Appendix A: King County's Detailed Comments on the Draft Puget Sound Nutrient General Permit

Pg.	Permit Language	King County Comments
1	Expiration Date: December 31, 2027	Extend the draft PSNGP timeline for five years to December 31, 2030 to provide additional regulatory certainty.
7	S2.A.1 – Upon submittal of a complete application for permit coverage (also called a Notice of Intent or NOI), Ecology will issue a decision on permit coverage pursuant to Special Condition S2.C. S2.C – Permit coverage begins on the day Ecology issues the coverage letter to the applicant.	Table 3 of the draft PSNGP lists the specific facilities that are eligible for coverage under the PSNGP. Because the only facilities eligible for coverage are all well-known to Ecology, King County requests that Ecology revise the draft PSNGP to make coverage effective upon submission of a Notice of Intent (rather than waiting for coverage to begin when Ecology issues a coverage letter).
8	S3 – Ecology presumes compliance with water quality standards when a Permittee complies with all the terms and conditions of this General Permit, unless discharge monitoring data or other site-specific information demonstrates that a discharge causes or contributes to an exceedance of water quality standards.	The U.S. Supreme Court's recent decision in *City and County of San Francisco v. EPA* prohibits "end-result" permit conditions that generically require compliance with water quality standards without identifying the numeric discharge limits or specific management practices needed to comply. The proposed condition is ambiguous and should be removed from the permit. If it is intended to prohibit causing or contributing to a violation of water quality standards under the circumstances described, it is inconsistent with *San Francisco*. If it is merely intended as a statement that Ecology may modify the PSNGP or require the Permittee to obtain coverage under a different permit under the described circumstances, then it more appropriately belongs in the Fact Sheet and should be moved there for clarity.
8	S4.A – Each Permittee listed in Table 5 must comply with the facility specific or bubbled action levels and narrative effluent limits listed in Table 4, which constitute the suite of best management practices (BMPs) required for a water quality-based effluent limit under 40 CFR 122.44(k).	Special Conditions S4.A (and S5.A) state that a Permittee "must comply with the facility specific or bubbled action levels." If an action level is exceeded, Special Conditions S4.B, S4.D, S5.B, and S5.D require the Permittee to undertake specified "corrective actions." King County understands that Ecology does not intend that an exceedance of an action level would itself constitute a permit violation. As the term suggests, an "action level" only identifies a trigger for undertaking certain actions; it is not alone a technology-based or water quality-based discharge limit. A permit violation would occur only if the Permittee failed to undertake the actions required by Special Condition S4.D or S5.D in response to an action level exceedance. King County is concerned, however, that the draft PSNGP may be ambiguous regarding the effect of an action level exceedance. To eliminate any potential ambiguity, King County requests that the PSNGP expressly state that an exceedance of an action level is not a permit violation;

		only the failure to undertake an action required by the PSNGP in response to an action level exceedance would be a permit violation.
8	S4.B – The annual Action Level is the sum of monthly nutrient loads measured over one year. Ecology will assess this total once per year based on the Permittee's Annual Report.	Change "sum of monthly nutrient loads" to "sum of monthly TIN loads over one calendar year" to be consistent with this permit that deals only with TIN and not all nutrients, and to specify that the Action Level applies to a calendar 12 months. The same comment applies to S5.B.
9	S4.B – Table 5	The Action Levels do not represent the 99-percentile values described in the Fact Sheet. Empirically, Brightwater, South Plant, and West Point have exceeded the Action Level for at least one year within the timeframe used to calculate the treatment plant's individual Action Level (South Plant twice). Since the first issuance of the PSNGP in 2021, King County's West Point and Brightwater have exceeded the individual Action Levels listed in Table 5 each year (2022, 2023, and 2024). King County requests that Ecology review and recalculate King County's Action Levels to align with the stated goal of 99-percentile values.
9	S4.B – Tables 5 and 6	Superscripts used in the Wastewater Treatment Plant (Table 5) and Jurisdiction (Table 6) columns of these tables are not defined anywhere. We assume they are meant to designate treatment plants that could fall under a bubbled permit, but this is not explicitly stated. Please specify in the permit what these superscripts represent.
10	S4.C.1 – Treatment Process Performance Assessment	If a permittee opts in to the permit, can they resubmit the same treatment process performance assessment that was submitted via the 2022 Nitrogen Optimization Plan and the 2023 Annual Report? The same comment applies to S5.C.1.
10	S4.C.1.a.i – Determine current (pre-optimization) process performance to determine the existing TIN removal performance for the WWTP.	Please clarify that *current (pre-optimization) process performance* means before 2022 and before optimization efforts were made in response to the previous PSNGP. The same comment applies to S5.C.1.a.i.
10	S4.C.1.a.i – Determine current (pre-optimization) process performance to determine the existing TIN removal performance for the WWTP.	Ecology should define the TIN Removal Performance as: % TIN Removal = [((Influent TN lbs. – Effluent TIN lbs.)/(Influent TN lbs.)) * 100] since this calculation accounts for the conversion of organic nitrogen to ammonia during the wastewater treatment process.
10	S4.C.1.a.ii – Create a list of potential optimization strategies capable of meeting the action level at the WWTP prior to starting optimization. Update the assessment and list of options as necessary with each Annual Report. S4.C.1.b – Identify and evaluate optimization strategies. From the list developed in S4.C.1.a.ii, identify viable optimization strategies for each WWTP owned and operated by the Permittee. Prioritize and update this list as necessary to continuously	If Permittees opt in to the permit, can they resubmit the list of potential optimization strategies that was submitted via the 2022 Nitrogen Optimization Plan and the 2023 Annual Report? In other words, can the Permittees continue with or reuse their Nitrogen Optimization Plan/Annual Reports already submitted to Ecology? Suggested edit: "Permittees do not need to resubmit optimization strategies identified in previously submitted optimization plans and annual reports unless there are changes to those strategies."

	maintain a working set of strategies for meeting the action level with the existing treatment processes.	
10	S4.C.2 – All Permittees listed in Table 5 must document implementation of the selected optimization strategy (from S4.C.1.c) during the first reporting period in the first Annual Report due June 30, 2026. Permittees must document implementation during every reporting period thereafter.	Please redefine the first reporting period (note it is currently stated as the permit effective date through March 31, 2026, in S9.C.1). Given the uncertainty with when the PSNGP will be effective and challenges of reporting Action Level compliance for a non-calendar year, we recommend the first reporting period would properly cover January-December 2026 with the first Annual Report due on June 30, 2027. The same comment applies to S5.C.2.
11	S4.C.2.b – Discharge Evaluation. By June 30th each year beginning in 2026, each Permittee listed in Table 5 must review effluent data collected during the previous calendar year to determine whether TIN loads are increasing.	Many WWTPs are not currently required to monitor effluent TIN, and with the permit not effective until winter 2025 at the earliest, effluent TIN data will not be available for evaluation of the "previous calendar year" (i.e., 2025 effluent TIN evaluation). Please revise to the following if the permit becomes effective sometime in 2025: "Discharge Evaluation. By June 30th each year beginning in 2027, each Permittee listed in Table 5 must review effluent data collected during the previous calendar year to determine whether TIN loads are increasing."
11	S4.C.3 – Permittees listed in Table 5 must investigate opportunities to reduce influent TIN loads from septage handling practices, commercial, dense residential and industrial sources and submit documentation with the Annual Report.	If Permittees opt in to the permit, can they resubmit the same investigation that was submitted via the 2022 Nitrogen Optimization Plan and the 2023 Annual Report? The same comment applies to S5.C.3.
11	S.4.D – Permittees listed in Table 5 must evaluate whether or not they exceeded the facility specific action level or the bubbled action level (as applicable) and, if they did, implement corrective actions while continuing optimization. S4.D.2 – With the next Annual Report, submit for review a proposed approach to reduce the annual effluent load by at least 10% below the action level listed in Table 5 for individual plants or Table 6 for multiple plants under a bubbled action level. This must be an abbreviated engineering report or technical memo, unless Ecology has previously approved a design document with the proposed	King County is supportive of the optimization framework and the objective of making nitrogen removal operational enhancements that do not require significant capital or other process changes. However, given the announcement in the Nutrient Reduction Plan of the process and timeline for establishment of facility-specific water quality-based effluent limits and potential that the NRE planning targets might change, King County requests that Ecology redefine corrective actions to require additional optimization and long-term planning only, and not facility upgrades or modifications. This will help ensure early actions do not result in stranded assets and wasted ratepayer funds and will help support permittees focusing efforts on larger nutrient upgrade processes and timelines. Rather than expending funds and time on corrective actions, utilities should instead focus on planning and implementing larger capital upgrades for compliance with WQBELs. Since capital project planning takes multiple years to design, obtain funding and implement, and since the WQBELs will almost certainly be much more stringent than a 10% reduction from the Action Level, it is inefficient in trying to achieve an arbitrary 10% reduction when a utility will be in the process of designing and implementing more aggressive nitrogen removal. Moreover, it is unreasonable to require a facility to

