

**RECOMMENDATION FOR ENFORCEMENT ACTION
WATER QUALITY PROGRAM**

Northwest Regional Office

Docket No. NOP: 15326
Docket No. Order: 15325

Date: August 28, 2017

From: Amy Jankowiak

Name of Investigator


Signature of Investigator

Municipal Compliance Specialist

Title of Investigator

Shawn McKone, P.E.

Name of Investigator


Signature of Investigator

Facility Manager

Title of Investigator

RECOMMEND ENFORCEMENT ACTION BE TAKEN:

I. Against:

King County Wastewater Treatment Division

Responsible Official:

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

II. Location:

West Point Wastewater Treatment Plant
1400 Discovery Park Blvd
Seattle, WA 98199

Mailing Address:

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

III. Type of Action:

- A. Penalty, RCW 90.48.144
 B. Notice of Violation, RCW 90.48.120 (1)
 C. Follow-up Order, RCW 90.48.120(1)
 D. Administrative Order, RCW 90.48.120(2)
 E. Amendment of Action
 F. Other (specify authority) _____

IV. Nature of Violation:

- 1) Unlawful Discharge of Polluting Matter into Waters of the State, RCW 90.48.080.
- 2) Violation of the Terms of a Waste Discharge Permit Issued under RCW 90.48.160, 90.48.180 or 90.48.260 through 90.48.262.
- 3) Discharging Pollutants Without a Permit Authorized under RCW 90.48.160, 90.48.180, or 90.48.260 through 90.48.262.
- 4) Violation of the Terms of a Regulatory Order or other provisions of RCW 90.48.
- 5) Agricultural Discharges, RCW 90.48.450. Has consideration been given to the effect of the action on conversion of agricultural to nonagricultural uses? _____. If yes, what attempts have been made to minimize the possibility of such conversion? (Water Quality Program Policy #1-05)
- 6) Other

V. Name of Watercourse Involved:

Puget Sound

VI. Narrative of Incident:

Executive Summary:

We recommend that the Department of Ecology (Ecology) issue a Notice of Penalty and an Administrative Order to King County Wastewater Treatment Division for violations of the terms and conditions of the National Pollutant Discharge Elimination System (NPDES) Permit WA0029181 (Permit) and Revised Code of Washington (RCW) 90.48.080, related to the discharge violation events between February 9, 2017, and May 9, 2017, at the West Point Wastewater Treatment Plant.

Findings of Fact:

Background:

King County's Wastewater Treatment Division (WTD) owns and operates the West Point Wastewater Treatment Plant (WTP) and associated regional facilities. Ecology regulates the facility under NPDES Permit No. WA0029181 (Permit). The WTP, located in the City of Seattle, uses a high rate oxygen activated sludge process to provide secondary treatment for peak flows up to 300 million gallons per day (MGD). It provides primary treatment and disinfection for peak flows exceeding 300 MGD. The plant's rated peak hydraulic capacity is 440 MGD and its maximum monthly average design flow rating is 215 MGD.

The liquid treatment process includes screening, grit removal, primary clarification, biological treatment using high rate oxygenated activated sludge, secondary clarification, chlorine disinfection, and dechlorination. The disinfected effluent discharges to Puget Sound through a multi-port diffuser located about 3,600 feet offshore at a depth of about 240 feet below mean lower low water. For flows above 300 MGD and up to 440 MGD, the treatment process consists of screening, de-gritting, primary sedimentation in clarifiers, disinfection with sodium hypochlorite, and dechlorination. The wastewater that bypasses secondary treatment (aka "secondary bypass") must receive floatables removal, primary clarification, and disinfection, and must at all times meet the effluent limits listed in the Permit. The WTP includes an emergency outfall located approximately 550 feet offshore in Puget Sound north of the facility. The 12-ft x 12-ft square pipe discharges at a depth of approximately 33.5 feet (mean lower low water) at the

approximate coordinates: 47.664294, -122.431550. The design intent of the outfall is to provide a means to divert raw sewage from the influent control structure in emergency situations. The NPDES permit for the West Point plant does not list this outfall as an authorized discharge location.

The WTPP includes on-site treatment of residual solids removed in the primary and secondary processes. Primary sludge and scum from the primary sedimentation basins blend with waste activated sludge from the secondary process prior to thickening with gravity belt thickeners. The thickened sludge is then anaerobically digested, and dewatered by centrifuges before being hauled off-site for beneficial use as Class B biosolids.

Non-compliance Event:

Ecology received the initial notification of a discharge through the emergency bypass outfall and flooding incident at the WTPP at approximately 3:38 a.m. on February 9, 2017 [Emergency Report Tracking System (ERTS) Report No. 670591]. The supervising operator on duty, Charles Wenig, made the initial notification. Due to decreased plant capacity following the February 9th flooding, WTPP operators also initiated a partial bypass on February 15, 2017, that extended through February 16, 2017 (ERTS No. 670753). A copy of the ERTS reports are included in Attachment A. The “partial bypass” included flows out the emergency outfall and flows out the main outfall at the same time. Ecology’s NPDES Permit Manager for the WTPP, Shawn McKone; Ecology’s Municipal Compliance Specialist, Amy Jankowiak; and Ecology’s Municipal Unit Supervisor, Laura Fricke, made site visits to the plant on February 21, 2017, and June 27, 2017, as part of Ecology’s investigation into the internal plant flooding, secondary bypass, and emergency discharge incidents. Attachment B provides Ecology’s investigative analysis of the non-compliance event that started on February 9, 2017, and lasted through May 9, 2017. Ecology also requested numerous documents throughout the investigation which were provided including WTD, CH2M, and AECOM investigations which were all analyzed as part of Ecology’s investigation.

In summary, a power disruption at the WTPP in the early morning of February 9, 2017, during a period in which the plant was receiving high flows, initiated a chain of events that resulted in internal flooding of the WTPP, and discharge of untreated combined sewage to Puget Sound for 18 hours. The power disruption caused a power loss to two effluent pumps and also to a hydraulic control unit that operates pressure-control valves for all four effluent pumps. The failure of the pressure-control valve system led to the failure of the two remaining operating pumps at that time. The supervising operator on duty attempted to manage incoming flows to the plant by adjusting raw sewage pumping rates and flows in the collection system, while other operators on duty attempted to restart equipment. However, due to the effluent pumps not working at high tides and with plant flows at peak hydraulic capacity, the effluent wet well quickly rose to its high-high alarm level. This caused the effluent gates for the primary sedimentation basins to close, as designed, to protect downstream process and equipment.

With the primary effluent (PE) gates closed, water levels in the primary sedimentation basins began to rise. Approximately 10 minutes after the PE gates closed, the water level in the basins reached the overflow level and began to overtop the primary tank’s walls and flood the plant. Float switches located in the pre-aeration basins at the beginning of the primary treatment process should have triggered a high-high alarm that stops the raw sewage pumps (RSPs) prior to the basins overflowing. The float switches failed to operate, however, due to bent connecting rods that inhibited their movement. Despite a history of problems with the float switches that dates to 2000, the supervising operator relied on the switches to trigger the fail-safe interlock that would have shut down the RSP and direct flows to the emergency outfall designed to protect the plant from flooding.

