

December 6, 2019

Water Quality Permit Coordinator  
Department of Ecology  
Northwest Regional Office  
3190 160th Avenue SE  
Bellevue, WA 98008-5452  
Email: [tricia.miller@ecy.wa.gov](mailto:tricia.miller@ecy.wa.gov)

RE: Draft Wastewater Discharge Permit ST0007374  
Puget Sound Naval Shipyard and Intermediate Maintenance Facility

Dear Ms. Miller,

The City of Bremerton appreciates the opportunity to comment on the subject draft wastewater discharge permit for the Puget Sound Naval Shipyard and Intermediate Maintenance Facility (PSNS & IMF). As the recipient of PSNS & IMF wastewater discharge, we have a vested interest in ensuring that PSNS & IMF wastewater does not interfere with our ability to reliably and effectively treat wastewater and meet our National Pollutant Discharge Elimination System (NPDES) permit requirements. We take great pride in our nearly annual receipt of the Department of Ecology's (Ecology's) Outstanding Wastewater Treatment Plant Award, which serves as evidence of the value we place in protecting the health of Puget Sound.

As you are aware, the wastewater discharges by PSNS & IMF to our collection and treatment systems contain elevated levels of salinity. We believe that the saline wastewater discharge from PSNS & IMF has adversely impacted our wastewater collection and treatment infrastructure, treatment process efficiency and/or capabilities, and long-term viability of biosolids land application. We have brought this issue to Ecology's attention and have been engaged in ongoing dialogue with PSNS & IMF and Ecology on this matter of concern.

We are pleased to see that the draft permit includes several provisions that begin to address our concerns. For reference, these provisions are summarized below:

- Special Condition S13 requires PSNS & IMF to submit a Salinity Study Report to Ecology. In the draft fact sheet, Ecology indicates that the study is to be completed within 1 year of the permit's effective date. The study appears to be intended to be a comprehensive study requiring sampling, identification of high-salinity wastewater sources, and analysis of potential measures to reduce the high-salinity sources. The study

must also specifically address potential saline groundwater intrusion and pipeline corrosion issues.

- Special Condition S5.A requires that PSNS & IMF minimize the use of salt water to the maximum extent possible for sources that discharge to Bremerton. Required corrective actions are limited to readily available nonstructural management modifications such as using potable water where connections exist. The deadline for meeting this requirement is not specified. The draft fact sheet indicates that Ecology will make a determination on how, to what extent, and presumably the schedule by which PSNS & IMF must be required to control saline water discharges based on the PSNS & IMF Salinity Study Report.
- Special Condition S.11.B.5 requires the Slug Discharge Control Plan to include measures for controlling sources of salt water to the Bremerton sewer system.
- Table 1 of the draft permit requires conductivity monitoring at lift stations discharging to our collection system. In particular, the draft permit increases the frequency of monitoring at Sample Point 105 (Lift Station No. 1, West End) from monthly to weekly.

The City of Bremerton offers the following comments on the draft permit and fact sheet, with particular focus on considerations related to saline wastewater discharge:

#### Comment 1

Reference: Draft Permit, Table 1, “Effluent Limits and Monitoring Requirements” (pages 9–12)

Comment: For Sampling Points 105 and 106, lift stations discharging to Bremerton’s collection system, composite samples may be time- or flow-proportional according to the table notes. We understand that PSNS & IMF lift station pumps at these sample points operate intermittently in an on-off pumping regime. Therefore, time-proportional composite samples may not be representative of the composite discharge. We request that flow-proportional composite samples be required at these sampling points.

#### Comment 2

Reference: Draft Permit, Table 1, “Effluent Limits and Monitoring Requirements” (pages 9–12)

Comment: We request that Sampling Points 105 and 106 include a requirement for continuous metered conductivity sampling with reporting of daily instantaneous maximum conductivity. This information will supplement composite sampling requirements and provide insight on the variability of the PSNS & IMF discharge. We understand that PSNS & IMF lift stations at Sampling Points 105 and 106 are currently equipped with in-line conductivity meters; therefore, existing infrastructure should readily accommodate this monitoring and reporting requirement. We ask that Ecology include a note or special condition that requires PSNS & IMF to provide continuous conductivity monitoring data described above in a timely manner upon request from the City of Bremerton.