	solution. The proposed approach must utilize solutions that can be implemented as soon as possible. This may include influent load reduction strategies identified in S4.C.3. S4.D.2.e.i – If a Permittee exceeds an action level two years in a row, or for a third year during the permit term, the Permittee must begin to reduce nitrogen loads by implementing the proposed approach submitted per S4.D.2 following Ecology's written approval of the proposed approach and implementation schedule.	reduce effluent nitrogen by at least 10% below the action level if it has only exceeded the action limit by a small amount (e.g., 0.1%). This is especially unreasonable if the facility is still determining what investments are needed to meet future WQBELs. Recommend deleting S4.D.2 as S4.D.1 provides the required process to reevaluate optimization strategies, implement changes, and report on the success of adaptive management.
12	S4.D.2 – With the next Annual Report, submit for review a proposed approach to reduce the annual effluent load by at least 10% below the action level listed in Table 5 for individual plants or Table 6 for multiple plants under a bubbled action level.	Many WWTPs are not currently required to monitor effluent TIN, and with the permit not effective until winter 2025 at the earliest, annual effluent TIN data will not be available for evaluation until 2026. Therefore, an Action Level Exceedance for 2026 could be noted and discussed in the June 30, 2027, Annual Report. However, with the permit expiring December 31, 2027, S4.D.2 would not apply since there wouldn't be a "next Annual Report." As noted in our comment above, we believe S4.D.1 covers the optimization planning and assessment process for addressing Action Level exceedances. A similar comment applies to S5.D.2.
12	S4.E.1 – All permittees listed in Table 5, except for those who meet the exclusions listed in this paragraph, must prepare and submit an approvable Nutrient Reduction Evaluation (NRE) to Ecology for review by June 30, 2026. Permittees with multiple WWTPs covered under this General Permit may submit a combined report.	Please define "approvable." The Nutrient Reduction Evaluation requirements in the permit do not include an analysis and/or alternatives comparison for greenhouse gas emissions or energy increases from nitrogen removal technologies. Nitrogen removal technologies have the potential to greatly increase greenhouse gas emissions and energy use from wastewater treatment facilities. Next steps in nutrient removal planning, building on the NRE, should consider future impacts to a facility's greenhouse gas emissions and energy use.
12	S4.E.2 – The NRE must include an all known, available and reasonable treatment (AKART) analysis for purposes of evaluating reasonable treatment alternatives capable of reducing total inorganic nitrogen (TIN). It must present an alternative representing the greatest TIN reduction that is reasonably feasible on an annual basis. S4.E.3 – In addition, the NRE must assess other site-specific main stream treatment plant upgrades, the	The draft Puget Sound Nutrient Reduction Plan proposes wastewater nitrogen loading targets that are based on several treatment assumptions that differ from the NRE requirements. These changes include assuming winter treatment of 8 mg/L Dissolved Inorganic Nitrogen (DIN), 8 mg/L CBOD, introducing a third, intermediary nitrogen removal season, and changing the regulated nitrogen species to Total Nitrogen (TN) versus TIN. In addition, the Nutrient Reduction Plan calculates the load reductions based on 2014 flows. The potential shift in treatment targets and upcoming WQBELs could easily result in NREs that do not answer the question of whether or not the necessary upgrades to meet the DO water quality requirements are financially reasonable or technically feasible. King County recommends that NREs be submitted based on the original PSNGP treatment planning targets currently listed in S4.E. and that Ecology issue any supplementary

	applicability of side stream treatment opportunities, alternative effluent management options (e.g., disposal to ground, reclaimed water beneficial uses), the viability of satellite treatment, and other nutrient reduction opportunities that could achieve a final effluent concentration of 3 mg/L TIN (or equivalent load reduction) on seasonal average (April – October) basis.	planning requirements after receiving and reviewing NRE results with the Nutrient Reduction Plan's proposed Technical Advisory Committee.
13	S4.E.4 – 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 seasonally, without substantial alterations of concept or basic considerations.	Before producing an engineering report in the future, Permittees will need to conduct additional planning to incorporate new information and updated planning assumptions. Ecology should acknowledge that this planning process may ultimately conclude with a different preferred alternative from that identified in the Nutrient Reduction Evaluation.
14	S4.E.5.c.i – Develop capital, operation and maintenance costs and 20-year net present value using the real discount rate in the most current Appendix C to Office of Management and Budget Circular No. A-946 for each technology alternative evaluated (Final Treatment Plant Financial Capability Assessment Guidance)[7].	This section should be revised to *a minimum of* 20-year net present value. A 20-year lifecycle is likely inadequate to capture the full impact of and the necessary timeline for the capital, operation, and maintenance investments required for process upgrades of this magnitude. Typically, large infrastructure investments have a much longer lifecycle of 50 years or more.
14	S4.E.5.c.iv – Provide impact to current rate structure for each alternative assessed.	This section should read "Provide impact to current *rate levels* for each alternative assessed," as nutrient removal alternatives would not impact a utility's rate structure.
14	S4.E.5.d.i and S4.E.5.d.ii – Environmental Justice (EJ) Review i. Evaluate the demographics within the sewer service area to identify communities of color, Tribes, indigenous communities, and low-income populations. ii. Identify areas within service area that exceed the median household income.	The demographic groups listed in this section should be revised to align with those in Ecology's FCA guidance, or Ecology should revise the guidance document to address these discrepancies: • Racial demographics are not included in the FCA spreadsheet. EPA guidance mentions impacts on people of color as supplemental information. • Indigenous communities are not included in the FCA spreadsheet. Higher-income populations are not included in the FCA spreadsheet.
14	S4.E.5.d.iii – Include an affordability assessment to identify how much overburdened communities identified in S4.E.5.d.i can afford to pay for the wastewater utility.	This section should refer to and align with Ecology's FCA guidance for the PSNGP. Though it should be noted, the FCA is not a framework that can produce an assessment of how much overburdened communities "can afford to pay." The EPA FCA which Ecology's framework is patterned after is published with the caveat that "The updated Financial Capability Assessment Guidance (FCA Guidance) is intended to: 1) standardize what EPA will generally consider when determining a community's financial capability to implement control measures

		needed to meet CWA requirements and 2) assist states and authorized tribes in assessing the degree of economic and social impact of potential water quality standards (WQS) decisions. **It is not a methodology for defining water affordability"** (emphasis added). Assessing the affordability of a wastewater bill is highly subjective. Identifying how much overburdened communities can pay will vary significantly among the communities, even within a single community, and is an outcome that cannot be expressed as a single threshold or by a single metric. The Residential Indicator is the only metric in Ecology's FCA that considers income to test sufficiency against eventual household impact. Please see King County's comments on Ecology's FCA Guidance submitted in 2024 on this issue[1].
14	S4.E.5.d.iv – Propose alternative rate structures or measures that can be taken to prevent adverse effects of rate increases on populations with economic hardship identified in S4.E.5.d.i.	This section should be removed from the permit, or wholesale utilities should be exempt from this requirement. King County does not set the rate structures for households within the WTD service area; rather, as a wholesale treatment service provider, WTD bills contract cities and sewer districts, who then set rate structures and bill households. See King County's comments submitted on Ecology's FCA Guidance on the limitations of rate mitigation measures (Gurol 2024). Rate structure recommendations included in the Guidance imply that rate structures are a tool to provide bill relief. In practice, the main rate structure decision for sewer utilities is whether to use fixed or variable charges (based on volume). Variable charges are assumed to benefit low-income households by giving them more control over their bills. However, this assumes without evidence that low-income households have fewer members, or that those households could or should limit essential indoor water use—which is not necessarily feasible nor desirable. In the Guidance, there are also references to drinking water rate structures, which are not something that applies to sewer utilities. The inclusion of rate structures that are not applicable to sewer utilities should be removed from the Guidance. At times, customer assistance programs are assumed to be a rate structure, when in fact they are a program set to reduce the rate level, or eventual bill to the household through subsidization. Of the 34 agencies that have a customer assistance program (CAP), a majority of them are only available to seniors and individuals with disabilities, and almost all specifically exclude WTD's wastewater treatment charge from the discount. As of this writing, there is no known mechanism that "can be taken to prevent adverse effects of rate increases on populations with economic hardship." The expected scale of the capital investments required under this permit likely makes it very difficult to develop and implement an approach that protects economically vulnerable communities. King County is actively working on this issue and remains interested in collaborating with Ecology and others to develop effective approaches to assessing and addressing this challenging subject.

[1]Gurol, Kamuron. 2024. *Draft Ecology FCA Comment Letter,* King County Wastewater Treatment Division. PDF Attachment.

