

Oregon Department of Environmental Quality

Implementing Water Quality Standards for Toxic Pollutants in Clean Water Act Permits

**DRAFT Issue Paper: Human Health Toxics
Rulemaking**

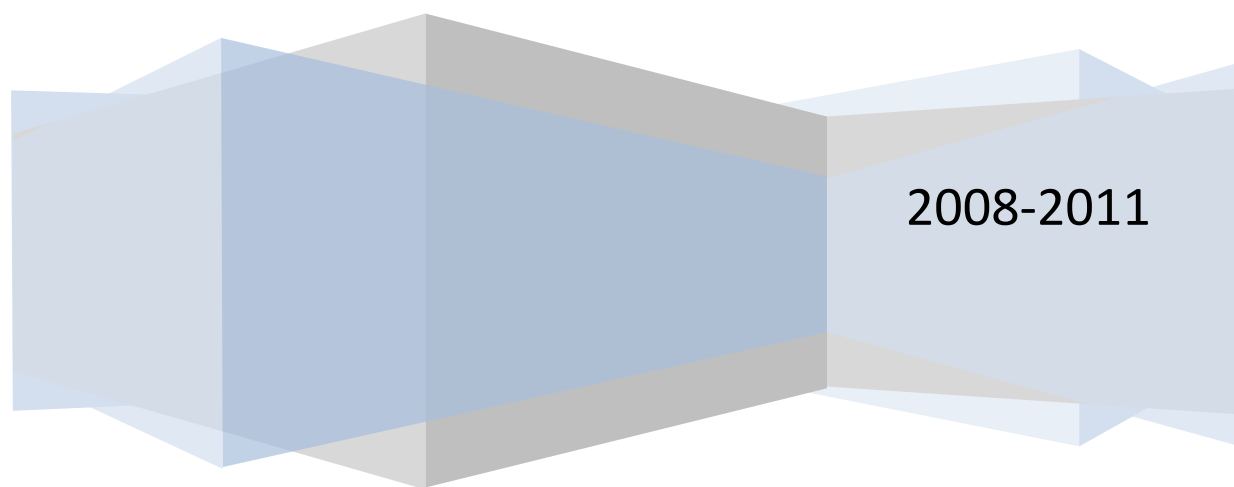


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To be completed

I. Introduction

Placeholder to include:

[Brief description of the project] Revising WQS to reflect 175g/day fish consumption. Toxic pollutants entering our environment come from many different types of sources. Effective control includes looking at all sources. EQC directed us to do our work along these lines. This issue paper examines potential issues associated with implementing the WQS for individual NPDES permit holders.

[Purpose, Briefly, Why we are doing this now] Effort began in 2007 following concerns raised by tribes and EPA regarding previous WQS adopted in 2004 based on fish consumption rate of 17.5 g/day. DEQ agreed, at that time, to undertake a relook at the WQS for potential revisions to reflect local fish consumption data.

[Briefly describe scope of what we're doing] Revising criteria values to reflect 175 g/day, taking a closer look at specific criteria where there are significant issues with natural background concentrations, evaluating and adopting permitting provisions to provide cost-effective and environmentally meaningful implementation of the WQS, looking at other areas of implementation to effectively facilitate toxics control through sources that do not receive individual NPDES permits (e.g., traditional NPS and other sources found to have significant impacts to waters quality, such as air sources). *[Refer to other issue paper.]*

II. Background

Placeholder to include:

[Describe history—Expand upon 2nd paragraph above with additional detail]

Description of the problem, why we need to do this, what we're trying to solve

[Objectives, what we're trying to accomplish-- Describe principles and desired outcomes from the discussion paper – probably pared down, also describe Commission's direction to DEQ; also include paragraph about what we're trying to accomplish specifically with the permitting provisions: identifying to the best of our knowledge potential issues, provide for 'cost-effective and environmentally meaningful' outcomes, approvable by EPA]