### Comment 3

References: Draft Permit, Table 1, “Effluent Limits and Monitoring Requirements” (pages 9–12) and Draft Fact Sheet, Table 31 (page 78)

Comment: The draft permit does not specify a conductivity limit for Sampling Points 105 and 106, PSNS & IMF lift stations discharging to Bremerton’s collection system. However, Table 31 in the draft fact sheet appears to be inconsistent with the draft permit and indicates a monthly average conductivity limit of 6 millisiemens per centimeter (mS/cm), which corresponds to the limit recently adopted in City of Bremerton ordinances. This apparent inconsistency may need to be clarified, absent other revisions to the draft permit and fact sheet.

### Comment 4

References: Draft Fact Sheet, Ecology’s Determination on Salinity Issues (page 75)

Comment: Ecology indicates that it will make a determination on saline wastewater discharge control measures, which presumably may include future numerical discharge limits, following submittal of the PSNS & IMF Salinity Study Report. We believe that Bremerton has provided Ecology with substantive evidence of adverse impacts arising from saline wastewater discharges from PSNS & IMF. Ecology’s determination on salinity issues at our WWTP acknowledges this to be the case. We are therefore compelled to request that Ecology establish local numerical limits on salinity and/or conductivity as part of the PSNS & IMF discharge permit.

### Comment 5

Reference: Draft Permit, Section S3.K, “Notice of Temporary Changes in Discharges” (page 19)

Comment: The current and draft permit requires the permittee to notify Ecology and the City of Bremerton of temporary changes in discharge quantity or quality at least 3 days prior to the proposed discharge, using a form provided by the City of Bremerton. We have rarely received such notifications from PSNS & IMF despite the variable nature of PSNS & IMF operations and corresponding wastewater production and quality. Although the permit cannot necessarily do more to require PSNS & IMF to notify us of changes in discharges, we would like to be on record that more diligent and open communication from PSNS & IMF would assist our wastewater treatment efforts and is required by permit.

### Comment 6

Reference: Draft Permit, Section S5, “Salinity Study Report” (page 27)

Comment: We request that Ecology require PSNS & IMF to provide documentation of water conservation measures and changes in management practices resulting in decreased potable water demand as described in the draft fact sheet (page 70). This documentation should address chronology and changes in infrastructure and/or management practices along with estimated reduction in potable water demand associated with each change. The requested documentation could be included as part of the Salinity Study Report or a separate standalone report.

## Comment 7

Reference: Draft Permit, Section G3, "Permit Actions" (page 31)

Comment: We request that language regarding permit modifications be amended to include specific reference to the required Salinity Study Report. We propose the following modification in italics:

"Ecology may also modify this permit, including the schedule of compliance or other conditions, if it determines good and valid cause exists, including promulgation or revisions of regulations or new information. *In particular, such information includes but is not limited to the Salinity Study Report required under Section S13 and additional information that may be presented by the City of Bremerton pertaining to salinity issues at the Bremerton WWTP.*"

## Comment 8

Reference: Draft Fact Sheet, "Salinity Issues at the Bremerton WWTP" (page 69)

Comment: Item Number 2 asserts that there is no empirical data to support our concern that high conductivity influent wastewater may adversely impact nitrogen removal capability. It is not clear if Ecology is referring to empirical data from the Bremerton West WWTP itself or the broader literature. Bremerton West WWTP is not designed or operated for nitrification or nitrogen removal; thus plant-specific data are not available. However, inhibition of biological treatment from saline wastewater conditions is widely shown in the scientific literature. Nitrification, the critical first step to biological nitrogen removal, is particularly sensitive to saline wastewaters when the biology is not acclimated to such conditions. For non-acclimated biology, the degree of inhibition from exposure to saline wastewater tends to increase linearly with salt concentration. For low to moderate levels of salinity that may result from a blend of saline wastewater and typical domestic wastewater, biological nitrogen removal activities are reduced to a certain degree but not necessarily lost completely. Absent control of saline wastewater discharges into the collection system, designs for biological nitrogen removal may need to account for reduced biological activity. Consequently, larger tanks and a higher cost for biological nitrogen removal upgrades would be required. Recognizing the potential for saline wastewater discharges to our WWTP and corresponding adverse impacts to biological nitrogen removal capacity and/or cost of biological nitrogen removal upgrades, we request that Ecology remove or otherwise clarify the following statement, "However, there is no empirical data at the present to support this concern."

