



City of Tacoma
Environmental Services Department

October 21, 2019

Water Quality Permit Coordinator
Northwest Regional Office
State of Washington Department of Ecology
3190 160th Avenue SE
Bellevue, WA 98008-5452
(Submitted Electronically)

Subject: Ecology's Preliminary Determination to Develop a Puget Sound Nutrients General Permit

The City of Tacoma (Tacoma) appreciates the opportunity to comment on the Department of Ecology's (Ecology) proposal to prepare a general permit to address nutrient discharges from municipal wastewater treatment plants (WWTPs) that discharge directly to Puget Sound. Ecology's nutrient general permit proposal introduces new concepts that will likely impact Tacoma and other clean water utilities as the state continues to develop nutrient management plans for Puget Sound. New approaches to watershed management, such as a nutrient general permit for Puget Sound dischargers, may be appropriate providing they do not create regulatory compliance requirements that extend beyond our understanding of commensurate water quality benefits, and provided that concerns about practical applications to real-world circumstances can be addressed, such as technical feasibility, timing, and affordability. Tacoma wants to be sure that our citizens and ratepayers see meaningful results for what is likely to be a significant investment of dollars.

Tacoma believes that Puget Sound is a key water resource for our region and that the Salish Sea is a complex natural system impacted by many factors. These include man-made development, urbanization, discharges, ocean conditions, climate, weather, agriculture and aquaculture, and many other factors. Collaborative management of all of the manageable human-induced factors impacting the Puget Sound watershed offers the best opportunity to preserve and protect this important resource. We welcome the opportunity to work collaboratively with Ecology to develop a science-based general permit that protects water quality in Puget Sound while providing flexibility, equity, and opportunities for adaptive management for improvements with time.

Tacoma Has a Long History Protecting Water Quality in Puget Sound

For decades, Tacoma has been a national leader in implementing innovative environmental strategies that protect water quality in Puget Sound. Tacoma's tenacious approach to cleaning up the Thea Foss Waterway and the ongoing development of a nationally recognized stormwater quality program is just one of many examples of Tacoma's decades-long focus on protecting Puget Sound. Tacoma has also demonstrated its dedication to protection of Puget Sound water quality through its successful compliance with regulatory requirements, wet weather controls, toxics reduction, stormwater management, and beneficial use of biosolids. These water quality protection efforts require extensive planning, billions of dollars in investments, intensive training, dedicated operations and constant maintenance of complex wastewater infrastructure. New regulatory requirements with the potential to add significant technical, operational, and economic impacts need to be carefully balanced with the understanding of the necessity and expected benefits. It is especially important that uncertainties are addressed with permit structures that provide opportunities for adaptive management over time to ensure that investments are on-target, effective, and produce tangible results.

Principles for the Development of a Nutrient General Permit

Tacoma believes that the following principles are essential for the development of a nutrient general permit:

- 1. Nutrient general permit requirements must be technically and scientifically defensible and technically achievable.*
- 2. An independent panel of scientific assessment and water quality subject matter experts should be actively convened to guide ongoing modeling work, identify modeling gaps, and advise on future monitoring and adaptive management strategies.*
- 3. Nutrient reduction requirements must be based on demonstrated cause and effect relationships.*
- 4. A watershed approach using adaptive management is essential to the long-term protection of Puget Sound water quality.*
- 5. General permit requirements should result in a net environmental benefit and consider cost, as well as associated environmental, social impacts and affordability.*
- 6. Considerations of equity should be incorporated into any new general permit.*
- 7. Time should be provided for utilities to optimize, test, and implement any necessary nutrient control measures.*
- 8. Ecology should coordinate closely with the municipal wastewater stakeholder group during the development of draft and final general permit requirements.*
- 9. Flexibility should be included as part of the general permit framework to allow dischargers to consider joint reductions in the form of bubble permits, offsets, and trading.*

Specific Recommendations for a General Permit

Tacoma offers the following recommendations for moving forward with a nutrient general permit based on reasonable and scientifically valid objectives.

- ***Science-based Adaptive Management***

Our understanding of Puget Sound water quality issues is evolving and it is anticipated that we will better understand cause and effect relationships linked to dissolved oxygen depletion with greater certainty over time. No definitive nutrient endpoints for Puget Sound dissolved oxygen have been developed to date. Given that, provisions for consideration of uncertainty analysis should be incorporated into the general permit as a guide to improve the understanding of the impact of nutrient loadings on Puget Sound water quality. Time is needed to continue the water quality planning, monitoring, and modeling exercises necessary to address scientific uncertainties in the spatial and temporal extent of human-caused dissolved oxygen depletion. Further, the most effective nutrient management strategies need to be investigated to ensure that investments in implementing nutrient reduction will be effective in producing the intended results and not rendered ineffective due to a lack of scientific understanding of this complex system, counteractive mechanisms, or unanticipated causes.

- ***Watershed Management Approach***

A watershed management approach should be central to a nutrient general permit for Puget Sound. Both point and nonpoint sources of nutrients should be managed together such that reductions accomplished by marine dischargers are not lost to increased tributary loadings from upstream

discharges, nonpoint sources, and growth with inland development. The artificial boundary created in Ecology's Salish Sea Model (SSM) may have been necessitated by the availability of monitoring data, resources, and the time available for analysis. However, that artificial boundary for analysis should not compromise the more comprehensive need to manage all watershed sources to successfully protect Puget Sound water quality.