[Process, 3 gov. cooperative effort, stakeholder input, etc.—Describe process to date:

Formation of 3 gov collaboration

Workshops

Formation and recommendations of the Human Health Focus Group,

Formation and recommendations of the FIIAC,

3 gov coalescing around 175 g/day, recommendation to EQC, EQC direction

Formation of stakeholder workgroups

*Ultimate charge to the stakeholder groups, and relationship to the Toxics Reduction Strategy
Current process—meetings, scope of work, etc.]*

III. Clean Water Act Requirements for Implementing Water Quality Standards in Permits

[updated]

A. Overview

Beginning in the mid 1960's, the NPDES program has evolved through a series of legislative initiatives and various court decisions with the goal of protecting and restoration of the nations' water quality. Initially the program worked through the application of technology-based requirements for domestic and industrial sources to maintain a minimum level of treatment and environmental protection. Later this was expanded upon to address specific deficiencies of in-stream water quality through the use of Water Quality Based Effluent Limits (WQBELs), and ultimately Total Maximum Daily Loads (TMDLs). Even later, the program was expanded to include discharges of municipal and industrial storm water. This evolutionary process can be seen in the makeup of the current NPDES program.

All domestic and most industrial facilities have minimum treatment requirements embodied in Technology Based Effluent Limits (TBELs) that require a minimum, base-line of environmental protection. The pollutant parameters covered and the stringency of the TBELs depend upon the type of a facility's Significant Industrial Category (SIC). All domestic and industrial facilities go through an evaluation process to determine the "reasonable potential" for the pollutants in their effluent to cause an excursion of numeric water quality criteria in the receiving water body. For those facilities with an "affirmative" finding for reasonable potential, a waste load allocations and a corresponding WQBEL is specifically calculated to protect the water body. On a pollutant by pollutant basis, the numeric water quality standards typically result in WQBELs that are more stringent than the corresponding TBELs. Accordingly, the WQBELs typically act as the main driving force in most permitting situations.

In the **Water Quality Act of 1987** Congress responded to the issue of pollutants carried in stormwater discharges by requiring that industrial stormwater dischargers and municipal separate storm sewer systems (often called "MS4") obtain NPDES permits. The stormwater program focuses on addressing the same water quality goals as the domestic and industrial "point source" program, but due to the diffuse and variable nature of stormwater and the challenges in controlling pollutant contribution, the permits do not have uniform numeric effluent limits like traditional wastewater permits. The stormwater program uses a combination of narrative effluent limits, such as best management practices (BMPs), and pollutant reduction goals in lieu of

specific numeric effluent limits. For the purposes of this issue paper, the remainder of this chapter will focus on issues affecting “point sources” and their permitting.

Although the USEPA is ultimately responsible for the implementation of the NPDES program, many states (including Oregon), have been delegated implementation authority. To be delegated, the states often incorporate NPDES rule language into their statutes/rules and must demonstrate equivalency of their program to the minimum federal requirements. Additionally, there is also a further degree of program variability that is derived from each state’s implementation and supporting guidance. This allows the states to implement a variant of the NPDES program that is specifically suited to regionally specific issues such as regional hydrology, site specific ecology, types of predominate industry and legacy pollutants. Often the state program will contain state-specific pollutants or an additional level of protectiveness for classes of pollutants. EPA retains the right to review and approve all modification to state statutes, and the right to comment on each permit issuance.

Despite the variability between state and federal versions, all permits will typically share the same development process and incorporate the same permit elements (i.e. permit conditions, permit limits, monitoring requirements, permit term, fact sheet/evaluation reports, etc.). Permits will contain monitoring requirements to both, characterize the facility’s effluent and ambient water quality, and ensure compliance by demonstrating that water quality standards are not exceeded. The pollutants that are required to be monitored for and the frequency of sampling is highly variable, and is determined based upon a facility’s type (domestic vs. Industrial), potential for toxicity (SIC code, pretreatment program), size (flow rate, population served) or knowledge of pollutants being present. The characterization data is used during the permit renewal to model the “reasonable potential” (RP) for a facility to cause and exceedance of the water quality criteria in the receiving water body. For pollutants of concern identified as possessing RP, the data will then be used to calculate WQBELs. Once in place, the compliance data will be compared to the WQBELs (and TBELs) on a regular basis to determine the facility’s compliance with the permit.