16	S5.B – Table 8 and Table 9	Superscripts used in the Wastewater Treatment Plant (Table 8) and Jurisdiction (Table 9) columns are not defined within the permit. Please define.
17	S5.C.1.b – The Permittee may exclude any optimization strategy from the initial list created in S5.C.a.ii that was considered but found to exceed a reasonable implementation cost or timeframe.	We appreciate the opportunity to define "reasonable implementation cost or timeframe" in our optimization efforts. However, if Ecology has specific expectations or requirements that would bear on our work, we would appreciate more information. The reference to S5.C.a.ii should be corrected to S5.C.1.a.ii.
18	S5.C.2.b – Discharge Evaluation. By June 30th each year beginning in 2026, each Permittee listed in Table 8 must review effluent data collected during the previous calendar year to determine whether TIN loads are increasing.	Many WWTPs are not currently required to monitor effluent TIN, and with the permit not effective until winter 2025 at the earliest, effluent TIN data will not be available for evaluation of the "previous calendar year" (i.e., 2025 effluent TIN evaluation). Please revise to the following if the permit becomes effective sometime in 2025: "Discharge Evaluation. By June 30th each year beginning in 2027, each Permittee listed in Table 8 must review effluent data collected during the previous calendar year to determine whether TIN loads are increasing." Also, note that a space is missing between "Table 8" and "must."
25	S6.B.1.a.i – Evaluate current (pre-optimization process performance. Determine the empirical TIN removal rate for the WWTP.	How is Ecology defining the empirical TIN removal rate? Please define this rate calculation within the permit. We suggest Ecology use the following equation since this calculation accounts for the conversion of organic nitrogen to ammonia during the wastewater treatment process: % TIN Removal = [((Influent TN lbs. – Effluent TIN lbs.)/(Influent TN lbs.)) * 100]
25	S6.B.1.b – Initial Selection and S6.B.2 – Optimization Implementation	We recommend acknowledging that a WWTP can report on the selection and implementation of an optimization strategy that was originally selected and implemented prior to the effective date of this permit.
25 & 26	S6.B.2.b – Discharge Evaluation. By March 31 each year beginning in 2026, each Permittee listed in Table 11 must review effluent data collected during the previous calendar year to determine whether TIN loads are increasing. S6.B.2.b.i – Using all accredited monitoring data, determine the facility's annual average TIN concentration and load for each year during the reporting period.	Many WWTPs are not currently required to monitor effluent TIN, and with the permit not effective until winter 2025 at the earliest, effluent TIN data will not be available to "determine the facility's annual average TIN concentration and load" until the end of 2026. Additionally, please adjust the submittal date to June 30 to align with Table 1 and S9.E.1, which states that the Nitrogen Optimization Report for Small Loaders has a submittal date of June 30, 2026. Please revise S6.B.2.b to the following if the permit becomes effective sometime in 2025: "Discharge Evaluation. By June 30th, 2027, each Permittee listed in Table 11 must review effluent data collected during the previous calendar year to determine whether TIN loads are increasing."
26	S6.B.3 – Permittees listed in Table 11 must investigate opportunities to reduce influent TIN loads from septage handling practices, commercial, dense residential and industrial sources and submit	Based on how the permit is written, permittees with Small TIN Loads are only required to submit one Nitrogen Optimization Plan. We recommend changing the text to say "…and submit documentation with the Nitrogen Optimization Plan."

	documentation with the Annual Report.	
30	S7.A – Table 14; Calculations (footnotes g through j).	How should non-detects (values less than a quantitation limit) be used in calculations? A similar comment applies to Table 17 and Table 20.
30	S7.A – Table 14; Footnote l; If the permittee is unable to obtain the required QL due to matrix effects, the Permittee must report the matrix-specific method detection level (MDL) and QL on the DMR.	Change to: If the permittee is unable to obtain the required QL due to matrix effects and the result is a non-detect value, the Permittee must report the matrix-specific method detection level (MDL) and QL on the DMR. A similar comment applies to Table 17 and Table 20.
34	S7.C – Table 18	Superscript "j" for the Analytical Method column should be corrected to "k." Superscript "k" for the Laboratory Quantitation Level column should be corrected to "l."
39	S9.C.1 – Each Permittee, listed in Table 5, must submit their next Annual Report, documenting optimization and adaptive management used at their WWTP, by June 30, 2026, for the reporting period that begins on the effective date of this General Permit and lasts through March 31, 2026. All subsequent Annual Reports must use the reporting period of the previous calendar year and submit the report by March 31st of the following year, unless otherwise specified.	What is meant by "next Annual Report"? It should be "first Annual Report," which would also match the language used in S4.C.2. The first reporting period of permit effective data through March 31, 2026, doesn't make sense since the Action Level is a calendar year annual value. Also, this conflicts with S4.C.2.b, which requires a discharge evaluation of the previous calendar year. Please fix the conflicting language. The date of subsequent reports needing to be submitted by March 31st of the following year conflicts with S4.C.2.b, which states a submission date of June 30th each year. Please update the date to June 30th. The same comment applies to S9.D.1.
39	S9.C.3.c – Certification and signature pursuant to G2.D and notification of any changes to authorization pursuant to G2.C.	G2.D and G2.C are incorrect references. They should be corrected to G2.4 and G2.3, respectively. The same comment applies to S9.D.3.c and S9.E.3.c.
40	S9.E.1 – No later than June 30, 2026, each Permittee listed in Table11must submit an Optimization Report documenting optimization and adaptive management used at their WWTP. The reporting period for this report will be from the effective date of this General Permit through March 31, 2026.	The reporting period of permit effective data through March 31, 2026, appears infeasible and should be reconsidered since S6.B.2.b states determining "the facility's annual average TIN concentration and load for each year during the reporting period" and "determine the treatment plant's TIN removal rate at the end of each year". With this short (and non-calendar year) reporting period, reporting these annual values will not be possible. Please fix the conflicting language. Also, add a space between "Table 11" and "must".
43	G2.3 – Changes to authorization.	The two references to G2.B.2 in this paragraph are incorrect. They should be corrected to G2.2.
49	Appendix A – Definitions; Action Level means an indicator value used to determine the effectiveness of best management practices at a WWTPs. Action levels are not water	Ecology should clarify in this definition that exceeding an action level is not a permit violation.

	quality criteria or effluent limits by themselves but indicators of treatment optimization.	
49	Appendix A – Definitions; Alternative Restoration Plan means a near-term plan, or description of actions, with a schedule and milestones, that is more immediately beneficial or practicable to achieving water quality standards.	This is listed in Appendix A but is not included elsewhere in the draft permit. Also, can you clarify if this is an Advanced Restoration Plan like the Puget Sound Nutrient Reduction Plan?
53	Appendix B – Acronyms	Both NOP (Nitrogen Optimization Plan) and NRE (Nutrient Reduction Evaluation) are missing from the list of acronyms; please add both of the acronyms to the list.
54	Appendix C – Annual Report Questions for Dominant Loaders	For the first reporting period of permit effective data through March 31, 2026 (defined in S9.C.1), questions 1 and 2 cannot be answered due to the non-annual reporting period. Please fix the conflicting language. A similar comment applies to Appendix D.
54	Appendix C – Question 9: ATTACH a document describing your preferred optimization strategy for implementation in 2022 (selection due July 1) (S4.C.1.c)	The dates in this question are incorrect and should be corrected to match the dates used in S4 and S9. A similar comment applies to Appendix D.
55	Appendix C – Questions 15 and 16	These questions should be reconsidered, as many WWTPs are not currently required to monitor effluent TIN, and with the permit not effective until winter 2025 at the earliest, annual effluent TIN data will not be available for evaluation until 2026. Therefore, an Action Level Exceedance could be noted and discussed in the June 30, 2027, Annual Report. However, with the permit expiring December 31, 2027, S4.D.2 and S4.D.2.a would not apply since there wouldn't be a "next Annual Report." A similar comment applies to Appendix D.
55	Appendix C – Questions 17	This question states the due date of the NRE is 12/31/2026, whereas Table 1 and S4.E.1 state the NRE has a submittal date of 6/30/2026. Please make dates consistent throughout the permit. A similar comment applies to Appendix D.
58	Appendix E – Question 1	The date of "2022" in this question should be corrected. The references in this question appear to be wrong. **The first reference to S6.B.1.b should be corrected to both S6.B.1.a and S6.B.2.a. **The reference to S6.B.2.a.iv should be corrected to S6.B.1.a.iv. **The last reference to S6.B.1.a and S6.B.1.b should be corrected to S6.B.1 and S6.B.2.a
58	Appendix E – Questions 2 and 3	For the reporting period of permit effective data through March 31, 2026 (defined in S9.E.1), question 2 will be impossible to answer as the reporting period is less than 1 year. Please fix the conflicting language.
58	Appendix E – Question 5	For the reporting period of permit effective data through March 31, 2026 (defined in S9.E.1), question 5 will be impossible to answer as

		there will be no “after year 1” period. Please fix the conflicting language. A reference to S6.B.2.c seems to fit this question better than S6.B.1.a.ii.
58	Appendix E – Question 8	For the reporting period of permit effective data through March 31, 2026 (defined in S9.E.1), question 8 will be impossible to answer as there will be no “each year during the reporting period”. Please fix the conflicting language. A reference to S6.B.2.c seems to fit this question better than S6.B.1.a.ii.
58	Appendix E – Question 10	This question states the due date of the AKART Analysis is 12/31/2025, whereas Table 1 and S6.C.1 state the AKART analysis has a submittal date of 6/30/2026. Please make dates consistent throughout the permit.