Although a control screen in the plant's "Ovation" control system (Ovation) provided status information on the water level in the primary basins, the supervising operator did not refer to the screen. In addition, the rapid scrolling of alarm status messages appearing on the main control screen inhibited the supervising operator's ability to recognize critical alarms about the primary basin level. At approximately 3:00 a.m., more than 30 minutes after flooding began, the supervising operator observed a camera in the raw sewage pump building that showed flooding in that area. At this point he immediately took steps to shut down the RSPs. This action allowed water level in the influent control structure (ICS) to rise to the control level that automatically opened the Emergency Bypass (EB) gate located at the ICS. At about 3:04 a.m. the EB gate opened and the primary basins fell below the overflow level by about 3:11 a.m. At 3:16 a.m. a separate emergency outfall gate located at the Flow Diversion Structure was opened to allow untreated combined sewage and stormwater to discharge to Puget Sound. Three operators in the field who first noticed water overflowing from the primary basins failed to report the situation to main control because they wanted to keep the radio lines clear for main control to communicate with the operators working to restart the effluent pumps.

The overflowing primary basins caused extensive flooding of below-ground equipment galleries at the WPTP. The overflow flooded a mile of subterranean pipe and equipment galleries with stormwater, raw sewage, and sludge. It contaminated and damaged or destroyed millions of dollars of plant equipment including pumps, motors, electrical panels, wiring, transformers, lighting, switches, and motor control centers. The flood also contaminated the entire surface area of the mile of gallery tunnels along with two miles of pipe insulation and destroyed staff locker and shower facilities.

The flooding submerged boilers needed to heat the anaerobic digesters along with other equipment needed to process the residual solids from the plant. It caused power to mixers and gas recovery systems for the digesters to fail. This led to a buildup of foam and gas that lifted the digester lids and caused liquid to erupt from the digesters. The liquid that overflowed from the digesters went to an area that, according to plant design drawings, has a stormwater catch basin that discharges to Puget Sound at the Discovery Park South Beach. However, WPTP staff indicated that the manhole was blocked by a steel cover (March 7, 2017, email from Eugene Sugita) and we do not have evidence that any of the digester contents left the plant site. WPTP staff had struggled to control foaming problems in the digesters for about one year prior to this incident.

The flooding had the following impacts to the treatment and support systems at the WPTP:

- Longitudinal flights that move primary waste sludge to the sludge hoppers in each primary sedimentation tank were damaged by the high flows when flooding was occurring.
- Pumps and motors used to remove grit from the pre-aeration basins, primary waste sludge from the primary sedimentation tanks, and scum from the primary scum sump were submerged and damaged.
- Boilers used to heat the anaerobic digesters were submerged and rendered inoperable. As a result, the anaerobic digesters cooled and the biological activity in the digesters degraded.
- Pumps and motors used to move primary and secondary waste sludge through the solids treatment processes were submerged.
- The anaerobic digesters lost power to their mixing and gas recovery systems, but the sludge feed pumps to digester #1 continued to operate despite being submerged. The lack of mixing and gas recovery caused gas and foam to build up to a point where they lifted the digester lids and allowed liquid to erupt from the digesters.

- All of the electrical components, including lights, power panels, equipment control panels, and sensors located in the flooded galleries were damaged by water exposure and would need to be replaced.
- All surfaces in the galleries were exposed to sewage and needed to be decontaminated by steam cleaning.
- Ventilation equipment necessary to exchange air and create habitable work spaces were damaged and would have to be repaired, decontaminated, and/or replaced before workers could enter without protective equipment.
- Pipe supports, equipment mounting pads, and other structures vulnerable to damage by the flood water would need to be inspected and repaired.

By 9:00 p.m. on February 9th WPTP staff were able to restore power to the effluent pumping system and return flow through half of the primary basins. Due to the extensive flood damage the WPTP could not process residual solids produced in the primary and secondary treatment systems. Therefore, the initial restart consisted of screening of coarse solids, minimal primary sedimentation, disinfection, and dechlorination prior to discharge to Puget Sound through the plant's main outfall. The initial restart bypassed all flows around secondary treatment and limited the plant's capacity to 120 MGD (later raised to 230 MGD).

With the WPTP capacity significantly decreased, plant operators were compelled to initiate a partial discharge of untreated combined sewage through the emergency outfall on February 15, 2017, to prevent further flooding when flows exceeded 250 MGD during a storm event. This emergency discharge event lasted for less than seven hours during the morning of the 15th and for an additional 14 hours from the afternoon of the 15th through the morning of the 16th.

An estimated 186 million gallons (MG) of untreated combined sewage discharged through the emergency outfall during the 18-hour bypass on February 9th. In addition, WPTP staff estimated that 44 MG of untreated combined sewage discharged from the collection system on February 9th through CSO outfalls. The WPTP discharged an additional 58 MG of untreated combined sewage through the emergency outfall during the 21-hour period beginning February 15th and ending February 16th when operators partially reopened the emergency outfall gate to prevent additional flooding.

With plant systems necessary for management of residual solids from the primary and secondary processes offline, WPTP management decided to bypass all flow around the secondary treatment processes to protect the biological system during the plant restoration period. The secondary treatment bypass lasted 77 days with an estimated 7.9 billion gallons going through influent screening, limited primary treatment, and disinfection.

WPTP staff and contractors started the restoration and recovery process on February 9, 2017. Due to the extensive damage, the WPTP remained at diminished capacity for approximately three months. The restoration team restored operation of the pre-aeration and primary sedimentation basins on April 3, 2017, 53 days after the flooding. On March 27, 2017, WPTP staff restarted the secondary treatment system. To facilitate this restart while the digesters were still offline, plant management chose to discharge waste activated sludge (WAS) from the secondary process to Puget Sound. The solids were disinfected and discharged through the main outfall.

All digesters were back online on April 24, 2017 (74 days) and the secondary treatment system was back online on April 27, 2017 (77 days). Plant operators ceased discharging WAS to Puget Sound, and the plant returned to normal operation on May 9, 2017 (89 days).

The reduced treatment efficiency at the WPTP following the February 9th flooding affected the plant's effluent quality for nearly three months. As discussed below, the plant exceeded effluent limits on CBOD₅, TSS, and total residual chlorine during the restoration period. The effluent

limits are included in Table 1. The discharges from the emergency outfall on February 9th, 15th, and 16th, led to beach closures in King and Kitsap Counties from February 9, 2017, through February 21, 2017. The emergency discharges also resulted in shellfish harvesting restrictions in Kitsap County during the same period.

Table 1. King County WPTP Effluent Limits (Special Condition S1A):

S1. Discharge limits

All discharges and activities authorized by this permit must comply with the terms and conditions of this permit. The discharge of any of the following pollutants more frequently than, or at a level in excess of, that identified and authorized by this permit violates the terms and conditions of this permit.