The RP analysis (RPA) is a simple water quality model that calculates the effect of an effluent discharge on a receiving water body given a worst case (i.e. 1 in 5 year period) scenario. The RPA essentially calculates the maximum expected effluent concentration and compares it to the numeric water quality criteria to determine if there would be an exceedance in-stream. A key element of the RPA is the ability to statistically address very small sample sets and the high variability of monitoring data. In some instances, the RPA can also account for the amount of available assimilative capacity and factor in an amount of dilution when calculating the maximum expected concentration. In instances where the water body contains concentrations of pollutants in excess of the water quality criteria, there would be no assimilative capacity and all comparisons are made at the point of discharge (“end of pipe”). This is of particular concern on stream segments that are listed as “impaired” on the 303(d) list, severely limiting the allowable amount of pollutant discharge.

Once a RPA has been completed and appropriate WQBELs are developed, the permit writer will typically determine if any TBELs are also applicable. In most cases, the WQBELs are more conservative than the

corresponding TBELs and included in the final permit. Before submitting a final draft of the permit, the permit writer works with the facility (permittee) to determine if the terms and effluent limits of the permit are immediately achievable. If additional capital improvements could result in the facility meeting the terms and effluent limits within a few years (ideally 1 to 5 years), then a series of milestones and incremental effluent limits would be included in the permit. This compliance schedule, would grant the facility a degree of regulatory relief while it put necessary changes into place to achieve compliance although there are a series of enforceable conditions and a “final effluent limit” that takes affect at the end of the permit period.

An important issue is the impact of analytic limits on the permit development process and compliance. Analytic limits are the effective ranges that analytic methods can measure and quantify the concentration of a pollutant. Many of the state’s water quality criteria (approximately 30 to 40%) and resultant WQBELs are at concentrations below the effective analytic range of the EPA approved analytic methods. This has a number of effects on permit development process, the most significant of which is the elevation of the actionable level (reasonable potential) from near the water quality standard to the analytic methods quantitation limit. Similarly, for WQBELs that are below analytic limits the quantitation limit becomes the effective “compliance limit” used to determine compliance. In these cases, a plateau of environmental protection is created where it is impossible to determine if additional environmental protection is warranted or how effective treatment technology is at removing pollutants.

B. Permitting Demographics

Generally, the new human health criteria for toxics will be applicable to all individual and general permits. The degree to which these permits are affected by the new criteria will be determined by the various monitoring requirements that are mandated by state and federal rule.

For example, minor domestic sources have much reduced monitoring, and subsequently permitting, requirements than major domestic sources. Industrial permits have a complex process to determine monitoring requirements based on the industrial category and the potential for toxicity in the receiving waterbody. A flow chart demonstrating the monitoring requirements identification process for “primary Industries” is presented below as an example of a portion of the process.

Based upon current data, the Department has the number of active permits as described in the Table 1 below.

