

State of Oregon
Department of Environmental Quality

**Industrial Stormwater Advisory Committee
Meeting 6- January 19, 2010**

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Subject: Oregon Benchmarks and Draft Tiered Regulatory Approach

Background

Throughout the advisory committee process, DEQ has heard many concerns about DEQ adopting EPA's sector specific benchmarks.

- Some of EPA's benchmarks (copper, lead and zinc) are set at the water quality standards, which are orders of magnitude lower than Oregon's current benchmark values. Some members have expressed that existing technologies may not achieve these lower values in one permit term. Given the stringency of EPA's benchmark values, it was difficult for committee members to agree on earlier proposals for a tiered regulatory approach.
- The number of benchmark parameters that a facility must sample under EPA's permit varies amongst the industrial sectors and ranges from zero to seven parameters. Approximately 40% of the facilities operating under Oregon's current permits would not conduct any benchmark monitoring under the EPA's sector specific benchmarks.

At the 5th Industrial Stormwater Advisory Committee meeting in November, DEQ received a wide variety of input from the committee members on whether a tiered regulatory approach that required facilities to implement operational, structural or treatment BMPs based on benchmark exceedances would work. As a result, DEQ convened a subcommittee, who met in December, to further refine the approach. DEQ proposed to the subcommittee that the following facilities conduct a comprehensive feasibility study that evaluates all available technologies (operational, structural or treatment) and determine which BMPs are most effective at reducing pollutant of concern in discharge:

- Facilities under the current permits that will need an individual permit based on 4th year geometric mean evaluations.
- Facilities operating under the new permits that exceed benchmark(s) by 50% or more. Facilities would calculate the geometric mean of the monitoring data collected during the first two years of the permit.

Most subcommittee members supported the idea that facilities with greater water quality challenges should be required to conduct a comprehensive feasibility study. However, the subcommittee also recommended that DEQ establish a technology based target. The subcommittee suggested that a technology based target could serve as the goal for the feasibility studies conducted by those facilities over the 4th year geometric mean under the current permit (this would be submitted as part of the permit renewal application). The technology based target could also serve as the trigger for determining which facilities under the new permit would be required to conduct a feasibility study.

To develop this goal, DEQ would evaluate stormwater data available on the International Stormwater BMP database and set a target based on a range or average of pollutant reductions

from BMPs that address industrial stormwater. Facilities operating under the new permits who met the target, but exceeded the benchmarks, would have to implement the traditional corrective action measures.

DEQ shared the subcommittee recommendations with DEQ's regional stormwater managers, who voiced the following concerns:

- Having a benchmark and a "goal" in the permit (i.e., two sets of numbers) is confusing.
- Entering and tracking two sets of numbers (benchmark and goal) is resource intensive for DEQ.

Options/Considerations for Benchmarks:

DEQ considered the following options for responding to the concerns regarding the stringency of EPA's benchmark values:

- Option 1: Use EPA benchmark concentrations for EPA sector specific benchmarks and current Oregon parameters and establish technology based target.
 - Given that these benchmark concentrations will be considerably lower than current permit, DEQ would set target(s) for the permit term based on an assessment of best available technologies.
- Option 2: Develop Oregon derived benchmarks for EPA sector specific benchmarks and parameters in Oregon's current permits that consider representative dilution and background conditions of western and eastern Oregon waters. DEQ would not set target(s) for the permit term based on an assessment of best available technologies.

DEQ is proposing to develop Oregon derived benchmark values for the benchmark parameters in Oregon's current permits and EPA's permit (Option 2). Facilities will have to monitor for the current benchmark parameters in Oregon's permits as well as any additional sector specific benchmark parameters identified in EPA's permit. The benchmark values will be based on representative receiving water conditions in Oregon, which is similar to the approach Washington's Department of Ecology used to develop the metals benchmarks for their 2009 industrial stormwater permit.