S1.A. Effluent limits for Outfall 001 - West Point wastewater treatment plant

Beginning on the effective date of this permit and lasting through the expiration date, the Permittee may discharge treated municipal wastewater at the permitted locations subject to compliance with the following limits:

| Effluent Limits: Outfall #001 - West Point WWTP | | |
|---|---|-----------------------------|
| Latitude: 47.661111' Longitude: -122.446389' | | |
| Parameter | Average Monthly ^a | Average Weekly ^b |
| Carbonaceous Biochemical Oxygen Demand (5-day) | 25 milligrams/liter (mg/L) 44,800 pounds/day (lbs/day) May-Oct: 85% removal of influent CBOD ₅ Nov-April: 80% removal of influent CBOD ₅ | 40 mg/L 71,700 lbs/day |
| Total Suspended Solids | 30 mg/L, 53,800 lbs/day May-Oct: 85% removal of influent TSS Nov-April: 80% removal of influent TSS | 45 mg/L 80,700 lbs/day |
| | Monthly Geometric Mean | Weekly Geometric Mean |
| Fecal Coliform Bacteria ^c | 200/100 mL | 400/100 mL |
| | Instantaneous Minimum | Instantaneous Maximum |
| pH ^d | 6.0 | 9.0 |
| | Average Monthly ^a | Maximum Daily ^e |
| Total Residual Chlorine | 139 µg/L | 364 µg/L |

^a Average monthly effluent limit means the highest allowable average of daily discharges over a calendar month, calculated as the sum of all daily discharges measured during a calendar month divided by the number of daily discharges measured during that month.

^b Average weekly discharge limit means the highest allowable average of daily discharges over a calendar week, calculated as the sum of all daily discharges measured during a calendar week divided by the number of daily discharges measured during that week.

^c Ecology provides directions to calculate this value in publication No. 04-10-020, *Information Manual for Treatment Plant Operators*, available at: <http://www.ecy.wa.gov/pubs/0410020.pdf>.

^d Report the instantaneous maximum and minimum pH monthly. Do not average pH values.

^e Maximum daily effluent limit means the highest allowable daily discharge. The daily discharge is the average measurement of the pollutant over the day.

Table 2. King County WPTP Monitoring Schedule (partial) (Special Condition S2A):

S2. Monitoring requirements

S2.A. Monitoring schedules

The Permittee must monitor in accordance with the schedules in the following tables and the requirements specified in Appendix A or any corresponding *Sampling Analysis Plan/Quality Assurance Project Plan (SAP/QAPP)* documents. Alternative methods from 40 CFR Part 136 are acceptable only for those parameters without limits and if the DL and QL are equivalent to those specified in Appendix A, any corresponding SAP/QAPP documents, or sufficient to produce a measurable quantity.

Table 2. Monitoring Schedule – West Point WWTP (001)

| Parameter | Units | Minimum Frequency | Sample Type |
|--|------------------------|-------------------------|------------------------------|
| (1) Wastewater Influent ^a | | | |
| BOD ₅ | mg/L | 1/week | 24-hr Composite ^b |
| | lbs/day ^c | 1/week | Calculation |
| CBOD ₅ | mg/L | 1/day | 24-hr Composite |
| | lbs/day ^c | 1/day | Calculation |
| TSS | mg/L | 1/day | 24-hr Composite |
| | lbs/day | 1/day | Calculation |
| (2) Final Wastewater Effluent ^d | | | |
| Flow | MGD | Continuous ^e | Meter |
| CBOD ₅ ^f | mg/L | 1/day | 24-hr Composite |
| | lbs/day ^c | 1/day | Calculation |
| | % removal ^g | 1/month | Calculation |
| TSS | mg/L | 1/day | 24-hr Composite |
| | lbs/day ^c | 1/day | Calculation |
| | % removal ^g | 1/month | Calculation |
| Chlorine (after dechlorination) | µg/L | Continuous ^e | Meter |
| Fecal Coliform | # /100 ml | 1/day | Grab ^h |
| pH | Standard Units | Continuous ^e | Meter |
| (3) Effluent Characterization – Final Wastewater Effluent | | | |
| Total Ammonia | mg/L N | 1/month | 24-hr Composite |
| | lbs/day | 1/month | Calculation |
| Nitrate + Nitrite Nitrogen | mg/L N | 1/month | 24-hr Composite |

Monthly Discharge Monitoring Reports submitted by the County for the months of February 2017 through May 2017 indicate ten (10) effluent violations in February 2017, eleven (11) effluent violations in March 2017, twelve (12) effluent violations in April 2017, one (1) influent design capacity violation, and seven (7) influent missed monitoring violations. The monitoring requirements for WPTP are included in Table 2. The effluent and influent limit violations and missed monitoring violations are summarized in Table 3.

Table 3. Effluent and Influent Limit Violations and Missed Monitoring Violations Summary WPTP February 2017 - May 2017

| Violation Date or Month | Mon Pt | Statistical Base | Minimum Frequency | Parameter | Units | Value | Min Limit | Max Limit | Violation |
|-------------------------|--------|------------------|-------------------|-----------|---------|---------|-----------|-----------|----------------------------|
| APRIL | | | | | | | | | |
| 4/23/2017 | 001 | Single Sample | Continuous | Chlorine | ug/L | 420 | - | 364 | Numeric effluent violation |
| 4/20/2017 | 001 | Single Sample | Continuous | Chlorine | ug/L | 630 | - | 364 | Numeric effluent violation |
| 4/20/2017 | 001 | Average Monthly | 1/Day | CBOD | Lbs/Day | 55639 | - | 44800 | Numeric effluent violation |
| 4/20/2017 | 001 | Average Monthly | 1/Day | CBOD | mg/L | 59.3 | - | 25 | Numeric effluent violation |
| 4/20/2017 | 001 | Weekly Average | 1/Day | CBOD | mg/L | 69 | - | 40 | Numeric effluent violation |
| 4/20/2017 | 001 | Average Monthly | Monthly | CBOD | Percent | 59 | 85 | - | Numeric effluent violation |
| 4/20/2017 | 001 | Average Monthly | Continuous | Chlorine | ug/L | 148 | - | 139 | Numeric effluent violation |
| 4/20/2017 | 001 | Average Monthly | 1/Day | TSS | Lbs/Day | 66902.3 | - | 53800 | Numeric effluent violation |
| 4/20/2017 | 001 | Weekly Average | 1/Day | TSS | Lbs/Day | 92119 | - | 80700 | Numeric effluent violation |
| 4/20/2017 | 001 | Weekly Average | 1/Day | TSS | mg/L | 88 | - | 45 | Numeric effluent violation |
| 4/20/2017 | 001 | Average Monthly | 1/Day | TSS | mg/L | 70.4 | - | 30 | Numeric effluent violation |
| 4/20/2017 | 001 | Average Monthly | Monthly | TSS | Percent | 56 | 85 | - | Numeric effluent violation |
| MARCH | | | | | | | | | |
| 3/20/2017 | 001 | Average Monthly | 1/Day | CBOD | Lbs/Day | 115085 | - | 44800 | Numeric effluent violation |
| 3/20/2017 | 001 | Weekly Average | 1/Day | CBOD | Lbs/Day | 125500 | - | 71700 | Numeric effluent violation |
| 3/20/2017 | 001 | Average Monthly | 1/Day | CBOD | mg/L | 109.548 | - | 25 | Numeric effluent violation |
| 3/20/2017 | 001 | Weekly Average | 1/Day | CBOD | mg/L | 132 | - | 40 | Numeric effluent violation |
| 3/20/2017 | 001 | Average Monthly | Monthly | CBOD | Percent | 16 | 85 | - | Numeric effluent violation |
| 3/20/2017 | 001 | Average Monthly | Continuous | Chlorine | ug/L | 139.355 | - | 139 | Numeric effluent violation |
| 3/20/2017 | 001 | Weekly Average | 1/Day | TSS | Lbs/Day | 145940 | - | 80700 | Numeric effluent violation |
| 3/20/2017 | 001 | Average Monthly | 1/Day | TSS | Lbs/Day | 119599 | - | 53800 | Numeric effluent violation |
| 3/20/2017 | 001 | Average Monthly | 1/Day | TSS | mg/L | 110.226 | - | 30 | Numeric effluent violation |
| 3/20/2017 | 001 | Weekly Average | 1/Day | TSS | mg/L | 140 | - | 45 | Numeric effluent violation |
| 3/20/2017 | 001 | Average Monthly | Monthly | TSS | Percent | 46 | 85 | - | Numeric effluent violation |
| FEBRUARY | | | | | | | | | |
| 2/20/2017 | 001 | Average Monthly | 1/Day | CBOD | Lbs/Day | 79663.7 | - | 44800 | Numeric effluent violation |
| 2/20/2017 | 001 | Weekly Average | 1/Day | CBOD | Lbs/Day | 109171 | - | 71700 | Numeric effluent violation |