TABLE 1

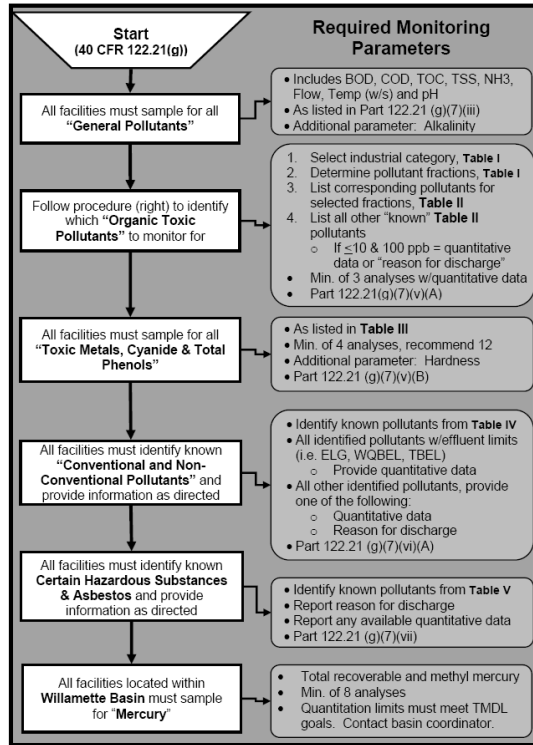
Facility Type	No.
Major Domestic	49
Minor Domestic	154
Major Industrial	19
Minor Industrial	130
MS4	22
Total	374

Municipal Separate Storm Sewer Systems (MS4s)

There are currently 51 jurisdictions in Oregon that are permitted under the Municipal Separate Storm Sewer System (MS4) NPDES permit program. These jurisdictions were required to obtain a NPDES permit under Phase I or Phase II federal stormwater rules. Generally, the permits cover the discharge of stormwater from MS4s (i.e., 'urban areas'), and the standard for these permitted jurisdictions is reducing the discharge of pollutants to the Maximum Extent Practicable.

Jurisdictions not required to obtain a NPDES permit for stormwater discharges from their MS4 (i.e., non-NPDES sources) may be required to address the discharge of pollutants based upon a TMDL, particularly if they are identified as a designated management agency. Typically, this is addressed through the development of a TMDL Implementation Plan.

Primary Industry Monitoring Requirements Determination Process



C. Toxic Pollutants on 2004/06 303(d) Integrated Report as Water Quality Impaired

The column headings on Table 2 indicate whether the criteria are for human health criteria (HHC), aquatic life criteria (ALC) protection, or only organoleptic effects (i.e. taste, odor, and color effects). If there are criteria for both uses, the column in which the toxin is located indicates which of those criteria are more stringent. For a complete list of waterbodies which are water quality limited for toxics, please refer to the table in Appendix A.

TABLE 2: 303(d) Listed Toxics From 2004/2006 Integrated Report

HHC	ALC	Organoleptic
arsenic	cadmium	iron
beryllium	chromium	manganese
mercury	copper	
nickel	lead	
Aldrin	silver	
chlordane	zinc	
dichloroethylenes	ammonia	
Dieldrin	pentachlorophenol	
DDE, DDT	chlorpyrifos	
Heptachlor	Guthion (azinphos-methyl)	
PAHs		
PCB		
tetrachloroethylene		
trichloroethylene		

In addition, the following pollutants were identified as pollutants of concern in the 2004/06 water quality assessment report. Given that some of these pollutants were added to this list based on concentrations found through sediment analyses, direct correlations to concentrations in the water column could not be made.

TABLE 3: Pollutants of Concern from 2004/2006 Integrated Report

Pollutants of Potential Concern	
Acenaphthene	Endrin
Aldrin	Fluoranthene
Alkalinity	Guthion
Alpha-BHC	Heptachlor
Ammonia	Iron
Antimony	Isophorone
Arsenic	Lead
Arsenic (tri)	Malathion
Benzo(a)anthracene	Manganese
Benzo(A)anthracene	Mercury
Benzo(A)pyrene	Naphthalene
Benzo(g,h,i)perylene	Nickel
Beryllium	Nitrates
BHC	p,p' DDD
Cadmium	Parathion
Chlordane	PCB
Chlorophenoxy Herbicides (2,4-D)	Pentachlorophenol
Chlorpyrifos	phenanthrene
Chromium (hex)	Phenol
Chrysene	Phthalate Esters
Copper	Polynuclear Aromatic Hydrocarbons
Cyanide	pyrene
DDD	Radionuclides
DDT	Silver
DDT Metabolite (DDE)	Tetrachloroethylene
Dichloroethylenes	Thallium
Dieldrin	Toxaphene
Dioxin (2,3,7,8-TCDD)	Tributyltin
Dioxins/Furans	Trichloroethylene
	Zinc