## Comment 9

Reference: Draft Fact Sheet, "Activated Sludge Inhibition" (page 92)

Comment: The draft fact sheet states, "Ecology used literature activated sludge inhibition threshold values to calculate local limits as there is no history of secondary inhibition at Bremerton WWTP from toxic pollutants. The inhibition levels were obtained from Appendix G of EPA Local Limits Development Guidance Appendices, July 2004, and are based on lowest values reported."

We believe that Bremerton West Wastewater Treatment Plant (WWTP) effluent 5-day biochemical oxygen demand (BOD5) discharge violations that occurred in the first quarter of 2015 were caused by secondary inhibition. In particular, we believe salinity and/or other compounds discharged from PSNS & IMF to be the cause of secondary inhibition, resulting in the violations. Salinity or related constituents such as chloride are not included in Appendix G of the U.S. Environmental Protection Agency (EPA) guidance document but may be inhibitory to biological wastewater treatment processes.

To avoid potential misinterpretation of this section of the fact sheet, we propose the following modifications:

~~“Ecology used literature activated sludge inhibition threshold values to calculate local limits as there is no history of secondary inhibition at Bremerton WWTP from toxic pollutants. The inhibition levels were obtained from Appendix G of EPA Local Limits Development Guidance Appendices, July 2004, and are based on lowest values reported and limited to constituents listed in the EPA guidance document.”~~

#### Comment 10

Reference: Not applicable / general comment

Comment: Lack of communication from PSNS & IMF regarding ongoing operations, modifications, and plans for potential future operations makes it challenging for the City of Bremerton to plan its own wastewater treatment operations and anticipate impacts that may arise from changes in PSNS & IMF operations. In particular, PSNS & IMF has not informed the City of Bremerton of studies related to PSNS & IMF water use and/or wastewater characteristics. We request that Ecology add a special condition requiring PSNS & IMF to share documents of this nature with the City of Bremerton in a timely manner. The documents of interest, or portions thereof, may address subjects including but not limited to water/wastewater use, generation, water quality, facility planning, and other topics that are relevant to the City of Bremerton's ability to manage and plan for treatment of PSNS & IMF wastewater discharges.

#### Comment 11

Reference: Draft Fact Sheet, Water Quality Criteria (page 91)

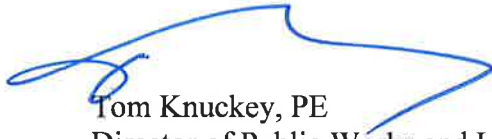
Comment: The fact sheet states, “Since issuance of the 2011 permit, the state has not changed the marine water quality criteria for all the parameters listed below.” Although this may be the case for Aquatic Life Marine Water Quality Criteria, significant changes in Human Health Water Quality Criteria have occurred since issuance of the 2011 permit. Washington's recently-adopted Human Health Water Quality Criteria are very low receiving water concentrations that may result in new effluent limits for Bremerton's WWTP and have not been considered in Local Limits calculations. The Human Health Water Quality Criteria include nearly 100 constituents, including compounds that are challenging to remove and/or recalcitrant to removal in conventional wastewater treatment processes.

PSNS & IMF appear to be a source of many toxic metals and organics. At some level, these may impact the quality of the City's WWTP effluent and ability to comply with potential effluent

limits based on new Human Health Water Quality Criteria. The City's NPDES permit was renewed in 2018 and expires in 2023. There may be the need to synchronize the City's NPDES permit and PSNS & IMF's permit to ensure that Local Limits for PSNS & IMF appropriately control all toxics discharged to the City's system that could adversely impact treatment, effluent quality, and biosolids quality.

We appreciate your consideration of our comments and look forward to communicating with Ecology during the PSNS & IMF permit renewal process.

Sincerely,



Tom Knuckey, PE  
Director of Public Works and Utilities

1912-01