| | | | | | | | | | |
|--------|-----|-----------------|---------|------|---------|---------|----|-------|----------------------------|
| 2/2017 | 001 | Average Monthly | 1/Day | CBOD | mg/L | 70.1071 | - | 25 | Numeric effluent violation |
| 2/2017 | 001 | Weekly Average | 1/Day | CBOD | mg/L | 109 | - | 40 | Numeric effluent violation |
| 2/2017 | 001 | Average Monthly | Monthly | CBOD | Percent | 48 | 85 | - | Numeric effluent violation |
| 2/2017 | 001 | Average Monthly | 1/Day | TSS | Lbs/Day | 73840 | - | 53800 | Numeric effluent violation |
| 2/2017 | 001 | Weekly Average | 1/Day | TSS | Lbs/Day | 87761 | - | 80700 | Numeric effluent violation |
| 2/2017 | 001 | Weekly Average | 1/Day | TSS | mg/L | 87 | - | 45 | Numeric effluent violation |
| 2/2017 | 001 | Average Monthly | 1/Day | TSS | mg/L | 61.3214 | - | 30 | Numeric effluent violation |
| 2/2017 | 001 | Average Monthly | Monthly | TSS | Percent | 71* | 85 | - | Numeric effluent violation |

*The data reported for 2/9/17 for TSS and BOD influent is an average of the previous two days due to the sample collected not being representative.

INFLUENT

| | | | | | | | | | |
|-----------|-----|-----------------|-------|------|---------|--------|---|--------|-------------------------------|
| 2/10/2017 | IN1 | Single Sample | 1/Day | CBOD | Lbs/Day | - | - | - | Analysis not Conducted |
| 2/10/2017 | IN1 | Single Sample | 1/Day | CBOD | mg/L | - | - | - | Analysis not Conducted |
| 2/10/2017 | IN1 | Single Sample | 1/Day | TSS | Lbs/Day | - | - | - | Analysis not Conducted |
| 2/10/2017 | IN1 | Single Sample | 1/Day | TSS | mg/L | - | - | - | Analysis not Conducted |
| 2/2017 | IN1 | Average Monthly | 1/Day | TSS | Lbs/Day | 235878 | - | 218000 | Exceedance of Design Criteria |

5-day Biochemical Oxygen Demand (BOD); 5-day Carbonaceous Biochemical Oxygen Demand (CBOD); Chlorine; Total Residual (chlorine); Total Suspended Solids (TSS)
 micrograms per liter (ug/L); milligrams per liter (mg/l); pounds per day (Lbs/Day)

As discussed in Attachment B, Ecology's investigation drew the following conclusions:

1. The lack of adequate redundancy in the effluent pump station's hydraulic control unit that operates pressure-control valves led to a catastrophic chain of events on February 9, 2017. This led to flooding of the WPTP that severely damaged equipment and shut down secondary treatment for 77 days. In addition, the lack of redundancy led to the following three episodes of discharge through the emergency outfall without treatment: The full incoming flow of combined sewerage was discharged for 18 hours on February 9, 2017, and partial diversions discharged untreated sewage for 21 hours on February 15, 2017, and February 16, 2017.
2. The operators on duty were not adequately prepared to manage the emergency situation. The WPTP does not have adequately documented, formal training requirements for emergency situations, and relies on each shift supervisor to organize informal "tabletop exercises" to discuss what could happen under different conditions. This led to operators taking inappropriate actions immediately following the power disruption, such as failing to verify the power status of the EPS hydraulic control unit and importantly, not notifying main control when they saw water flowing over the side of the primary basins.
3. The supervising operator relied too heavily on float switches in the pre-aeration basins that had a lengthy history of problems. Despite the known problems with the switches, he assumed that they would work as designed during the emergency and shut off the RSPs before the primary sedimentation basins overflowed. Although the Ovation system had a screen available to monitor the water level in the primary basins, he did not have this screen open and did not monitor the level.
4. The operators on duty did not have adequate systems in place to aid in decision making during emergency conditions. The newly installed Ovation control system did not have alarms properly prioritized and, as a result, critical alarms were obscured in a flood of status messages and non-critical alarms. The main control room also does not have annunciators or other alarm displays to alert the main control operators to the power failure in the effluent pump station or the rising level of the primary basins. The WPTP also had an organizational culture in which the operators felt that they needed to avoid using the emergency outfall system. Although the operations and maintenance manual provides detailed information on critical tank levels and the consequences of equipment failures at high flows, the operators did not have concise guidelines from WTD management to aid them in deciding when it was acceptable to use the emergency discharge system. The County's independent assessment report noted that the operators did not feel comfortable making the decision to use the system.

Violations:

We recommend enforcement based on the following violations.

RCW 90.48.080

RCW 90.48.080 states that, "It shall be unlawful for any person to throw, drain, run, or otherwise discharge into any of the waters of this state, or to cause, permit or suffer to be thrown, run, drained, allowed to seep or otherwise discharged into such waters any organic or inorganic matter that shall cause or tend to cause pollution of such waters..."

The discharges from the emergency outfall on February 9th, 15th, and 16th, led to beach closures in King and Kitsap Counties from February 9, 2017, through February 21, 2017. The emergency discharges also resulted in shellfish harvesting restrictions in Kitsap County during the same period. Ambient monitoring and sample results indicated significant fecal coliform results following the discharge dates. The discharge of untreated or improperly treated wastewater into Puget Sound is a violation of RCW 90.48.080 and the County's Permit.

S1

National Pollutant Discharge Elimination System (NPDES) Waste Discharge Permit No. WA0029181 Special Condition No. S1, *Discharge limits*, states that “all discharges and activities authorized by this permit must comply with the terms and conditions of this permit. The discharge of any of the following pollutants more frequently than, or at a level in excess of, that identified and authorized by this permit violates the terms and conditions of this permit.”

