



KITSAP COUNTY DEPARTMENT OF PUBLIC WORKS

614 DIVISION STREET (MS-26), PORT ORCHARD, WA 98366-4699 | KITSAP1: 360.337.5777 | KITSAPGOV.COM

KITSAP COUNTY RESPONSE TO DEPARTMENT OF ECOLOGY'S PUGET SOUND NUTRIENT GENERAL PERMIT (PSNGP) DRAFT, August 16, 2021

General Comment:

1. Reclamation and Reuse alternatives of publicly owned treatment works (POTW) effluent to reduce nutrient loadings is not thoroughly developed in the proposed Best Management Practices and Optimization requirements.

Kitsap County believes that Reuse provides multiple benefits and is in-line with our "Water as a Resource" policy. Ecology needs to evaluate the proposed general permit optimization requirements and determine how to incorporate a permittees Reuse planning effort that may influence nutrient reduction improvement targets. POTW's that are evaluating or in progress of producing reclaimed water should have an alternative path recognized by Ecology to pursue implementation of Water Reuse systems. Requirements to achieve final effluent concentrations of 3 mg/L TIN as described in the Nutrient Reduction Evaluation should be reconsidered if the County implements a Reuse alternative. As Ecology works to determine future WQBEL/TBELs, consideration must be given to a POTW that has reduced TIN effluent discharge loads to the Puget Sound.

Specific Comments:

2. **Section 1.B. Coverage under this General Permit does not include discharges from WWTPs not listed in Table 3.**

Kitsap County Comment: The Suquamish Wastewater Treatment Plant's NPDES is administered by the EPA. WA State DOE has issued a 401 Water Quality Certification Letter certifying EPA's draft NPDES permit with conditions.

- The Suquamish Wastewater Treatment Plant permit monitoring and reporting requirements (timing and frequency) as described in the 401 Certification are not the same as required in the PSNGP.
- The Suquamish Wastewater Treatment Plant 401 Certification requires the plant limit TIN discharges to less 14,691 lbs. per year. Because Ecology issued this requirement before going through a regulatory process of developing Best Management Practices for nutrient discharges the County now must comply with a discharge limit based on questionable historical sampling data.
- Due to the early issuance of nutrient reduction requirements in Ecology's 401 Certification, a small discharger (Suquamish Wastewater Treatment Plant) must meet a numerical annual TIN load cap more stringent than the narrative effluent limits put forth in the PSNGP.

3. **Section 4 Table 5 of the PSNGP and S4 Requirement for WWTPS with Dominant TIN Loads**

From Table 5:





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Kitsap County Central Kitsap WWTP WA0030520, 250,000 Action Level TIN lbs/year

From page 41 of the PSNGP Fact Sheet:

Ecology strived to accurately represent existing discharges with the action level calculation. Where possible Ecology used at least 3 years of data (36 data points) in the ALO calculation. More data was used if it was available and representative. TIN loads were calculated using day of flow measurements paired with single sample ammonia and nitrate/nitrite concentrations. Where ammonia and nitrate/nitrite were not measured on the same day, the missing concentration was extrapolated from the most representative measurement.

Kitsap County Comment: Kitsap County believes that Ecology is making several assumptions as stated in the Fact Sheet to determine the baseline Action Limit of 250,000 lbs/year as stated in Table 5 of the PSNGP. This baseline is critical to the success of future optimization performance metrics. The County has confidence in the accuracy of the reported sample results, but not that the data is representative of historical TIN discharge loads at the outfall. For example; past scheduling of ammonia and nitrate-nitrogen was influenced by staff workflow and scheduling of couriers between the County plants. This oversight provides a sampling profile that does not consider the impacts of weekend loadings at the POTW.

Dominant WWTPs and Total Inorganic Action Levels entry of 250,000 lbs/year for the Kitsap County Central Kitsap WWTP should be revised to 302,000 lbs/year to more accurately represent the current annual loading for two reasons. First, Ecology's approach to filling data gaps in nitrate monitoring data where ammonia data was available but nitrate was missing, artificially skews the annual loading rates to lower levels. This is because the approach that Ecology used to select nitrate values to fill data gaps does not associate an appropriate nitrate concentration with the ammonia concentration from monitoring. Second, the historical Central Kitsap monitoring data set is biased because many more summer time data points are included. This skews the annual loading calculations to lower levels simply because there are more data points during warmer weather when improved kinetics result in lower effluent concentrations. This bias artificially reduces the annual loading rate calculation to misrepresent current nitrogen at levels lower than are actually discharged. When data for both nitrate and ammonia are available on a consistent basis throughout the year, monitoring will show that the current Central Kitsap annual loading is higher than the 250,000 lbs/year value in Table 5. Revised effluent loading calculations have been conducted using improved methods to fill nitrate data gaps with more appropriate selections to match the ammonia concentration from monitoring, and balance the number of data points throughout the year to avoid bias. These values have been used in Ecology's bootstrap calculator and result in Central Kitsap annual loadings of between 276,000 and 302,000 lbs/year. The County is available to meet with Ecology staff to review the calculations and make revisions to a more representative annual value for entry into Table 5 of the permit.





