

Increased Fish Consumption Rate NPDES Compliance through Pollution Prevention

Background

Municipal wastewater treatment plants plan and operate their facilities over long investment periods. Facility planning is completed on a 20-year basis. Many process elements of a wastewater treatment are put in service for even longer periods than 20 years. A water quality variance process that is intended to be ‘*short term*’ and ‘*temporary*’ is not workable for municipalities and districts as a compliance strategy for toxics reduction under an increased fish consumption rate.

Water Quality Permitting Overlay

Overall, this approach is a narrative standard with a hybrid of pollution prevention, technological control, and effluent limit-driven goals and outcomes.

At permit issuance or renewal, individual NPDES permits (exclusive of municipal separate storm sewer system permits) will be evaluated to determine if the effluent for that permitted discharge has the Reasonable Potential¹ to cause or contribute to a violation of the revised human health water quality standards resulting from the application of higher fish consumption rates. The contribution of naturally-occurring pollutants in incoming source water will be considered as part of the Reasonable Potential Analysis (RPA) calculations and an allowance for these natural background contributions will be made in calculation of permitted effluent concentrations.

The revised water quality standards will be expressed as a narrative standard directed at achieving toxics reduction. The requirements expressed in the revised Oregon water quality standard will be incorporated into a revised DEQ Internal Management Directive (IMD) for *Reasonable Potential Analysis*.

A tiered approach using the results of the RPA will be used to determine permit conditions and appropriate actions for compliance for NPDES permit holders:

1. Reasonable Potential is Determined – at or nearly at Detection/Infrequent; Limited Data

For results in which the pollutant is detected infrequently, or is only detected at or near the criteria or Quantitation Level (higher of the two values), the permit would include more regular monitoring and reporting, and a pollution prevention plan. The pollution prevention plan would be the same plan required by SB 737 for municipal pollution prevention. The more frequent monitoring provides for increased precision in determining the frequency and magnitude of occurrence of a pollutant and better information upon which to develop a pollution prevention or pollutant control plan.

As is anticipated under SB 737, the pollution prevention or pollutant control plans would likely be general and broad in scope (for instance, ensuring local dental offices met Oregon

¹ See DEQ Internal Management Directive for Reasonable Potential Analysis - <http://www.deq.state.or.us/wq/pubs/imds/rpatoxics.pdf>

standards for mercury Best Management Practices and installation of separators, or programs to remove mercury containing items from schools).

2. Reasonable Potential is Determined – Frequency of Reportable Concentrations or Level of Detection Increases

For pollutants detected at a higher frequency, but still at concentrations near the quantitation level or criterion (the higher of the two values), compliance could be based upon the use of non-direct treatment strategies including pollution prevention, water quality trading, offsets, or a phased treatment requirement.

Use of narrative limits would allow the source to develop and implement a pollution control strategy to achieve the water quality standard. The facility could offset the required toxic reduction through pollution prevention, water quality trading, offsets, or other appropriate reduction strategies. The plan would be designed to reduce or offset the amount of pollution in excess of an equivalent Water Quality Based Effluent Limit (WQBEL). Permit compliance would be based on plan implementation and reporting.

3. Reasonable Potential is Determined – Frequency and Observed Effluent Concentration - Combination of Treatment and Pollution Prevention Required

For pollutants which are detected with a predictable certainty and at concentrations above the near the quantitation level or criterion (the higher of the two values), the facility's permit would include a numeric Water Quality Based Effluent Limit (WQBEL) expressed as a technology-based discharge requirement based on well-performing conventional treatment technology, along with narrative WQBEL requirements for pollution prevention including monitoring.

DEQ would evaluate classes of dischargers (such as municipal treatment plants) to set sector-based, pollutant specific minimum technology standards for all appropriate similar classes of facilities. This work might build on or be similar to the Washington Department of Ecology AKART (all known, available, and reasonable methods of treatment, prevention, and control program).² The technology standard would be considered and applied as the minimum treatment requirements and would be based on available conventional technology and existing, effective pollution source control programs.

The discharger will be required to develop a pollution prevention program including implementation milestones, monitoring, and reporting, to offset the difference between the WQBEL based on technology and the level established as causing reasonable potential.

Under this scenario, the discharger would have two action steps:

1. Evaluate, and if necessary implement, any necessary changes to treatment processes or facilities management to meet minimum technology standards AND
2. Develop a pollution prevention plan – similar to SB 737 requirements.

Compliance schedules may be needed to allow sources time to develop and implement the minimum treatment technology standards.

² See <http://apps.leg.wa.gov/wac/default.aspx?cite=173-218-030>

Issues:

- The NPDES permits would likely need to be examined for compliance with the pollution prevention approaches every permit cycle. What performance measures will be applied to determine the effectiveness of pollution prevention programs?
- How would the additional staff resources necessary to accomplish this review be secured? Can EPA provide additional staff resources or assist DEQ on conducting the necessary reviews?
- If EPA provided more direct review of the RPA and its outcome relative to these permits, would that be compromising or undermining DEQ's primacy for the NPDES program?
- How should legacy pollutants that might be detected yet would have no successful pollution prevention strategy be handled? These might include DDT/DDE or dioxin.
- What about pollutants that can only be reduced through national or statewide efforts, such as bis(2-ethylhexyl) phthalate, be handled?

*Oregon Association of Clean Water Agencies
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