Special Condition S1.A, *Effluent limits for Outfall 001 - West Point wastewater treatment plant*, states that “Beginning on the effective date of this permit and lasting through the expiration date, the Permittee may discharge treated municipal wastewater at the permitted locations subject to compliance with the following limits”

As shown in Table 3, WPTP discharges between February 9, 2017, and April 30, 2017, resulted in 33 violations of Special Condition S1 effluent limits for outfall 001. Effluent limit violations included exceedances of monthly and weekly average limits for CBOD₅ and TSS, monthly minimum percent removal limits for CBOD₅ and TSS, and daily maximum and monthly average limits on total residual chlorine.

Special Condition S1 does not list the emergency bypass outfall as an authorized discharge location. Therefore the discharge of untreated combined sewage through the emergency bypass outfall on February 9, 2017; February 15, 2017; and February 16, 2017, violate this condition as discharges in an unpermitted location.

S2

Special Condition S2.A, *Monitoring schedules*, states that, “the Permittee must monitor in accordance with the schedules in the following tables...” Table 2(1) of the permit requires daily monitoring of influent CBOD₅ and TSS, and weekly monitoring of influent BOD₅ at the WPTP. The WPTP missed monitoring for influent BOD₅ and influent TSS on February 9, 2017, and February 10, 2017, in violation of this condition. Although the WPTP reported influent values for BOD₅, CBOD₅, and TSS for February 9, 2017, on its February DMR, the plant’s process control supervisor revealed in an email on July 25, 2017, that the values reported for that day were averaged values from the two previous days. Samples collected on the 9th were not properly collected and were diluted with stormwater. Since the WPTP did not have a valid sample to analyze that day, Ecology concluded that the WPTP should have reported this as missed sampling.

Special Condition S2.B, *Sampling and Analytical Procedures*, states that “Samples and measurements taken to meet the requirements of this permit must represent the volume and nature of the monitored parameters. 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.”

Special Condition S2.B also states that “sampling and analytical methods used to meet the monitoring requirements specified in this permit must conform to the latest revision of the *Guidelines Establishing Test Procedures for the Analysis of Pollutants* contained in 40 CFR Part 136 (or as applicable in 40 CFR subchapters N [Parts 400–471] or O [Parts 501-503]) unless otherwise specified in this permit.”

WPTP staff collected grab samples for fecal coliform testing on February 9, 2017, at the Division Channel, which distributes flow from the raw sewage pumps to the primary treatment basins. The intent of this sampling was to assess the concentration of fecal coliform bacteria in the untreated combined sewage discharged through the emergency outfall. However this location was not in the active flow path during the emergency discharge. The raw sewage pumps that convey flow to this channel were offline during the discharge and all flow was being diverted through the emergency outfall gate located at the influent control structure, upstream of the pumps.

Therefore, Ecology concluded that fecal coliform samples collected in the Division Channel on February 9, 2017, were not representative of the discharged flow. WPTP staff collected samples from the same location on the 15th and 16th to assess fecal coliform levels in the discharges through the emergency outfall on those days. Although that location did not provide representative samples on the 9th, Ecology concluded the location was representative for samples collected on the 15th and 16th since the raw sewage pumps remained online those days. The emergency discharge sampling also only analyzed fecal coliform levels. WPTP staff did not test for other parameters such as residual chlorine, even though they were dosing the discharge with chlorine.

The floodwater damaged the influent sampler located in the raw sewage building. To compensate, WPTP staff installed a temporary composite sampler at the Division Channel on February 9th. The temporary influent composite sampler was not properly temperature controlled with refrigeration or ice, as required by analytical procedures, between February 10, 2017, and February 21, 2017.

S5

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... This provision of the permit requires the Permittee to operate backup or auxiliary facilities or similar systems only when the operation is necessary to achieve compliance with the conditions of this permit.”

Special Condition S5.D., *Electrical power failure*, states that “The Permittee must ensure that adequate safeguards prevent the discharge of untreated wastes or wastes not treated in accordance with the requirements of this permit during electrical power failure at the treatment plant and/or sewage lift stations. Adequate safeguards include, but are not limited to, alternate power sources, standby generator(s), or retention of inadequately treated wastes.” The permit condition and Ecology’s *Criteria for Sewage Works Design* (Ecology publication no. 98-37-WQ) cites EPA’s *Design Criteria for Mechanical, Electrical, and Fluid System and Component Reliability* (publication EPA 430-99-74-001) for the required level of component redundancy and reliability. The redundancy and reliability requirements apply to individual mechanical components (pumps, motors, mixers, treatment units, and auxiliary equipment) along with electrical systems, instrumentation, and alarm systems. Adequate safeguards related to this condition include:

- Pumping capacity sufficient to handle the peak flow with the largest unit out of operation.
- Sufficient power reliability to operate all vital components during peak wastewater flow conditions.
- Automatic power transfer [for power distribution within the facility] shall be provided in those cases when time delay required to manually transfer power could result in...a failure to process peak influent flows or cause damage to equipment.
- The reliability of auxiliary equipment, such as the Pratt valve hydraulic control unit, are dependent on the function of each system...the system shall have backup capability in the number of vital components required to perform the system function.
- Alarms and annunciators shall be provided to monitor conditions which could result in damage to vital equipment of hazards to personnel...they shall be such that each announced condition is uniquely identified.

A power disruption on February 9, 2017, initiated a chain of events that led to the loss of equipment and facility function. The power disruption caused the immediate shutdown of one effluent pump and the two remaining effluent pumps did not have sufficient capacity to handle the peak flow condition. The power disruption also shut down the Pratt valve hydraulic control

unit, an auxiliary system required to control the discharge pressure of all of the effluent pumps. The lack of appropriate redundancy and reliability in this auxiliary system caused the failure of the two remaining effluent pumps which were operating at that time. The lack of automatic power transfer capabilities for the effluent pump station equipment meant that the vital equipment in this area could not be restarted in time to prevent damage to equipment in other plant locations. Additional factors contributing to the discharge on February 9th include:

- the ineffective alarm prioritization and annunciation,
- the use of unreliable float switches for high-high alarm sensing in the pre-aeration basins,
- lack of proper maintenance (specifically of the pre-aeration float switches), and
- inefficient emergency response and training for emergency situations.

The lack of appropriate safeguards listed above led to flooding of the WPTP that damaged vital equipment necessary for proper plant operation. When the plant returned to limited operation late on February 9th, it did so with a significant reduction in hydraulic capacity and treatment capability. The plant could not operate according to its approved design; flow was limited to 230 MGD and staff bypassed secondary treatment. The plant remained at a state of reduced treatment for 77 days until April 27, 2017, when WPTP staff stopped bypassing secondary treatment. Had proper safeguards been in place, they would have prevented or minimized the flooding that damaged equipment and forced the secondary bypass from February 9, 2017, to April 27, 2017.

G9

General Condition G9, *Removed substances*, states that “Collected screenings, grit, solids, sludges, filter backwash, or other pollutants removed in the course of treatment or control of wastewaters must not be resuspended or reintroduced to the final effluent stream for discharge to state waters.”

The County’s preferred alternative for restarting the secondary treatment system included the discharge of waste active sludge (WAS) solids from the secondary process directly to the chlorine contact channel for disinfection and discharge to Puget Sound. This act resulted in the resuspension or reintroduction of removed solids to the final effluent. The discharge of WAS to Puget Sound started on April 4, 2017; was suspended on or about April 22, 2017; restarted on April 26, 2017; and ceased on May 9, 2017. In total, the WPTP discharge of WAS in violation of General Condition G9 lasted for 31 days.