D. The Cost of Compliance with Water Quality Criteria for Toxic Pollutants for Oregon Waters

A report¹ written in 2008 provided estimates of the potential incremental compliance actions and costs that could be associated with revising the fish consumption rate. The project identified that there would be permitted sources that would have the potential to exceed currently effective criteria for the following pollutants:

- DDT
- Alpha-BHC
- Arsenic
- Bis (2-ethylhexyl) phthalate (on Table 20 as Di-2-ethylhexyl phthalate)
- Dioxin
- Mercury

Note that 5 out of the 6 pollutants (not bis-phthalate) identified above have a reasonable potential to exceed or contribute to an exceedance at OR's current fish consumption rate of 17.5 g/day, so the higher proposed criteria for these pollutants may not necessarily create additional compliance concerns. In addition, as part of the 2004 rule revision, Oregon withdrew its national CWA § 304(a) human health criterion for total mercury and replaced these criteria with a new fish tissue-based "organism only" human health criterion for methylmercury. DEQ does not have a current criterion for methylmercury, although a new criterion will be proposed as part of this toxics rulemaking. Consequently, until data on methylmercury are collected and analyzed, it is unclear what the state of compliance will be. Also note that the current rulemaking will propose a higher criterion for arsenic than reflected in the SAIC report (and will be for inorganic – not total). Therefore, some of the compliance issues associated with arsenic may be minimized.

¹ Science Applications International Corporation. June 2008. [Cost of Compliance with Water Quality Criteria for Toxic Pollutants for Oregon Waters](#)

IV. Recommended New or Revised Permitting Implementation Tools

Include language here introducing background pollutants and how they exacerbate WQ problems, but also describe how dischargers may not be able to meet new WQBELs because of the processes they use and not because of pollutants already present in the intake water.

Include language here on OR's use of GLI. EPA will independently review each component of the rule to confirm consistency to part 131.

Background Pollutants

Issue Summary

Many pollutants are ubiquitous in the environment because they occur naturally or result from a diffuse variety of human activities. As such, they may contaminate a facility's wastewater through the facility's intake water. For purposes of this overview, these pollutants are referred to as "background pollutants" and potential background pollutants of concern. In Oregon, background pollutants include, but may not be limited to, the following:

- ❑ Arsenic, iron and manganese - naturally occurring earth metals present in many Oregon waters at concentrations greater than the currently effective water quality criteria.²
- ❑ Mercury, PCBs and DDT - pollutants known to be in Oregon waters at background concentrations above the criteria. These pollutants may come from a variety of sources, including air deposition, nonpoint sources, legacy sources and current discharges.

Some point sources in Oregon take water in from and discharge back into water bodies that have background pollutant levels that already exceed the water quality criteria.

For those point sources that do not increase the mass or the concentration of a background pollutant above their intake water levels, an "intake credit" provision (patterned after that used in the Great Lakes) could provide regulatory relief relative to NPDES permit requirements. Such sources would not be responsible for removing the background pollutants they took in via their intake water. For more information on intake credits, see pgs. XX – XX.

Intake credits, however, are not available for facilities which concentrate pollutants in their discharge above that which is found in the intake water. This increase in concentration occurs because some facility processes reduce the volume of water through evaporation (e.g. non-contact cooling), and thus, the same mass is mixed in a smaller volume of water, thereby increasing concentration. Due to this increase in concentration and

² We expect the majority of waters where this is currently the case for iron and manganese to be addressed by proposed revisions to those criteria, and also addressed, to a large extent, by revisions to the arsenic criterion.

because the background pollutant levels already exceed the water quality criteria (i.e., no dilution is available through mixing zones), the point source would be required to meet the water quality criterion for that pollutant at the “end-of-pipe.”