Appendix B: King County's Comments on the Draft Puget Sound Nutrient General Permit Fact Sheet

Pg.	Factsheet Language	King County Comments
N/A	General Comment	The fact sheet would benefit from a thorough review and update to reflect the new opt-in permit; it contains spelling and grammatical errors and incorrect references. Rather than identify corrections to these, King County is focusing our review and suggested comments on substantive elements.
9	Permit Revisions – Special Condition S2 to establish the process by which former PSNGP permittees may apply for and receive coverage under the PSNGP. These proposed revisions require that former PSNGP permittees that elect to apply for permit coverage complete and submit a Notice of Intent according to the instructions in Special Condition S2 and identifies the process by which Ecology will decide to issue permit coverage.	See comment submitted on S2.A.1 and S2.C of the draft PSNGP regarding Ecology making coverage under the PSNGP effective with the submission of an NOI.
13	Background Information – Each meeting worked towards producing a Final Recommendations document that captured agreements and dissenting opinions on each of the conceptual approaches discussed. In addition to AC meetings, different caucuses formed to discuss the permit concepts during separate meetings. The four separate caucus groups included: one for environmental groups, state agencies, federal agencies and utilities. The utility caucus provided Ecology with an alternative permitting proposal that spanned several permit cycles. Ecology did not use this proposal in developing the draft permit but appreciates the effort utilities participating in that caucus made to get their opinions	Much of the 2021 Final Recommendation document was not incorporated in the PSNGP, including the referenced text from pg. 11. Ecology's Advisory Committee process. King County's experience was that the process was both compressed in time and did not fully address the concerns identified. We request that Ecology provide details regarding its statement and determination that there is an 'immediate need to address nutrients in domestic wastewater discharges'. The draft Nutrient Reduction Plan states that "approximately 20% of Puget Sound does not meet DO standards," so Ecology should explain why its immediate efforts are focused on all of Puget Sound rather than just the 20% area in need of improvement. Ecology should also expand on why marine domestic wastewater dischargers have an 'immediate need' to address nutrients compared to other sources of nitrogen (i.e., watershed sources).

	to the agency. The primary reason Ecology did not use this proposal stems from the Agency's immediate need to address nutrients in domestic wastewater discharges, starting with the first permit cycle.	
13	Background Information – Ecology released the formal draft of the Puget Sound Nutrient General Permit, the accompanying fact sheet providing the statement of basis, and the Notice of Intent (application) on June 16, 2021. This release starts the formal comment period that ends on August 2, 2021. The comment period includes two virtual public hearings. Please see Appendix A – Public Involvement Information for more information about the public hearings. Ecology will consider the comments made on the formal draft before making a permit issuance decision on the first general permit in late summer or fall 2021. A formal response to comments will accompany the final permit.	This paragraph wasn't updated to reflect new dates/changes with the reissuance of this opt-in permit. Please update based on changes since the last issuance of the PSNGP.
16	Table 2 – King County West Point WWTP	The Individual Permit Issuance Date for West Point WWTP should be updated to 4/29/2024.
20	Permit Limits – Federal and state regulations require that discharges from existing facilities must, at a minimum, meet technology-based effluent limitations reflecting, among other things, the technological capability of Permittees to control pollutants in their discharges that are economically achievable. Specifically, state laws (RCW 90.48.010, 90.52.040 and 90.54.020) require the use of "all known, available and reasonable methods of prevention, control and treatment" (AKART). … Under EPA's regulations, non-numeric effluent limits are authorized in lieu of numeric	Our previous comments on the timing of the AKART analysis are still relevant. Determining AKART in advance of waste load allocations and WQBELs makes the economic and engineering evaluation highly challenging and potentially not useful. Moreover, the draft Puget Sound Nutrient Reduction Plan proposes wastewater nitrogen loading targets that are based on several treatment assumptions that differ from the NRE requirements. These changes include: assuming winter treatment of 8 mg/L Dissolved Inorganic Nitrogen (DIN), 8 mg/L CBOD, introducing a third, intermediary nitrogen removal season, and changing the regulated nitrogen species to Total Nitrogen (TN) versus TIN. In addition, the Nutrient Reduction Plan calculates the load reductions based on 2014 flows, making a 3 mg/L equivalent load reduction calculated on ten-year-old flows translate into even lower effluent concentration treatment requirements to achieve the load reduction for future flows. The potential shift in treatment targets and upcoming WQBELs could easily result in NREs that do not answer the question of whether or not the necessary upgrades to meet the DO water quality requirements are financially reasonable or technically feasible. King County recommends that NREs be submitted based on the original PSNGP treatment planning targets

	limits, where "numeric effluent limitations are infeasible." [40 CFR 122.44(k)(3).]	and that Ecology issue any supplementary planning requirements after receiving and reviewing NRE results with the Nutrient Reduction Plan's proposed Technical Advisory Committee.
21	Municipal Wastewater Discharges and AKART – The prevalence of 303(d) listings related to depleted dissolved oxygen levels from increased levels of nitrogen and phosphorus requires Ecology to reconsider the basis of AKART for domestic WWTPs. It is apparent that the agency must start to consider refining what constitutes AKART for this treatment category.	We recommend aligning the characterization of nitrogen impact to DO with the description stated in the Puget Sound Nutrient Reduction Plan, which indicates that nitrogen from marine point sources is one of several human sources that need reduction.
24	Critical Conditions – The draft Nutrient Reduction Plan will address the definition of a critical condition for the receiving water. Narrative limits will apply for the entire first permit cycle, and the critical condition for the receiving water will be considered as part of the second permit iteration.	There is no reference to critical conditions in the Nutrient Reduction Plan, so we cannot comment on how this will apply. More information is requested.
27	Figure 1: Dissolved Oxygen Standards in Puget Sound – Application of the numeric marine DO surface water quality criteria to a discharge requires site-specific analysis of the discharge and the receiving water. This analysis is part of the modeling work being completed by Ecology and will inform future numeric water quality-based permit limits for nutrients that impact DO concentrations. See the Consideration of Narrative Water quality-based Effluent Limits for Numeric Criteria section of this fact sheet for more information about narrative water quality effluent limits proposed for the first permit cycle.	This text should be updated with reference to recent modeling and the Puget Sound Nutrient Reduction Plan.
28	History of Dissolved Oxygen Impairments and Investigations – Recent studies led Ecology to determine that anthropogenic (human) sources of nutrients lead to instances of low DO concentrations throughout Puget	This should be consistent with the content and characterization of the nitrogen connection to the Puget Sound DO issue in the final Nutrient Reduction Plan. This could be interpreted to mean all of Puget Sound has "low" DO at times, which is untrue and inconsistent with the draft Puget Sound Nutrient Reduction Plan.

	Sound (Khangaonkar et al., 2018, Pelletier et al., 2017, Ahmed et al., 2014, Roberts et al., 2014, Khangaonkar et al., 2012 b, Albertson et al., 2002) exacerbating those effects in areas that may have naturally occurring lower DO and creating additional conditions (areas or duration) where water quality standards are not met.	
28	History of Dissolved Oxygen Impairments and Investigations – While other nutrients like carbon and phosphorus may drive some algal productivity, the available amount of nitrogen primarily controls the rate of algae and aquatic plant growth.	The fact sheet should also state that there are other factors that limit aquatic plant growth. Light has been considered a primary limitation of Puget Sound phytoplankton production, which is related to variation in stratification strength.
28	History of Dissolved Oxygen Impairments and Investigations – The SSM Year 1 Tech Memo (currently in publication) found that failure to address human nutrient loads from domestic WWTPs will increase both the number of days and the size of areas that do not meet the numeric DO standard in both high and low population estimates for 2040 (Ahmed et al., 2021).	This publication has been published; please update the fact sheet. The Salish Sea Model is not accurate or sensitive enough to evaluate whether the reduction in DO attributable to human sources is within 0.2 mg/L. Recent analysis provided by the University of Washington Puget Sound Institute indicates that errors in embayments remain several times higher than the 0.2 mg/L human use allowance[2] .
29	Figure 2: Predicted increase in the DO noncompliant areas and days in Washington Waters of the Salish Sea from projected 2040 low and high WWTP flows.	Figure 2 may be misleading as the absolute area and number of noncompliant days may be relatively small initially, with transition of model cells to >0.2 mg/L decline creating the large relative changes under the 2040 High WWTP Flows scenario.
29	History of Dissolved Oxygen Impairments and Investigations – The PSNSRP aims to collaboratively address reducing point and nonpoint sources of nutrients in our region so that the DO water quality criteria and aquatic life designated uses are met by 2040.	The 2019 Bounding Scenarios report shows Puget Sound DO has not been (and will not be) meeting absolute DO criteria due to natural conditions in many places[3] .

[2] Baker, Joel., Kanojia, Marielle., & Mazzilli, Stefano. (2025). *Technical Memorandum: Review of 2025 Salish Sea Model Updates and Application to Nutrient Management. PDF Attachment*

[3] Ahmed, Anise,, Figueroa-Kaminsky, Cristiana., Gala, John., Mohamedali, Teizeen., Pelletier, Greg., McCarthy, Seelagh. (2019). *Puget Sound Nutrient Source Reduction Project Volume 1: Model Updates and Bounding Scenarios.*

29	History of Dissolved Oxygen Impairments and Investigations – The PSNSRP aims to collaboratively address reducing point and nonpoint sources of nutrients in our region so that the DO water quality criteria and aquatic life designated uses are met by 2040.	The timeline of 2040 doesn't align with the Draft Puget Sound Nutrient Reduction Plan, which states that the plan will be fully implemented in 2050.
29	The Salish Sea Model (SSM) – As previously discussed, nitrogen is the limiting nutrient driving eutrophication and DO impairment within inlets and embayments in Washington's portion of the Salish Sea. In addition to nitrogen, discharges of organic carbon into marine waters may also directly reduce DO from aerobic bacteria decomposition.	As science continues to evolve, Ecology should recognize and adapt its priorities and approach accordingly. There are likely other, potentially important causes of eutrophication and DO impairment beyond nitrogen and organic carbon in each area. We ask that Ecology review and respond to recent research from the University of Washington indicates 50-100% of declines in DO in Central Puget Sound are due to increased temperature[4].
29	The Salish Sea Model (SSM) – Ecology uses DO as the indicator pollutant to monitor the deleterious effects of excess nitrogen and organic carbon loading in marine waters.	This sentence should be rewritten to accurately note that DO is the water quality standard and attainment indicates the designated beneficial use is supported (i.e., presumably fish and other aerobic organisms) rather than a "pollutant". The Salish Sea Model models nitrogen and DO.
30	The Salish Sea Model (SSM) – This modeling tool provides Ecology with the ability to predict compliance with marine water quality standards and evaluate nutrient (nitrogen and organic carbon) reduction options for improving and restoring Washington waters of the Salish Sea to meet water quality goals (McCarthy, 2018, Ahmed, et. al, 2019). Over its various development phases, the SSM has endured extensive internal and external peer reviews and constitutes the best available science for regulatory decisions made by Ecology.	This section should be updated to reference the characterization of the Salish Sea Model, model validation, and appropriateness for regulatory application using more recent publications, including the Nutrient Reduction Plan and the Salish Sea Optimization Year 2 Report.
30	The Salish Sea Model (SSM) – Over its various development phases, the SSM has endured extensive internal and external	This statement should reference the Nutrient Reduction Plan and the description of the regulatory application of the model. As noted in Baker et al. (2025), the model skill may not align with the level of regulatory precision needed to measure a 0.2 mg/L change from human actions.