Copies of pertinent permit conditions, Discharge Monitoring Reports and supplemental data are included in Attachment C.

Other Conditions:

Based on our investigation, the following conditions (S10 and S11) could be considered violations as a result of the February 9th incident. However we are not including these potential violations in this enforcement recommendation for the reasons listed below.

S10

Special Condition S10., *Wet weather operation*, states that “CSO-related bypass of the secondary treatment portion of the West Point WWTP is authorized when the instantaneous flow rate to the WWTP exceeds 300 MGD as a result of precipitation events. Bypasses that occur when the instantaneous flow rate is less than 300 MGD are not authorized under this condition and are subject to the bypass provisions as stated in S5.F of the permit. In the event of a CSO-related bypass authorized under this condition, the Permittee must minimize the discharge of pollutants to the environment. At a minimum, CSO-related bypass flows must receive solids and floatables removal, primary clarification, and disinfection. The final discharge must at all times meet the effluent limits of this permit as listed in S1.” S10 is specific to bypasses around the secondary process.

After the initial incident, the WPTP bypassed all flow around the secondary treatment system between February 9, 2017, and April 27, 2017. Daily flows reported on the plant's DMRs for this period were substantially lower than 300 MGD, and the plant's interim flow management guidelines limited plant flow to 230-250 MGD during the period. Therefore the secondary bypasses did not result from conditions for which they would be authorized under the S10 permit condition. As noted above, the secondary bypass violates Special Condition S5 (1st paragraph) and S5.D for operation and maintenance are considered to be violated which led to the secondary bypassing. We recommend enforcing against the 77 days of secondary bypass as violations of S5 (1st paragraph) and S5.D instead of S10.

S11

Special Condition S11.B.4, *Nine minimum controls*, states that "the Permittee must implement and document the following nine minimum controls (NMC) for CSOs...4. Operate the wastewater treatment plant at maximum treatable flow during all wet weather flow conditions to reduce the magnitude, frequency, and duration of CSOs. The Permittee must deliver all flows to the treatment plant within the constraints of the treatment capacity of the treatment works."

The flooding damage decreased the treatment capacity at the WPTP, which prevented the County from maximizing flows to the treatment plant during the period of February 9, 2017, through April 27, 2017. The interim flow management guidelines in place during the plant restoration period also directed plant operators to shut off key pump stations in the collection system when flows exceeded 180 MGD. These actions had the potential to increase the magnitude, frequency, and duration of CSO discharges from the County's CSO outfalls and from outfalls owned and operated by the City of Seattle. We do not recommend enforcement on potential violations of this condition since the CSO impacts are not readily quantifiable and are not easily distinguishable from normal CSO discharges in terms of environmental impact.

Response to Violations:

King County WTD began the process of restoring the plant on February 9th. In the days immediately following the flooding they worked to pump out the flooded spaces and began cleaning contaminated surfaces. Between mid-February and mid-April WPTP staff and contractors worked to repair or replace damaged equipment and install temporary power systems and boilers. The primary treatment basins were restored to normal operation by April 3rd and operators restored flow through the secondary treatment system by April 27th. The plant returned to normal operation by May 9, 2017.

As part of the restoration process, the County has taken some corrective actions related to training and equipment redundancy and reliability. To date, WPTP staff have replaced the Mercoid float switches with tethered float switches and installed an automatic transfer switch to provide redundant power to the Pratt valve hydraulic control unit. Also, consultants are in the process of creating a simulator that uses an existing hydraulic model of the WPTP to use as an operator training tool and design is underway for a second hydraulic control unit for the Pratt valves. To improve operator training and continuity between shifts, WPTP has hired a fifth shift supervisor. This shift supervisor will be in charge of operator training and will have the plant's Technical Trainer as a subordinate.

Compliance Schedule for Administrative Order:

The King County WTD must take the following actions by the dates set forth below. These actions are necessary to satisfy the requirements of Chapters 173-220 WAC and the NPDES Permit requirements at the WPTP.

- Add redundancy to effluent pump discharge valve (Pratt valve) hydraulic control system by April 1, 2018.
- Improve SCADA alarm prioritization and critical alarm visibility by February 1, 2018.
- Conduct an integrated evaluation of plant constraints and redundancy by February 1, 2018. The evaluation must examine the reliability of critical treatment process components and validate the firm hydraulic capacity of the WPTP. It must also provide recommendations for capital and/or operational improvements at the WPTP.
- Develop and implement an emergency operations training program by March 1, 2018. The training program must use a “Plant Hydraulic Simulator” as a tool for operators to rehearse responses to emergency scenarios during high flow conditions. The emergency operations training must also incorporate site-specific incident command protocols and emergency response SOPs that focus on life safety for workers and the public along with mitigation and recovery efforts related to an emergency response. The County should employ emergency operations strategies similar to those developed by the Federal Emergency Management Agency, the Process Safety Management System used by the petrochemical industry, or comparable protocols.
- Review existing operator training programs and redevelop the programs, as necessary, by March 1, 2018. The operator training program must ensure all operators receive the same instructions on routine and emergency plant operations, including adherence to SOPs, understanding of critical hydraulic limitations, using effective communication protocols, and knowledge of key safeguards and interlocks installed to protect the plant from flooding. The training program must also establish common documentation for operator training that is filed in a secure, central location.
- Develop and implement strategies for collecting representative samples of raw sewage at the Influent Control Structure by July 1, 2018. The sampling protocol must ensure that operators can safely collect samples of an emergency discharge through the Emergency Bypass Gate. The County must also include protocols for accurately determining the flow rate and total flow volume of an emergency discharge.

Enforcement History:

The WPTP has had numerous enforcement actions for effluent violations and stipulated penalties related to the Federal Consent Decree for CSO control. In 2013, the Consent Decree included a civil penalty of \$400,000 to EPA and Ecology for violations related to the WPTP permit and CSO treatment facilities. Stipulated penalties for CSO related violations under the Permit and Consent Decree since then have included:

- \$12,000 for violations between July 3, 2013 through March 31, 2014;
- \$15,000 for violations between April 1, 2014 through December 31, 2014;
- \$63,500 for violations between January 1, 2015 and December 31, 2016;
- And a separate \$4,000 penalty from Ecology for permit violations at Elliott West CSO treatment plant.

Additional previous enforcement actions related to the WPTP permit include:

- Notice of penalty issued June 2010 for CSO plant violations - \$39,500;
- Notice of penalty issued January 2010 for an 8.7 million gallon untreated discharge from the emergency outfall that occurred in 2009 - \$24,000;

- Notice of penalty issued July 2008 for a sanitary sewer spill to Lake Washington in the Ravenna area of Seattle - \$30,000; and
- Notice of Violation issued in February 2000 for failures of the effluent pump station that led to the discharge of approximately 20 MG of untreated sewage to Puget Sound. Failures associated with this NOV also included problems with float switches in the pre-aeration basins.
- Ecology has also previously issued penalties for disinfection failures, sampling violations, overflows and other violations.