- ***Equity Considerations***

Considerations of equity should be incorporated into any new general permit. These considerations may include the geographic location of discharges and their influence on near field and far field water quality. Expectations for the potential for nutrient reduction should include the extent to which nutrient reductions have been made in the past, or already achieved in operational efforts or past facility improvements. The technical and operational challenges associated with reducing nutrient discharges in wastewater effluent increase as effluent concentrations are driven to lower levels. Nutrient speciation issues become increasingly important at lower levels and refractory constituents, interference, facility specifics, and other factors may vary among different utilities and the areas they serve. Consideration should also be given to balancing other regulatory compliance impacts that present overlapping challenges for utilities.

- ***Preferred Structure of a Nutrients General Permit***

The preferred structure for a general permit is one which sets forth goals for nutrient reduction but allows time for more definitive water quality science prior to setting numerical effluent nutrient limits. By avoiding early effluent limits in the body of the general permit, utilities can focus on identifying the most effective and efficient opportunities for nutrient load reduction without the dominant concern of immediate compliance. Nutrient load caps, reductions, and accounting can all be addressed in the fact sheet that supports the nutrient general permit. That provides a vehicle to not only establish baseline loadings to track progress in load reduction, but also a place for documentation of the myriad of site specific details in the unique circumstances of many diverse dischargers. Accounting for all of the nuances in 70 separate facilities with different baselines and various stages of process development, plant improvements, construction improvement projects, treatment technology testing, etc. leads to a level of complicated and granular detail not well-suited for inclusion as permit effluent limits. Further, attempting to include the specifics of effluent limits in the general permit dilutes the value of a general permit because it introduces all of the time-consuming aspects of developing individual nutrient permits. The general permit fact sheet can support this level of detail until, when, and if, nutrient endpoints are defined for Puget Sound and final water quality based effluent limits are warranted. Tracking of load reductions in the fact sheet rather than the general permit also avoids the potential dysfunction associated with the antibacksliding provisions of the federal regulations, and use of effluent performance statistics applied to under-loaded facilities that results in effluent limits that cannot be sustained as plant flows and loadings increase to full buildout.

- ***Accurate Modeling of Wastewater Treatment Facilities***

Accurate representation of individual facility effluent characteristic flows and loadings in water quality model simulations and load reduction planning is key in portraying both current conditions and future nutrient management scenarios. This includes nutrient speciation and accounting for speciation changes with application of advanced nutrient reduction treatment technology. Expressions of effluent characteristics on a concentration basis may be useful as a general description. However, mass loadings are more useful in establishing baseline conditions and tracking load reductions over time.

- ***Flexible Provisions for Regional Optimizing Solutions***

General permit considerations should include flexible provisions for load offsets, exchanges, and trading both within utilities that have multiple treatment facilities, and between different utilities. In this way, optimization opportunities can be developed to include the earliest, efficient, and effective nutrient

reductions. Again, a mass basis for tracking and accounting in load reduction planning and reduction goals is most useful to facilitating these opportunities.

- ***Foundation for Adaptive Management and Science***

A Puget Sound general permit should include a foundation for a continuing dialog and exchange between Ecology's monitoring, credible scientific expert oversight, Salish Sea modeling efforts and clean water utility stakeholders subject to potential control requirements. Periodic monitoring and modeling reviews and briefings should be scheduled to coincide with general permit progress reporting requirements for treatment facilities. This provides a predictable structure for information exchange and to track progress, water quality changes, and foster adaptive management review and program improvements.

- ***Compliance Schedules that Allow for Maximizing Benefits***

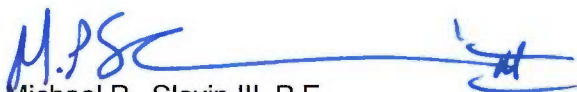
The pace of mandatory nutrient control requirements should not outpace the time needed for utilities to analyze and plan for nutrient reduction at their facilities. The general permit should foster not only full-scale nutrient removal treatment improvements, but also analysis of optimization opportunities within existing facilities, side stream treatment options, and development and implementation of new technology. Provisions should be made for compliance schedules that extend over multiple permit cycles to support these efforts. In this way, utilities can formulate a complete understanding of all of the options available to reduce nutrient discharges, including capital and operating costs, energy and chemical demands, space requirements, operational complexities and staffing, and others factors associated with site specific circumstances. Premature application of load caps and effluent limits will truncate the treatment technology analysis, inappropriately eliminate potentially viable options, and limit the potential for collaborations to develop more creative solutions within and between utilities. It may also curtail the ability to optimize results by load trading and offsets between facilities and among different utilities.

- ***Allow for Incentives that Promote Greatest Benefit***

The general permit should include provisions to incentivize early nutrient reduction. In this way, progress in nutrient load reduction may be accelerated. Nutrient reduction incentives may take many forms. These may include financing and funding support, priority for State Revolving Funds (SRF) and other funding programs, and schedule relief or time extensions on other individual NPDES permit compliance requirements.

If you have any questions regarding the considerations outlined in this letter, or would like to discuss these comments further, please contact Dan Thompson (253) 591-2191 or Teresa Peterson (253) 591-5766 at the City of Tacoma.

Sincerely,



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Environmental Services Director
City of Tacoma

cc: Dan Thompson, PhD., Business Operations Division Manager
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