[4] Mascarena, Dakota., Leeson J. Aurora., Horner-Devine R. Alexander., MacCready Parker., (2025). *Century-Scale Changes in Temperature, Salinity, and Dissolved Oxygen in Puget Sound.* PDF Attachment.

	peer reviews and constitutes the best available science for regulatory decisions made by Ecology.	
30	The Salish Sea Model (SSM) – This modeling tool provides Ecology with the ability to predict compliance with marine water quality standards and evaluate nutrient (nitrogen and organic carbon) reduction options for improving and restoring Washington waters of the Salish Sea to meet water quality goals (McCarthy, 2018, Ahmed, et. al, 2019).	King County is concerned that the SSM cannot accurately predict whether the reduction in DO attributable to human sources to an accuracy within 0.2 mg/L. According to Baker et al (2025), "model skill may be reaching the point of diminishing returns. Although overall model performance improved modestly, errors in embayments remain several times higher than the 0.2 mg/L human use allowance. Additionally, the subtraction of two scenarios does not cancel uncertainty—especially since the reference condition cannot be validated. As a result, when compliance is determined by comparing existing and reference scenarios, the true level of uncertainty in the outcome is larger than the model statistics alone suggest and should be explicitly considered in regulatory applications. It seems unlikely that any model could reduce uncertainty to the point that it is lower than the current human use allowance of 0.2 mg/L."
30	The Salish Sea Model (SSM) – On March 9, 2021, Ben Cope (2021) from EPA Region 10 discussed regulatory models with the Puget Sound Nutrient Forum (PSNF) and more specifically, the application of the SSM for regulatory purposes. … A summary of the model development and application approach, with its inherent transparency and peer review phases is described below. … [page 31] Ultimately, the regulatory agency has the authority to determine what constitutes the best available science for decision making purposes. Ecology has determined that the SSM constitutes the best available science for determining the suite of point and non-point source reductions necessary to meet numeric water quality standards for DO. External opportunities to comment on and review the application of the SSM and the overall Puget Sound Nutrient Source Reduction Project occur in a separate process from the development of the draft PSNGP.	Please see previous comments about the limitations of the SSM for the level of regulatory precision needed. The fact sheet should be updated to reflect more recent SSM and model validation work and how it determined the SSM constitutes best available science. Given that the SSM will be used to determine compliance with water quality standards, it should be meaningfully related to the regulatory process.

30	The Salish Sea Model (SSM) – According to EPA, mechanistic models have a history of being used for regulatory decision making as they provide the scientific basis for quantifying impacts from pollution sources upon source identification.	In other areas, such as Chesapeake Bay, where models have been used for regulatory purposes, **multiple models** have been used simultaneously to assess output against biologically relevant standards/targets and not at a small 0.2 mg/L increment. The University of Washington's LiveOcean model is one that could be incorporated into the Puget Sound DO regulatory framework.
31	The Salish Sea Model (SSM) – Model results form the basis of wasteload allocations and load allocations for point and non-point sources in the TMDL which, in turn, inform water quality based effluent limits for point sources.	This section should be updated to reflect Ecology's draft Nutrient Reduction Plan and the advanced restoration approach.
31	The Salish Sea Model (SSM) – EPA does have general guidelines for what constitutes a quality model for decision making in their *Guidance on the Development, Evaluation, and Application of Environmental Models* (CREM, 2009). Ultimately, the regulatory agency has the authority to determine what constitutes the best available science for decision making purposes. Ecology has determined that the SSM constitutes the best available science for determining the suite of point and non-point source reductions necessary to meet numeric water quality standards for DO.	We note the following from EPA's guidance. CREM, 2009. Executive Summary, pg. vii:[5] "This guidance recommends best practices to help determine when a model, despite its uncertainties, can be appropriately used to inform a decision. Specifically, it recommends that model developers and users: (a) subject their model to credible, objective peer review; (b) assess the quality of the data they use; (c) corroborate their model by evaluating the degree to which it corresponds to the system being modeled; and (d) perform sensitivity and uncertainty analyses." Again, we note the challenges of the model skill needed for the level of regulatory precision of measuring the human use allowance of 0.2 mg/L and whether it meets the CREM objectives referenced above.
33	Puget Sound Nutrient Reduction Plan – With at least 10 years dedicated to the technical work and development of water quality models, Ecology has reached the point where the science clearly demonstrates that cumulative point and nonpoint sources deplete DO resulting in nonattainment of standards within Washington waters of the Salish Sea.	While we acknowledge that many years of work have been done, we also ask Ecology to recognize that scientific uncertainty continues to pertain. The standard for conclusions should be scientific consensus and widely accepted evidence.

[5] U.S. Environmental Protection Agency**.** (2009) *Guidance on the Development, Evaluation, and Application of Environmental Models.* Available at: https://www.epa.gov/sites/default/files/2015-04/documents/cred_guidance_0309.pdf

34	Puget Sound Nutrient Reduction Plan – Once drafted, the NRP will also go through an extensive public review and comment period.	This should be updated to reflect that the NRP is drafted and is concurrently out for public review.
35	Rationale for Non-Numeric Water Quality-Based Effluent Limits – The circulation patterns showed how discharges in one basin can affect the water quality in other basins. Thus, all wastewater discharges to the greater Puget Sound area containing nitrogen cumulatively contribute to existing DO impairments meeting the threshold for reasonable potential under 40 C.F.R. 122.44(d)(1)(iii).	Determining a 'threshold for reasonable potential' is a complex process under the CWA. Please provide the background analysis that substantiates this statement. We request to see the analysis that links complex circulation patterns to a cumulative impact.
35	Rationale for Non-Numeric Water Quality-Based Effluent Limits – Ecology continues to review model results from the first year of optimization scenarios and scope future model runs through the Puget Sound Nutrient Forum. Additional model runs will be defined in 2021 to further quantify far and near field effects of wastewater discharges to marine waters along with the anthropogenic nutrient loads from Puget Sound watershed. Once Ecology can establish a nutrient loading capacity that meets DO criteria in the marine waters of Puget Sound, allocations that will lead to numeric WQBELs can be established. The NRP will include draft allocations for point sources and watershed inflows. After internal and external review, the allocations will be finalized and numeric WQBELs will no longer be infeasible. It is anticipated that for the second iteration of this permit the approach will shift to working towards compliance with those numeric limits.	This section should be updated to reflect the final Puget Sound Nutrient Reduction Plan and planned future work to establish WQBELs. This seems inconsistent with the Puget Sound Nutrient Reduction Plan description of steps to establish WQBELs. We agree that substantial additional analysis is needed, and that further modeling may be required to support the establishment of WQBELs.
36	Consideration of Narrative Surface Water Quality-Based Limits for Numeric Criteria – Ecology	Ecology has proposed narrative limits for three categories of dischargers (dominant, moderate, and small), not two. Please correct the Fact Sheet.

	proposes two sets of narrative limits for two categories of dischargers.	
36	Consideration of Narrative Surface Water Quality-Based Limits for Numeric Criteria – Ecology proposes two sets of narrative limits for two categories of dischargers. Proposed narrative limits for all plants require Permittees to actively reduce their contribution as much as possible during the permit term. However, the group of Permittees that constitute the dominant TIN load into Puget Sound must do more than the Permittees with the smallest TIN loads. Ecology determined that the dominant loads from eligible Permittees constitute approximately >80% of the total domestic point source load discharged to Puget Sound.	This is inconsistent with the Nutrient Reduction Plan, which identified that some smaller plants near shallow embayments may have more of an impact on local dissolved oxygen.
36	Consideration of Narrative Surface Water Quality-Based Limits for Numeric Criteria – Dominant loaders also have a facility specific action level that represents the current discharge condition and drives corrective actions when the level is exceeded for two years or three times during the permit term.	The proposed action levels do not represent the "current discharge condition." It represents discharge conditions that are at least 4 years old. Also, some Corrective Action requirements begin after 1 year of exceeding the Action Level, so saying "drives corrective actions when the level is exceeded for two years or three times during the permit term" isn't completely accurate. Requested edit: Dominant loaders also have a facility specific action level that represents discharge conditions in 2019 and identifies when correction actions must be taken.
37	Consideration of Narrative Surface Water Quality-Based Limits for Numeric Criteria – The provisions of S3 Compliance with Standards, provisions of S4 and S5 Requirements for Permittees (Dominant and Small), S6 Monitoring Schedules and Sampling Requirements, and S7 Discharges to 303(d) or TMDL Water Bodies constitute the narrative WQBELs in the draft permit.	The Special Conditions references are incorrect in this sentence. Please correct the sentence to: The provisions of S3 Compliance with Standards, provisions of S4, S5, and S6 Narrative Effluent Limits (Dominant, Moderate, and Small), S7 Monitoring Schedules and Sampling Requirements, and S8 Discharges to a Waterbody with a TMDL constitute the narrative WQBELs in the draft permit.
37	Special Condition S4. Narrative Effluent Limits for WWTPs with Dominant TIN Loads – Authorized Discharges – Discharges conditionally authorized by the	The "greater than 99%" conflicts with the >80% used elsewhere in this fact sheet. Please correct with the accurate value.