Recommendation:

We recommend that Ecology issue a Notice of Penalty and an Administrative Order to King County Wastewater Treatment Division for violations of the terms and conditions of the National Pollutant Discharge Elimination System (NPDES) Permit issued to the County; Permit No. WA0029181 (Permit) and Revised Code of Washington (RCW) 90.48.080 related to the discharge violation events between February 9, 2017, and May 9, 2017, at the WPTP. Based on the penalty matrix, a penalty in the amount of \$361,000 is recommended for the violations. We also recommend an Administrative Order requiring a number of elements to assist in preventing reoccurrence of similar events or violations.

VII. Technical Assistance Efforts to Resolve Violation:

VIII. Evidence Obtained:

- Samples, Lab. Report No.
- Pictures
- Video Tape
- Witness Statements
- Documents
- Maps
- Other: _____

IX. Penalty Calculation:

TABLE 4A
RCW 90.48.080, S1 - Discharge in Unpermitted Location
(3 days: 2/9/17, 2/15/17, 2/16/17)
 Gravity Criteria (see attached definitions)

| | NO (0) | POSSIBLY (1) | PROBABLY (2) | DEFINITELY (3) |
|--|-----------|-----------------|-----------------|-------------------|
| 1. Public Health Risk? | _____ | _____ | _____ | 3 |
| 2. Environmental Damage? | _____ | _____ | 2 | _____ |
| 3. Willful or Knowing Violation? | _____ | 1 | _____ | _____ |
| 4. Unresponsive in Correcting Violation? | 0 | _____ | _____ | _____ |
| 5. Improper Operation or Maintenance? | _____ | _____ | _____ | 3 |
| 6. Failure to obtain necessary permits. | 0 | _____ | _____ | _____ |
| 7. Economic Benefit from Noncompliance? | 0 | _____ | _____ | _____ |

Total Rating Points: 9

TABLE 4B
S1 - Effluent Violations (33 violations Feb 2017 - Mar 2017)
 Gravity Criteria (see attached definitions)

| | NO (0) | POSSIBLY (1) | PROBABLY (2) | DEFINITELY (3) |
|--|-----------|-----------------|-----------------|-------------------|
| 1. Public Health Risk? | _____ | 1 | _____ | _____ |
| 2. Environmental Damage? | _____ | 1 | _____ | _____ |
| 3. Willful or Knowing Violation? | _____ | 1 | _____ | _____ |
| 4. Unresponsive in Correcting Violation? | 0 | _____ | _____ | _____ |
| 5. Improper Operation or Maintenance? | _____ | _____ | _____ | 3 |
| 6. Failure to obtain necessary permits. | 0 | _____ | _____ | _____ |
| 7. Economic Benefit from Noncompliance? | 0 | _____ | _____ | _____ |
| Total Rating Points: | 6 | | | |

TABLE 4C
S2 – Missed monitoring of influent (6 occasions on 2/9/2017 and 2/10/17);
Non-representative sampling (1 day: 2/9/17);
Improper temperature control (12 days: 2/10/17-2/21/17)
 Gravity Criteria (see attached definitions)

| | NO (0) | POSSIBLY (1) | PROBABLY (2) | DEFINITELY (3) |
|--|-----------|-----------------|-----------------|-------------------|
| 1. Public Health Risk? | 0 | _____ | _____ | _____ |
| 2. Environmental Damage? | 0 | _____ | _____ | _____ |
| 3. Willful or Knowing Violation? | _____ | 1 | _____ | _____ |
| 4. Unresponsive in Correcting Violation? | 0 | _____ | _____ | _____ |
| 5. Improper Operation or Maintenance? | _____ | _____ | 2 | _____ |
| 6. Failure to obtain necessary permits. | 0 | _____ | _____ | _____ |
| 7. Economic Benefit from Noncompliance? | 0 | _____ | _____ | _____ |
| Total Rating Points: | 3 | | | |

TABLE 4D
S5 (1st paragraph) & S5.D – Emergency Discharge due to Improper Operations and
Maintenance, lack of redundancy, alarm criticality, training, and improper maintenance
2/9/17, 2/15/17, 2/16/17 (3 days)
 Gravity Criteria (see attached definitions)

| | NO (0) | POSSIBLY (1) | PROBABLY (2) | DEFINITELY (3) |
|--|-----------|-----------------|-----------------|-------------------|
| 1. Public Health Risk? | _____ | _____ | _____ | 3 |
| 2. Environmental Damage? | _____ | _____ | 2 | _____ |
| 3. Willful or Knowing Violation? | _____ | _____ | 2 | _____ |
| 4. Unresponsive in Correcting Violation? | 0 | _____ | _____ | _____ |
| 5. Improper Operation or Maintenance? | _____ | _____ | _____ | 3 |
| 6. Failure to obtain necessary permits. | 0 | _____ | _____ | _____ |
| 7. Economic Benefit from Noncompliance? | _____ | _____ | 2 | _____ |
| Total Rating Points: | 12 | | | |

TABLE 4E
S5 & S5.D–Improper O & M leading to lack of
Secondary treatment 2/9/17 - 4/27/17 (77 days)
 Gravity Criteria (see attached definitions)

| | NO (0) | POSSIBLY (1) | PROBABLY (2) | DEFINITELY (3) |
|--|-----------|-----------------|-----------------|-------------------|
| 1. Public Health Risk? | _____ | 1 | _____ | _____ |
| 2. Environmental Damage? | _____ | 1 | _____ | _____ |
| 3. Willful or Knowing Violation? | _____ | _____ | _____ | 3 |
| 4. Unresponsive in Correcting Violation? | 0 | _____ | _____ | _____ |
| 5. Improper Operation or Maintenance? | _____ | _____ | _____ | 3 |
| 6. Failure to obtain necessary permits. | 0 | _____ | _____ | _____ |
| 7. Economic Benefit from Noncompliance? | 0 | _____ | _____ | _____ |
| Total Rating Points: | 8 | | | |

TABLE 4F
G9 – Discharging solids April 4, 2017 - April 22, 2017
and April 26 - May 9, 2017 (31 days)
 Gravity Criteria (see attached definitions)

| | NO (0) | POSSIBLY (1) | PROBABLY (2) | DEFINITELY (3) |
|--|-----------|-----------------|-----------------|-------------------|
| 1. Public Health Risk? | _____ | 1 | _____ | _____ |
| 2. Environmental Damage? | _____ | 1 | _____ | _____ |
| 3. Willful or Knowing Violation? | _____ | _____ | _____ | 3 |
| 4. Unresponsive in Correcting Violation? | 0 | _____ | _____ | _____ |
| 5. Improper Operation or Maintenance? | _____ | _____ | _____ | 3 |
| 6. Failure to obtain necessary permits. | 0 | _____ | _____ | _____ |
| 7. Economic Benefit from Noncompliance? | 0 | _____ | _____ | _____ |
| Total Rating Points: | 8 | | | |

TABLE 5
 Gravity Component Penalty

| | | | | | | |
|---------|--------|--------|--------|--------|---------|--------|
| Rating | 1-2 | 3-4 | 5-8 | 9-11 | 12-14 | 15 |
| Penalty | \$500 | \$1000 | \$2000 | \$3000 | \$4000 | \$5000 |
| Rating | 16 | 17 | 18 | 19 | 20 | |
| Penalty | \$6000 | \$7000 | \$8000 | \$9000 | \$10000 | |

For each violation multiply the penalty amount by the duration of violation, e.g., number of days, weeks, months, etc.