In Oregon, most facilities recycle their cooling water, using it multiple times before discharging to the receiving stream. Multiple pass cooling allows the facility to withdraw less water from the river (and may conserve heat loss from the stream depending on waterbody characteristics), so is environmentally preferable over single pass cooling. However, it can lead to effluent concentrations that are higher than receiving stream background concentrations for that pollutant.

In situations like this, the discharger cannot remedy the sources of these background pollutants that occur upstream of their discharge. Further, where the ultimate concentration increase in the receiving stream is small, there is concern that implementation of a remedy by the discharger to control the small increase in concentration (e.g., reducing the number of pass through cycles) would result in more environmental damage than leaving the current process in place.

The following tools discussed in this section could potentially be used to address background pollutant concentrations.

1. General Permits

[updated]

A. DESCRIPTION

In many cases, the department writes an individual NPDES permit to regulate the discharge of a single effluent stream derived from multiple industrial activities. If taken individually, many of these industrial activities could qualify for a general permit. Since general permits can be developed to specifically address background pollutant conditions, the proposed tool is to allow facilities with individual permits to also have general permits to address applicable industrial activities. Where appropriate, facilities may consider physical separation of one of the aforementioned processes or activities and separately permit it under a general permit.

B. APPLICABILITY/SCOPE

General permits (GPs) are written by permitting authorities to implement common effluent limit requirements for specified categories of discharge sources. Pursuant to 40 CFR 122.21 (h), GPs have reduced monitoring requirements compared to individual permits and may utilize a “net credit” to account for the presence of pollutants in intake water³.

³ 40 CFR 122.21 (g)(7) Effluent Characterization: The requirements in paragraphs (g)(7)(vi) and (vii) of this section state that an applicant must provide quantitative data for certain pollutants known or believed to be present do not apply to

In Oregon, a qualifying facility would apply for coverage under a general permit by submitting **EPA Form 2E** that reflects the reduced monitoring requirements⁴ when compared to the individual permit application (**EPA Form 2D/C**). Oregon's administrative rule limit general permits to *minor* facilities or activities and currently uses EPA's *NPDES Non-municipal Permit Rating System* to determine status. General permits may place limits on the quantity and concentration of pollutants allowed to be discharged. To ensure compliance with these limits and conditions, general permits may require monitoring and reporting. General permits are limited to a term of five years.

The department currently allows general permits pursuant to the terms and conditions set forth in 40 CFR 122.28 and OAR 340-045-0033. The following table describes the NPDES permits currently offered by the department that describe processes or activities that are also commonly covered in individual industrial permits.

Permit	Description
100-J	Cooling water/heat pumps
200-J	Filter backwash
400-J	Log ponds
500-J	Boiler blowdown
900-J	Seafood processing
1500-A	Tanks cleanup and treatment of groundwater
1700-A	Washwater
1900-J	Non contact geothermal

C. DEQ RECOMMENDATION

The department's recommendation is not to pursue wide-spread implementation of this tool. Based upon evaluation of the current permit universe, the number of facilities that could benefit from this approach is extremely limited. The department retains its current ability to implement both an individual and general permit on a case-by-case basis.

D. POLICY ISSUES AND OBJECTIVES

General permits differ from individual permits in that they only cover one process or activity, where most individual permits cover multiple processes or activities. Additionally, general permits do not have many of the pollutant monitoring and reasonable potential analysis requirements that individual permits have. Individually permitted facilities may contain one or more of the processes covered under general permits. This means that a facility with co-mingled processes and an individual permit may have more stringent

pollutants present in a discharge solely as the result of their presence in intake water; however, an applicant must report such pollutants as present. Net credits may be provided for the presence of pollutants in intake water if the requirements of 122.45(g) are met.

⁴ Federal regulations indicates that when characterizing the effluent the traditional monitoring requirements under 40 CFR 122.21(h)(4)(i-iii) do not apply to pollutants present in a discharge solely as a result of their presence in intake water.

effluent discharge limits than if the processes were separately permitted with a combination of an individual and general permit.