	permit include wastewater discharges from POTWs constituting greater than 99% of the current domestic point source anthropogenic TIN load to Washington Waters of the Salish Sea.	
37	Special Condition S4. Narrative Effluent Limits for WWTPs with Dominant TIN Loads – early planning through the Nutrient Reduction Evaluation that includes an AKART analysis and evaluating alternatives to meeting 3 mg/L TIN (or the equivalent load) both annually and seasonally.	The statement of "both annually and seasonally" is inaccurate because, as written, the PSNGP only requires evaluating alternatives to meeting 3 mg/L TIN (or the equivalent load reduction) on a seasonal average basis and NOT on an annual basis. Change to: evaluating alternatives to meeting a seasonal 3 mg/L TIN (or equivalent load).
37	Special Condition S4. Narrative Effluent Limits for WWTPs with Dominant TIN Loads – The TIN action level is used in the draft general permit as this is the primary pollutant of concern as identified through investigations into existing DO impairments in the greater Puget Sound area.	Please provide a citation or information on the investigations referenced or reference them in the fact sheet.
40	S1. Permit Coverage – Permittees are divided into two categories.	The fact sheet should be corrected to note that permittees are divided into three categories (dominant, moderate, small), not two.
43	S3. Compliance with Standards – Special Condition S3 of the permit is covered in this fact sheet under Consideration of Surface Water Quality-Based Limits for Numeric Criteria, above.	"Consideration of Surface Water Quality-Based Limits for Numeric Criteria" is not a section in this fact sheet. Please update the fact sheet appropriately.
43	S4. Requirements for WWTPs with Dominant TIN Loads – The discharge limits in S4 are described above in *Rationale for Narrative Water Quality-Based Effluent Limitations and Consideration of Narrative Water Quality-Based Limits for Numeric Criteria*.	*Rationale for Narrative Water Quality-Based Effluent Limitations and Consideration of Narrative Water Quality-Based Limits for Numeric Criteria* is not a section in this fact sheet. Please update the fact sheet appropriately.
43	Action Level Calculation – The action level, AL0, forms the baseline value representing current TIN loading and drives treatment optimization requirements.	Change to reflect that the Action Level does not represent current conditions, as it was calculated before 2022. Change to: The action level, AL0, forms the baseline value representing TIN loading in 2019 and drives treatment optimization requirements.
43	Action Level Calculation – Ecology developed a calculation tool for	The Action Levels do not represent the 99-percentile values described in the Fact Sheet. Empirically, Brightwater, South Plant, and West Point have

	ALo that uses a non-parametric method called "bootstrapping" to calculate the annual load from facility data that represents a load that would only have a 1% chance of exceeding if the loads are consistent with existing loading. While Ecology is confident that this 99% UCL bootstrapping calculation represents a 1% chance of exceedance for a given year, it does not take into account inter-annual variability related to cool and wet weather.	exceeded the Action Level for at least one year within the timeframe used to calculate the treatment plant's individual Action Level (South Plant twice). Since the first issuance of the PSNGP in 2021, King County's West Point and Brightwater have exceeded the individual Action Levels listed in Table 5 each year (2022, 2023, and 2024). King County requests Ecology recalculate King County's Action Levels to align with the stated goal of 99-percentile values.
44	Action Level Calculation – Permittees with a "bubbled" action level will trigger the corrective action requirement when the cumulative annual load for all applicable plants exceeds the value in draft Special Condition S4.A.	S4.A is the wrong reference – it should be corrected to S4.B.
44	Action Level Calculation – Ecology will evaluate the combined, reported annual TIN loads for each WWTP included in the bubbled action level at the end of each monitoring period.	Ecology will not be able to do this for the first reporting period specified in the draft PSNGP S9.C.1 as the permit effective date through March 31, 2026, as this won't be an annual value.
45	Draft Special Condition S4.C Nitrogen Optimization Plan – Optimization serves as the mechanism to bridge the period between this first permit issuance and compliance with final, numeric WQBELs, which Ecology will calculate after completing the modeling to support the NRP.	King County requests that the draft PSNGP permit term be extended for five years to provide regulatory certainty and align with Ecology's proposed timeline for establishing WQBELs in 2030.
45	Draft Special Condition S4.C Nitrogen Optimization Plan – Permittees must use monitoring data collected under this permit in addition to process modeling to quantify and evaluate results.	The PSNGP, as currently written, does not require process modeling to quantify and evaluate results. Please update the fact sheet accordingly.
45	Optimization Approaches – Permittees may exclude optimization strategies that exceed a reasonable implementation cost or timeframe.	King County is supportive of the optimization framework and the objective of making nitrogen removal operational enhancements that do not require significant capital or other process changes. This is especially relevant given the announcement in the draft NRP of the process and timeline for establishment of facility-specific water quality-based effluent limits and potential that the NRE planning targets might change. King County requests that Ecology redefine corrective actions to require additional optimization

		and long-term planning only, supporting the concept that optimization strategies do represent major facility upgrades or modifications. This will help ensure early actions do not result in stranded assets and wasted ratepayer funds and will help support permittees focusing efforts on larger nutrient upgrade processes and timelines. Rather than expending funds and time on corrective actions, utilities should instead focus on planning and implementing larger capital upgrades for compliance with WQBELs.
46	Optimization Approaches – EPA's Case Studies on Implementing Low-Cost Modifications to Improve Nutrient Reduction at Wastewater Treatment Plants (2015) is a resource recommended for optimizing activated sludge plants.	A majority of the wastewater treatment plants in these EPA studies were either already configured for nitrogen removal or nitrification. The remaining facilities were either sequencing batch reactors (or converted to a sequencing batch reactor) or oxidation ditches. The wastewater treatment plant types in these studies do not apply to most (or possibly any) of the dominant load facilities described in Table 5 of the draft PSNGP. In addition, the predominant approach to optimization described in this study was to utilize excess reactor or aeration capacity to nitrify. Many of the dominant loaders may not have excess reactor or aeration capacity.
46	Configuration Changes – These can be similar to process control modifications; however, configuration changes can be costly and generally require investment in some new infrastructure or equipment. Therefore, Ecology recommends investigation of configuration changes only if the POTW can implement the optimization strategy with existing infrastructure and minimal procurement of equipment.	While we appreciate the intent behind this, we note that all suggested approaches (process control, aeration modifications, etc.) would require some level of capital investments and subsequent operational changes and costs.
48	Draft Special Condition S4.C.1 Treatment Process Performance Assessment – Initially, each Permittee must also develop an optimization goal and determine the three most viable optimization strategies capable of achieving the goal. The goal may simply be to stay under the action level. Other goal examples include meeting a specific TIN concentration target or improving treatment process efficiencies.	The PSNGP, as currently written, does not require dominant loaders to "develop an optimization goal and determine the three most viable optimization strategies capable of achieving the goal". Please update the fact sheet accordingly.
48	Draft Special Condition S4.C.2 Optimization Implementation – The facility specific action level represents the current discharge condition at each of the treatment plants.	The Action Level doesn't represent a "current discharge condition." It represents discharge conditions that are at least 4 years old (i.e., 2019 discharge conditions). Requested edit: The facility specific action level represents the 2019 discharge conditions at each of the treatment plants.
48	Draft Special Condition S4.C.2 Optimization Implementation –	This is not accurate according to the PSNGP, as currently written. The PSNGP does not state that Permittees are required to specifically use

	Permittees can maintain the optimization strategy implemented provided they met the self-identified performance metric and stayed below the action level. Adaptive management is required if Permittee stayed below the action level but did not meet the performance metric. In this case, the Permittee can refine the implementation of the selected alternative or, they can elect to pursue a different optimization strategy for the next 12-month period.	adaptive management if they fail to meet the self-identified performance metric but stay below the action level. Instead, the PSNGP requires a general "adaptive management approach," but not specifically if a Permittee fails to meet the self-identified performance metric. Please revise the fact sheet to match the draft permit.
49	Draft Special Condition S4.D Action Level Exceedance Corrective Actions – The existing 303(d) listings for DO throughout Puget Sound requires Ecology to prevent additional pollutant loadings that create the impairment.	King County is supportive of the optimization framework and the objective of making nitrogen removal operational enhancements that do not require significant capital or other process changes. However, given the announcement in the Nutrient Reduction Plan of the process and timeline for establishment of facility-specific water quality-based effluent limits and potential that the NRE planning targets might change, King County requests that Ecology redefine corrective actions to require additional optimization and long-term planning to ensure early actions do not result in stranded assets and wasted ratepayer money, and are implemented to support larger nutrient upgrade processes and timelines. Utilities will be pivoting to planning and implementing larger capital upgrades for compliance with WQBELs, and capital project planning takes multiple years to design, obtain funding and implement. As the WQBELs will almost certainly be much more stringent than a 10% reduction from the Action Level, there seems little point in trying to achieve a 10% reduction when a utility will be in the process of designing and implementing more aggressive nitrogen removal. Moreover, it is unreasonable to require a facility to reduce effluent nitrogen by at least 10% below the action level if it has only exceeded the action limit by a small amount (e.g., 0.1%). This is especially unreasonable if the facility is still determining what investments are needed to meet future WQBELs. Recommended deleting S4.D.2 as S4.D.1 provides the required process to reevaluate optimization strategies, implement changes, and report on the success of adaptive management.
49	Draft Special Condition S4.D Action Level Exceedance Corrective Actions – An action level compliance assessment occurs at every 12-month interval following the permit effective date.	As written, this states that the 12-month interval may not be based on a calendar year (January through December) if the permit is effective starting in any month besides January. However, this doesn't align with the reporting periods mentioned in S9.C. Please update this sentence to match the permit language.
49	Draft Special Condition S4.D Action Level Exceedance Corrective Actions – Following	King County is supportive of the optimization framework and the objective of making nitrogen removal operational enhancements that do not require significant capital or other process changes. However, given the