Ecology hired Herrera Environmental Consultants (Herrera) to perform analyses to determine the risk of exceeding acute water quality standards. This analysis took into account the broad range of facility types and receiving waters that would be covered under Ecology's permit. Herrera utilized simple dilution models (e.g., 1, 5 and 10) to evaluate the potential for exceeding water quality standards given the following model inputs:

- representative receiving water background concentrations for western and eastern Washington,
- representative dilution factors, and
- stormwater effluent concentrations.

To provide some basis for assessing uncertainty in these analyses, a Monte Carlo simulation was employed in running the dilution models to determine the probability of exceeding water quality standards based on the receiving water conditions that had the highest potential for occurrence. The model also considered water hardness and the translator value used to convert between total and dissolved metals. Based on Herrera's analysis, Ecology set the benchmarks for eastern and western at concentrations that correspond to a 90% probability of exceeding water quality standards.

DEQ believes that developing benchmark values based on Oregon water quality characteristics will be protective of water quality, will motivate facilities to install effective BMPs that result in reductions of industrial stormwater pollution and is less complicated for the facilities and DEQ to track and ensure that facilities are monitoring for the appropriate benchmark values.

These are a few benchmarks that are based on an evaluation of best available control technologies (e.g., TSS, oil and grease), because water quality standards have not been developed for these parameters. As a result, DEQ will not develop water quality based benchmarks for these parameters.

Next Steps:

DEQ will develop a Request for Proposals to evaluate Oregon's water quality data and conduct modeling to determine the representative water quality conditions that will guide DEQ in developing water quality based benchmarks. DEQ will keep the committee updated on the contractor that the agency selects to do this work. The results of this analysis will be shared with and discussed with the committee.

Developing Oregon derived benchmarks will delay the issuance of the new permits because this additional work was not considered as part of the settlement agreement. DEQ will renegotiate the timelines in the settlement agreement and notify the committee of the new agreed upon timelines.

Draft Tiered Regulatory Approach

Based on feedback from the committee and DEQ's regional managers, DEQ is considering two different corrective action plan approaches for responding to benchmark exceedances:

- *Corrective Action Response 1: Traditional evaluation of BMPs*
 - Applies to facilities that exceed benchmark(s) at any outfall, but not to the degree to trigger Corrective Action Response 2 below.
 - Step 1: Review the stormwater plan and ensure that it is in full compliance with permit. Determine if additional effective BMPs are needed to address the parameters of concern.
 - Step 2: In annual corrective action report, describe results of review, identify corrective actions that were/will be taken and timeline for implementing BMPs, including date corrective action initiated and completed or expected to be completed.
 - Failure to implement BMPs by timeline established in report is permit violation.
- *Corrective Action Response 2: Rigorous evaluation of BMPs*
 - Applies to facilities operating under current permit that exceed benchmarks based on 4th year geometric mean evaluation AND facilities operating under the new permits that do not meet the benchmark(s) after the 2nd year under the permit (based on an average of the monitoring data collected under the new permit).
 - Step 1: DEQ will require these facilities to conduct a comprehensive evaluation of effective structural and treatment BMPs that will reduce pollutants in their discharge to levels at or below the benchmarks in the new permit.
 - Step 2: Identify the specific BMPs evaluated and the rationale for choosing the selected BMPs, the projected pollutant reductions and a timeline for implementing the BMPs that includes the date the corrective action(s) will be

initiated and completed. Stamped by a licensed professional engineer, geologist, hydrogeologist, or certified professional in stormwater quality.

- Facilities that operating under current permit that will need individual permit based on 4th year geometric mean evaluation will include this information in their Stormwater Pollution Control Plan submitted with their permit application
- Facilities operating under the new permits that do not meet the benchmarks after the 2nd year under the permit will include this information in their annual corrective action report.
- Step 3: If a facility determines that the most effective BMPs are not technologically or economically achievable in light of best industry practice, they must describe why these BMPs are cost prohibitive and include the estimated costs for installing the BMPs. Facilities will identify alternative BMPs that they will install that will result in further pollutant reductions.
- Step 4: Failure to implement BMPs by timeline established in plan is a permit violation.