1111 Israel Road SW STE 301 Tumwater, WA 98501	Pollution Control Hearings Board PO Box 40903 Olympia, WA 98504-0903

CONTACT INFORMATION

Please direct all questions about this Notice of Penalty to:

Shawn McKone, PE
Municipal Permit Manager
WA State Department of Ecology
Northwest Regional Office
Water Quality Program
3190 160th Avenue SE
Bellevue, WA 98008-5452

Phone: (425) 649-7037
Email: shawn.mckone@ecy.wa.gov

MORE INFORMATION

- **Pollution Control Hearings Board:**
<http://www.eluho.wa.gov/Board/PCHB>
- **Chapter 43.21B RCW - Environmental and Land Use Hearings Office – Pollution Control Hearings Board:**
<http://app.leg.wa.gov/RCW/default.aspx?cite=43.21B>
- **Chapter 371-08 WAC – Practice and Procedure:**
<http://app.leg.wa.gov/WAC/default.aspx?cite=371-08>
- **Chapter 34.05 RCW – Administrative Procedure Act:**
<http://app.leg.wa.gov/RCW/default.aspx?cite=34.05>
- **Ecology's Laws, rules, & rulemaking website:**
<https://ecology.wa.gov/About-us/How-we-operate/Laws-rules-rulemaking>

SIGNATURE



Rachel McCrea
Water Quality Section Manager
Northwest Regional Office
Washington State Department of Ecology

2/2/2021
Date