	documentation of the first exceedance, Permittees must begin to develop a strategy for reducing their effluent load by 10%. The most recent documented annual average load must be the basis for the 10% reduction. This level of reduction is consistent with the need to offset increased loads due to population growth while Ecology works to determine final effluent limits for the regional permittees. For Permittees with "bubbled" action levels, Ecology will evaluate exceedances using the cumulative TIN load totals from each WWTP owned and operated by the Permittee. If a corrective action is triggered for a jurisdiction with a bubbled action level, the Permittee must apply the 10% reduction to the bubbled total.	announcement in the Nutrient Reduction Plan of the process and timeline for establishment of facility-specific water quality-based effluent limits and potential that the NRE planning targets might change, King County requests that Ecology redefine corrective actions to require additional optimization and long-term planning to ensure early actions do not result in stranded assets and wasted ratepayer money, and are implemented to support larger nutrient upgrade processes and timelines. Utilities will be pivoting to planning and implementing larger capital upgrades for compliance with WQBELs, and capital project planning takes multiple years to design, obtain funding and implement. As the WQBELs will almost certainly be much more stringent than a 10% reduction from the Action Level, there seems little point in trying to achieve a 10% reduction when a utility will be in the process of designing and implementing more aggressive nitrogen removal. Moreover, it is unreasonable to require a facility to reduce effluent nitrogen by at least 10% below the action level if it has only exceeded the action limit by a small amount (e.g., 0.1%). This is especially unreasonable if the facility is still determining what investments are needed to meet future WQBELs.
49	Draft Special Condition S4.D Action Level Exceedance Corrective Actions – Strategies considered for reducing loading must include increasing production volumes of reclaimed water (if applicable to the facility), implementing side stream treatment for a portion of return flows from solids treatment, reducing influent nitrogen loads, alternative effluent disposal options and any other intermediate treatment alternative which results in decreased nitrogen loads into Puget Sound prior to major facility upgrades. Permittees must submit a proposal to reduce the TIN load that addresses how to meet this 10% reduction requirement within the 1st and 2nd permit cycles (5-10 years).	King County is supportive of the optimization framework and the objective of making nitrogen removal operational enhancements that do not require significant capital or other process changes. However, given the announcement in the Nutrient Reduction Plan of the process and timeline for establishment of facility-specific water quality-based effluent limits and potential that the NRE planning targets might change, King County requests that Ecology redefine corrective actions to require additional optimization and long-term planning to ensure early actions do not result in stranded assets and wasted ratepayer money, and are implemented to support larger nutrient upgrade processes and timelines. See previous comments relating to corrective actions.
50	Draft Special Condition S4.D Action Level Exceedance Corrective Actions – When a	It is inefficient to require a 10% reduction when any future WQBEL or technology-based limit may be much more stringent and potentially require different treatment systems.

	second exceedance falls in the last year of the permit, the Permittee must still implement the preferred alternative as this requirement will bridge the period between this first permit cycle and the end of a compliance schedule for meeting final WQBELs, once established.	A 10% corrective action would not meaningfully address impacts and likely lead to costly and stranded investments. A better approach to bridge between permit cycles is to work with each utility to develop a realistic plan to get to an achievable treatment level that is financially sustainable, well-coordinated with other required or desirable investments and demonstrably beneficial to achieving a biologically determined WQ standard. King County also believes there could be opportunity to explore innovative tools during the transition phase to accelerate nitrogen reduction in advance of larger wastewater upgrades. For instance, utilities could invest in water quality offsets or mitigation funds to support ready-to-implement improvements that could deliver faster results, such as non-point nutrient reduction.
50	Annual Reporting – Ecology encourages Permittees to begin the Annual Report several weeks ahead of the March 31st submittal date to allow plenty of time for adequate completion.	March 31st should be corrected to June 30th to match the draft PSNGP.
50	Draft Special Condition S4.E Nutrient Reduction Evaluation – In addition, the Budd Inlet TMDL, scheduled for completion in early 2022, will require compliance with the individual facility wasteload allocation upon EPA approval.	The "scheduled for completion in early 2022" should be updated to reflect the TMDL's approval.
51	Draft Special Condition S4.E Nutrient Reduction Evaluation – Completion of a planning exercise during this first permit term is necessary to minimize the time required to ultimately achieve final numeric effluent limits once developed.	The draft Puget Sound Nutrient Reduction Plan proposes wastewater nitrogen loading targets that are based on several treatment assumptions that differ from the NRE requirements. These changes include assuming winter treatment of 8 mg/L Dissolved Inorganic Nitrogen (DIN), 8 mg/L CBOD, introducing a third, intermediary nitrogen removal season, and changing the regulated nitrogen species to Total Nitrogen (TN) versus TIN. In addition, the Nutrient Reduction Plan calculates the load reductions based on 2014 flows, making a 3 mg/L equivalent load reduction calculated on ten-year-old flows translate into even lower effluent concentration treatment requirements to achieve the load reduction for future flows. The potential shift in treatment targets may not meet the goal of minimizing the time required to ultimately achieve final numeric effluent limits once developed.
51	Draft Special Condition S4.E Nutrient Reduction Evaluation – Permittees must also assess treatment alternatives capable of meeting 3 mg/L TIN (or the equivalent load) on average, annually and seasonally, which represent possible future water quality-based-effluent limits.	The statement of "annually and seasonally" appears to be incorrect because, as written, the PSNGP only requires evaluating alternatives to meeting 3 mg/L TIN (or the equivalent load reduction) on a seasonal average basis and NOT on an annual basis. Change to: Permittees must also assess treatment alternatives capable of meeting a seasonal 3 mg/L TIN (or the equivalent load) on average, which represent possible future water quality-based-effluent limits.
51	Draft Special Condition S4.E Nutrient Reduction Evaluation – This planning document also	WWTPs need assurance that Ecology will have the necessary resources to review/evaluate/approve these plans for dozens of treatment jurisdictions and plants, all being submitted at the same time. Ecology should also

	requires an assessment of current treatment technology including site specific flows, loads, and population growth projections within the sewer service area for a 20-year planning period. Site-specific constraints and other treatment implementation challenges must be part of the analysis. Ecology will review and approve this plan.	describe how the findings from the NREs will inform the Nutrient Reduction Plan.
52	Treatment Technology Analysis – In addition to making an AKART determination, which will represent a technology-based approach for controlling nitrogen, the NRE must evaluate treatment alternatives for meeting the lower limit of technology for nitrogen removal both year-round and seasonally.	The statement of "year-round and seasonally" appears to be incorrect because, as written, the PSNGP only requires evaluating alternatives to meeting 3 mg/L TIN (or the equivalent load reduction) on a seasonal average basis and NOT on a year-round basis. Please correct the language used in the fact sheet.
52	Treatment Technology Analysis – Early Year 1 modeling results currently in publication indicate that some treatment plants will need to meet this level of treatment to protect the receiving water.	Ecology should update the sentence to include citations since the Year 1 modeling results have already been published (i.e., not currently in publication).
52	Economic Evaluation – …for each treatment alternative evaluated for meeting AKART and 3 mg/L TIN (or the equivalent load) on average both annually and seasonally.	The statement of "annually and seasonally" appears to be incorrect because, as written, the PSNGP only requires evaluating alternatives to meeting 3 mg/L TIN (or the equivalent load reduction) on a seasonal average basis and NOT on an annual basis. Please correct the language used in the fact sheet.
53	Environmental Justice Review – Opportunities to set alternative wastewater rates must also be considered as part of the planning requirement in the draft permit. Permittees must propose how an alternative rate structure can be used to prevent the low-income communities identified in the initial screening from being adversely affected by rate changes.	See comments on Permit Draft S4.E.5.c.iv-S4.E.5.d.iii in Appendix A.
54	Environmental Justice Review – The discharge limits in S5 are described above in Rationale for Narrative Water Quality-Based Effluent Limitations and	Formatting issues – a new section for S6 should have started here. Additionally, "Rationale for Narrative Water Quality-Based Effluent Limitations" and "Consideration of Narrative Water Quality-Based Limits for Numeric Criteria" are not sections in this fact sheet. Please update the fact sheet appropriately.