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All POTW's covered under the PSNGP will benefit from a defined sampling and monitoring plan as described in section 6 of the PSNGP. However, a verified baseline Action Limit at the conclusion of permit year 2 should be the basis for Optimization actions.

4. **Section 4.C.1.c Nitrogen Optimization Plan and Report: Initial Selection.** *By May 1, 2022, select at least one optimization strategy for implementation. Document the expected % TIN removal for the initial optimization strategy prior to implementation. Identify a performance metric to evaluate results. TIN % removal, or a calculated reduction in effluent load or concentration may be used as a performance metric.*

Kitsap County Comment: Kitsap County believes Ecology's guidance and schedule to perform optimization actions is flawed. As stated in the previous comment, determining an accurate representative baseline data of influent and effluent TIN loads is vital to perform optimization of nutrient treatment processes. Selecting an optimization strategy by May 1st 2022 and reporting results by March 31, 2023 prior to having the baseline would lead to inaccurate evaluations of TIN reductions.

5. **Section 4.D Action Level Exceedance Corrective Action:**

If the Permittee determines in the Annual Report that they have exceeded their action level, they must:

- a. *Determine when the exceedance occurred and number of days the Permittee discharged above the action level.*
- b. *Select an additional optimization strategy from the list developed in S4.C.1.b to be implemented during the next reporting period. Revise the anticipated TIN removal performance metric prior to implementation of the new strategy and document the revision.*
- c. *With the next Annual Report, submit for review a proposed approach to reduce the most recent calculated annual effluent nitrogen load by at least 10%. This must be an abbreviated engineering report or technical memo, unless Ecology has previously approved a design document with the proposed solution. The proposed approach must utilize solutions that can be implemented within five years. This may include influent load reduction strategies identified in S4.C.3.*

Kitsap County Comment: This section lists corrective actions that are vague and maybe out of the County's control to meet.

- In regard to 1.a, determining the number of days in exceedance is concerning and not consistent with a narrative effluent limit approach. As stated, Ecology seems to be treating this requirement as days in violation of the permit.
- Item 1.b assumes an additional optimization strategy is warranted when an existing implemented strategy may only require time to be effective.
- Item 1.c requires an abbreviated technical memo be submitted with the next annual report. The timeline for submitting a report is not well defined and may be impossible to develop depending on the date of exceedance.





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- The abbreviated engineering report requires certification by a licensed professional engineer. The County believes that the impact of this PSNGP and compacted timeline will create a demand for external expertise that will prolong contracting for services and developing the required reports. In addition, the County is concerned that Ecology will not have the internal resources and expertise to administer all the reporting requirements listed in the PSNGP.

6. Section 4.E.4 Nutrient Reduction Evaluation:

The analysis must be sufficiently complete that an engineering report may be developed for the preferred AKART alternative as well as the preferred alternatives to reach 3 mg/L TIN annually and seasonally, without substantial alterations of concept or basic considerations.

Kitsap County Comment: Kitsap County is already in process of evaluating main stream and side stream processes for opportunities to improve TIN reduction. However, the requirement to achieve 3 mg/L TIN is concerning. The Central Kitsap Treatment Plant has already constructed improvements during it's Resource Recovery Project for biological nutrient removal. Ecology is now proposing a targeted treatment based effluent limit (TBEL) that cannot be achieved with the investment the County has already made. The County supports TIN reduction to the Puget Sound, but Ecology has not put forth the science to date that requires a TIN discharge this low. In addition, Ecology's requirement "to reach 3 mg/L TIN annual and seasonally" is contradictory. If the intent is to meet a TBEL/WQBEL of 3 mg/L annually then the seasonal requirement does not make sense. If the intent is to design for both a seasonal and an annual limit, then the complexity of the engineering report (and cost) is not practical. Designing for both annual and seasonal may require different technologies, basin volumes, and equipment capacities that could be considered "substantial alterations of concept or basic considerations".

7. Section 6.A Monitoring Schedules and Sampling Requirements:

If a Permittee conducts additional total ammonia and/or nitrate plus nitrite sampling during the month, they must be report all results on the monthly DMR.

Kitsap County Comments: Ecology must provide the fields required to report additional data in the Washington State Web DMR Portal for the County to comply with this reporting requirement. It is understood that additional data can be submitted as an attachment, but in the past, attachment have been either overlooked by Ecology or the attachment has been lost. The County recommends submitting additional data in quarterly submittals where the fields for this data already exists.