4A: S1 and 90.48.080: matrix total rating of 9 at \$3,000 x 3 dates = \$9,000; or previous penalty docket no. 7334 issued in January 2010 of \$24,000, \$4,000 for S1 and 90.48.080 with multiplier of 3 = \$12,000 x 3 dates = \$36,000; max \$10,000/day/violation = **\$30,000**.

| Previous penalty \$/violation (S1 and 90.48.080)/day | Multiplier of 3 for historic penalty | X 3 dates (2/9/17, 2/15/17, 2/16/17) | Max of \$10,000/day/violation |
|--|--------------------------------------|--------------------------------------|-------------------------------|
| \$4,000 | \$12,000 | \$36,000 | \$30,000 |

4B: S1: matrix total rating of 6 at \$2,000 x 33 violations = **\$66,000**

4C: S2: matrix total rating of 3 at \$1,000 x 19 occasions = **\$19,000**

4D: S5 1st para and S5D: matrix total rating of 12 at \$4,000 x 3 days = \$12,000 or previous penalty docket no. 7334 issued in January 2010 \$24,000, \$4,000 for S5 with multiplier of 3 = \$12,000 x 3 dates = \$36,000; max of \$10,000/day/violation = **\$30,000**.

| Previous penalty \$/violation (S5)/day | Multiplier of 3 for historic penalty | X 3 dates (2/9/17, 2/15/17, 2/16/17) | Max of \$10,000/day/violation |
|--|--------------------------------------|--------------------------------------|-------------------------------|
| \$4,000 | \$12,000 | \$36,000 | \$30,000 |

4E: S5 1st para: matrix total rating of 8 at \$2,000 x 77 days = **\$154,000**

4F: G9: matrix total rating of 8 at \$2,000 x 31 days = **\$62,000**

TOTAL = \$361,000

If the facility has a history of documented violations and previous penalties, **apply a multiple of 3 to the previous penalty** (remember the maximum penalty for a violation is \$10,000.00 per day regardless of any previous violations). Notice of Penalty #7334 was issued in January 2010 for \$24,000. The penalty was issued for an 8.7 million gallon untreated discharge to the emergency outfall, an unpermitted location that occurred in 2009. A multiplier of 3 to the previous penalty is being used instead of the matrix rating calculation for 4A and 4D due to the history of documented penalty.

TABLE 6
 Economic Benefit Penalty

If the answer to question #7 in Table 4 is "Definitely," include the estimated dollar amount of economic benefit determined by the EPA BEN computer model or other appropriate method. Attach calculations.

X. Total Recommended Penalty Amount: \$361,000 (see above calculation)

Based On: Matrix [X]
 Economic Benefit []
 Both []

XI. Additional Comments:

After the catastrophic failure, the County and their contractors worked diligently to restore the WPTP. The County staff conducted their own investigations and were cooperative with Ecology's investigation.

ENDORSEMENTS

The following actions are recommended to resolve this matter.

Comments: _____



Laura Fricke, P.E.
Water Quality Municipal Unit Supervisor
Northwest Regional Office

9/6/2017

Date

Comments: I concur with the recommended enforcement action
of a penalty and administrative order in order to prevent
an incident of this type in the future.



Mark Henley, P.E.
Water Quality Section Manager
Northwest Regional Office

9/6/2017

Date

Comments: _____

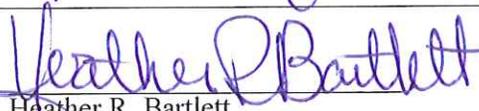


Thomas Buroker
Regional Director
Northwest Regional Office

9/7/17

Date

Comments: I concur with enforcement actions of a penalty
and the amount recommended along with an
order to prevent in future.

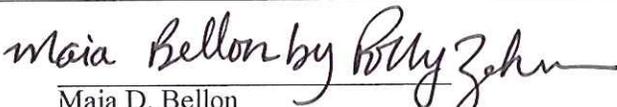


Heather R. Bartlett
Water Quality Program Manager

9/11/17

Date

Comments: I concur penalty and order are
appropriate.



Maia D. Bellon
Director
Washington State Department of Ecology

9/11/17

Date

Gravity Criteria Definitions

1. Did the violation result in a public health risk?
 - Answer “no” if there is no evidence to support a claim of public health risk.
 - Answer “possibly” if a public health risk can be inferred from evidence and knowledge of the effects of the violation.
 - Answer “probably” if evidence supports a claim of public health risk and there is a plausible connection between this violation and the health or effect.
 - Answer “definitely” if there is direct evidence linking public health risk or adverse effects with the violation.
2. Did the violation result in environmental damage?
 - Answer “no” if there is no evidence to support a claim of environmental damage or impairment of beneficial uses.
 - Answer “possibly” if environmental damage or impairment of beneficial uses can be inferred from evidence or knowledge of the effects of the violation.
 - Answer “probably” if there is evidence to support a claim of environmental damage or impairment of beneficial uses and there is a plausible connection between the violation and the damage/impairment.
 - Answer “definitely” if there is direct evidence linking demonstrable environmental damage or impairment of the beneficial uses with the violation.
3. Was it a willful or knowing violation?
 - Answer “no” if the violator obviously did not know that the action or inaction constituted a violation.
 - Answer “possibly” if it is likely the violator knew.
 - Answer “probably” if the violator should have known.
 - Answer “definitely” if the violator clearly knew. If the answer is “definitely,” consider consulting with the environmental crimes unit.
4. Was the responsible person unresponsive in correcting the violation?
 - Answer “no” if the violation was corrected as soon as the responsible person learned of it.
 - Answer “possibly” if the violation was corrected in a less timely and cooperative fashion.
 - Answer “probably” if the responsible person attempted to correct the problem but did not correct it.
 - Answer “definitely” if the responsible person made no attempt to correct the violation.
5. Was the violation a result of improper operation or inadequate maintenance? (i.e., BMPs, pollution prevention plans, operation and maintenance (O&M) plans)
 - Answer “no” if the violation was not the result of improper operation or inadequate maintenance.
 - Answer “possibly” if the facility has an O&M plan, PPP, SWPPP, or BMP manual that is out of date or inadequate.
 - Answer “probably” if there is no O&M plan, PPP, SWPPP, or BMPs developed for the facility.
 - Answer “definitely” if the facility has no plans or is not following its plan AND the violation was clearly the result of improper operation or maintenance.
6. Did the facility fail to obtain all of the necessary permits, certifications, and approvals to operate at the time of the violation?
 - Answer “no” if the paperwork was complete and appropriate for the job or task that caused the violation.
 - Answer “definitely” if the facility did not have all the required permits and approvals for the job or task that caused the violation.
7. Did anyone benefit economically from non-compliance?
 - Answer “no” if it is clear that no one obtained an economic benefit.
 - Answer “possibly” if someone might have benefited.
 - Answer “probably” if anyone benefited, but the benefit is not quantifiable.
 - Answer “definitely” if the economic benefit is quantifiable.