	Consideration of Narrative Water Quality-Based Limits for Numeric Criteria.	Details for S5 (Moderate Loaders) are very limited compared to the details provided in the Fact Sheet for S4 (Dominant Loaders).
54	Narrative Effluent Limits for WWTPs with Small TIN Loads – The discharge limits in S6 are described above in Rationale for Narrative Water Quality-Based Effluent Limitations and Consideration of Narrative Water Quality-Based Limits for Numeric Criteria.	Rationale for Narrative Water Quality-Based Effluent Limitations" and "Consideration of Narrative Water Quality-Based Limits for Numeric Criteria" are not sections in this fact sheet. Please update the fact sheet appropriately.
54	Narrative Effluent Limits for WWTPs with Small TIN Loads – And, given the magnitude of the TIN effluent load in relation to the plants in Special Condition S4, Ecology determined that the requirements in the draft permit for plants in Special Condition S5 could be implemented at a different pace while making incremental progress in TIN load reductions.	The reference to "Special Condition S5" is incorrect and should be corrected to "Special Condition S6".
55	Monitoring – Permittees subject to requirements under S6 have a monitoring schedule listed in S7.B that more accurately reflects the size of plants in this category.	The reference to "S7.B" is incorrect and should be corrected to "S7.C".
55	Nutrient Optimization Plan – Permittees subject to requirements under S6 must submit the once per permit cycle Nitrogen Optimization Plan to Ecology through the electronic report requirement in S9.D.	The reference to "S9.D" is incorrect and should be corrected to "S9.E".
55	AKART Analysis – While some S5 permittees may need to meet a stringent effluent concentration to address a localized impact directly associated with a specific discharge…	The reference to "S5" is incorrect and should be corrected to "S6".
56	AKART Analysis – At this time, Ecology does not know which S5 Permittees will have to meet the lower effluent limit…	The reference to "S5" is incorrect and should be corrected to "S6".
56	S7 Monitoring Schedules and Sampling Requirements – Sampling frequencies based on facility size have changed from what Ecology proposed in the	This statement is incorrect. There are three monitoring categories (not two) in the draft permit. Additionally, "both categories" should be corrected to "the three categories".

	preliminary draft. Ecology reduced the number of monitoring categories from three to two and reduced the required sampling based on feedback from commenters. The revised monitoring schedules will adequately characterize the discharge from both categories of WWTPs covered by the draft permit.	
56	Wastewater Sampling Requirements – Special Conditions S7.A. and S7.B. requires representative…	This sentence should also include S7.C (in addition to S7.A and S7.B).
57	Wastewater Sampling Requirements – In addition to volumetric flow so that each Permittee can calculate loading, the draft permit contains requirements for influent and effluent monitoring of five core parameters. These include: 5-day carbonaceous biochemical oxygen demand (CBOD5), total ammonia, nitrate-nitrite, total Kjeldahl nitrogen (TKN) and total organic carbon.	This wording suggests that influent total organic carbon monitoring is required. However, as written, the draft PSNGP does not require influent total organic carbon monitoring. Please correct the Fact Sheet.
57	Wastewater Sampling Requirements – The treatment system biota converts inorganic nitrogen into organic nitrogen.	Please check this statement for an error. Generally speaking, treatment system biota convert organic nitrogen into inorganic nitrogen (i.e., ammonification).
57	Wastewater Sampling Requirements – TIN in the effluent represents readily available nutrient that the treatment system has removed.	Please check this statement for an error. TIN in the effluent would represent nutrients that the treatment system did not remove.
57	Wastewater Sampling Requirements – Dominant loaders must use this cumulative TIN load as part of the annual action level assessment in the Nitrogen Optimization Plan requirement (See draft Special Condition S4.C).	This annual action level assessment would also apply to moderate loaders, but it isn't mentioned. Please update the text.
58	Wastewater Sampling Requirements – Ecology intends this once per month effluent monitoring to supplement model inputs and to develop correlations with BOD5/CBOD5.	The "once per month effluent monitoring" conflicts with the actual draft PSNGP; the draft PSNGP only requires once per quarter effluent monitoring of TOC. Please update the Fact Sheet to match the draft PSNGP.

59	Wastewater Sampling Requirements – Special Condition S7.C requires documentation of both influent and effluent sampling to track nutrient loads entering Washington waters of the Salish Sea and quantify results of optimization. Special Condition S7.D requires the Permittees to maintain flow measurement calibration at the frequency established by the manufacturer. Special Condition S7. E. Ecology requires facility to use a laboratory… Special Condition S7.E allows for the Permittee to request a reduction of the sampling frequency after (12) months of monitoring.	The reference to "S7.C" is incorrect and should be corrected to "S9.B". The reference to "S7.D" is incorrect and should be corrected to "S7.E". The reference to "S7.E" is incorrect and should be corrected to "S7.F". The reference to "S7.E" is incorrect and should be corrected to "S7.G".
60	Draft Special Condition S9.D Single Report for Small Loaders Permittees will report on optimization strategies, treatment performance assessments and adaptive management implemented at the WWTP during each reporting period.	This reference should be updated to "Draft Special Condition S9.E Reporting for Small Loaders." The use of "each reporting period" should be corrected to "the reporting period" as there is only one report and one reporting period for the Small Loaders.
63	Requesting Copies of the Draft Revised Permit, Economic impact analysis – In accordance with WAC 173-226-120, Ecology did not prepare an economic impact analysis for the draft general permit as the permit does not propose to directly cover small business. See Page 49, Draft Special Condition S4.C.3: In addition to identifying opportunities to reduce effluent TIN loads through optimization, Permittees must also develop a program to reduce influent TIN loads. Permittees must review non-residential	Please update this section to align with the current draft permit S4.C.3.

	sources of nitrogen, septage handling practices (if applicable) and any opportunities for pre-treatment. Elimination of RV and boat pump out services are not applicable to this condition. However, Permittees may investigate changes to wastestream management practices related to RV and boat pump out services. Given that the primary source of nitrogen in domestic wastewater is from urine, influent reduction opportunities may be limited. Therefore, in addition to reviewing pre-treatment opportunities, Permittees must also begin to identify different approaches for reducing TIN from new dense residential development and commercial buildings.	
76	Appendix B Glossary – Organic Nitrogen – Nitrogen chemically bound I organic molecules, such as proteins, amines, and amino acids.	"Bound I organic molecules should be corrected to "bound in organic molecules"
81	Appendix D – Ecology used single sample 2019 DMR data to determine the average daily load for each Permittee subject to coverage under the proposed permit.	2019 was an atypical year in terms of precipitation seasonal patterns. Please explain why a single year was chosen rather than a multi-year average.
81	Appendix D – This exercise determined whether Permittees qualify as either a dominant or a small TIN loader based on the TIN loading magnitude relative to all Permittees subject to permit coverage.	Ecology should correct this sentence to also include moderate TIN loaders, not just dominant and small TIN loaders.
81	Appendix D – Table 4, Column Heading "2019 Nutrient Loading, Lbs./Day"	The column heading should be updated to "TIN Loading, Lbs./Day"
86	Appendix E – Action Levels	Please explain why Appendix E conflicts with the draft permit for some facilities. Anacortes WWTP: 163,000 lbs/yr in the Fact Sheet vs. 167,000 lbs/yr in the draft Permit Birch Bay Sewage Treatment Plant (STP): 64,600 lbs/yr in the Fact Sheet vs. 66,400 lbs/yr in the draft Permit

		Bremerton WWTP: 577,000 lbs/yr in the Fact Sheet vs. 602,000 lbs/yr in the draft Permit Kitsap County Central Kitsap WWTP: 250,000 lbs/yr in the Fact Sheet vs. 306,000 lbs/yr in the draft Permit Edmonds STP: 419,000 lbs/yr in the Fact Sheet vs. 432,000 lbs/yr in the draft Permit Lake Stevens Sewer District: 118,000 lbs/yr in the Fact Sheet vs. 127,000 lbs/yr in the draft Permit Lakota WWTP: 583,000 lbs/yr in the Fact Sheet vs. 597,000 lbs/yr in the draft Permit LOTT Budd Inlet WWTF: 243,000 lbs/yr in the Fact Sheet vs. 338,000 lbs/yr in the draft Permit Lynnwood STP: 341,000 lbs/yr in the Fact Sheet vs. 340,000 lbs/yr in the draft Permit Marysville STP: 577,000 lbs/yr in the Fact Sheet vs. 592,000 lbs/yr in the draft Permit Midway Sewer District WWTP: 601,400 lbs/yr in the Fact Sheet vs. 625,500 lbs/yr in the draft Permit Miller Creek WWTP: 289,900 lbs/yr in the Fact Sheet vs. 297,000 lbs/yr in the draft Permit Mt Vernon WWTP: 380,000 lbs/yr in the Fact Sheet vs. 396,000 lbs/yr in the draft Permit Port Angeles WWTP: 170,000 lbs/yr in the Fact Sheet vs. 177,000 lbs/yr in the draft Permit Port Orchard WWTP (South Kitsap WRF): 208,000 lbs/yr in the Fact Sheet vs. 215,000 lbs/yr in the draft Permit Post Point WWTP: 969,000 lbs/yr in the Fact Sheet vs. 993,000 lbs/yr in the draft Permit Redondo WWTP: 241,000 lbs/yr in the Fact Sheet vs. 249,000 lbs/yr in the draft Permit Salmon Creek WWTP: 195,000 lbs/yr in the Fact Sheet vs. 199,000 lbs/yr in the draft Permit Snohomish STP: 78,900 lbs/yr in the Fact Sheet vs. 83,600 lbs/yr in the draft Permit Tacoma North No. 3 WWTP: 336,00 lbs/yr in the Fact Sheet vs. 339,000 lbs/yr in the draft Permit