E. POLICY EVALUATION

Advantages and Disadvantages

As part of the rulemaking process to address the revised fish consumption values and corresponding human health criteria, a concern was raised by many of the stake holders concerning the effects of naturally occurring and legacy pollutants in source waters. Accordingly, a number of implementation tools have been suggested including a variety of general permit based approaches. The department selected the approach of using existing General Permit Rule language and permits to address background pollutants from source waters.

Advantages of the selected option are:

- Option is currently authorized through existing rules
- Separate permits with separate effluent streams would simplify permit development and compliance processes
- Could work-in conjunction with other adopted implementation tools (e.g. intake credits)
- Would permit a more succinct evaluation of the environmental hazards of each effluent stream
- Might serve to minimize the degree to which a permittee would have to remove naturally occurring or legacy pollutants from source waters.
- The department may develop new General Permit categories as long as they meet the requirements⁵ set forth in 40 CFR 122.21 and .28 without formal rulemaking

Disadvantages of the selected option are:

- Requires multiple permits, additional administrative time and permitting fees
- Limited in scope to minor facilities and/or activities
- Requires a facility to physically separate effluent streams, although common outfall would be permitted.
- Allows a higher percentage of natural or legacy pollutant to be returned to water body than would be allowed under a water quality based effluent limit.

Alternatives Considered

Throughout the course of RWG discussions and implementation tool evaluation the following alternatives were investigated and considered as prospective implementation tools:

⁵ A general permit may be written for categories that:

- Involve the same or substantially similar types of operations;
- Discharge the same types of wastes or engage in the same types of sludge use or disposal practices;
- Require the same effluent limitations, operating conditions, or standards for sewage sludge use or disposal;
- Require the same or similar monitoring;
- In the opinion of the Director, are more appropriately controlled under a general permit than under individual permits.

1. (A Broad Spectrum General Permit modeled on the [Long Island Sound General Nutrient Permit](#). This permit was issued by the State of Connecticut to implement a Long Island Sound General Permit to meet the waste load allocations described in the Long Island Sound Nutrient TMDL. Although the permit contained a couple of innovative features, the most interesting for department's needs was the use of a general permit to collectively implement nutrient effluent limits and operational conditions into individual point source discharge permits. The individual permits reference the nutrient permit conditions set forth in the GP, and had traditional effluent limits and permit conditions for the rest of the applicable pollutant parameters.

The idea was to develop a single general permit to address background pollutants state wide or over a large geographic area and integrate them into a pollutant trading structure. After consultation with EPA, it became apparent that it was permissible to have a state wide general permit but it was not permissible to utilize established pollutant trading guidance for toxic pollutants.

2. Develop a new GP entitled "Oregon Permitted Facilities Employing Surface or Ground Water as Utility Water" (Utility Water Permit). The permit would cover all the "pass-through type of activities⁶, such as non-contact cooling (single & multi-pass), cooling tower blow down, boiler water blow down, pump testing, etc, with a single general permit. The permit would provide a flow-based tiered structure of temperature controls and effluent limits.

The advantage of this approach would be to pull more activities under coverage by general permits (e.g. pump testing) and potentially consolidate multiple general permits. The activities addressed under the Utility Water Permit would have to be physically separated from any other effluent streams to facilitate compliance monitoring. Based upon feedback from permit writers and analysis of the number of perspective facilities that could utilize this alternative, it was determined there would be very limited applicability relative to the amount of staff time required to develop the alternative.

3. Allow a facility with co-mingled process and non-process waters to apply for a general permit⁷ for the applicable non-process activities without having to physically segregate them. The concept of the "imbedded permit" would allow permit writers and facilities to general permit the non-process activities utilizing a system of mid process monitoring and pollutant accounting.

The advantage of this approach would be to allow for issuance of both a general permit and individual permit without requiring a facility to make capital expenditures to separate the processes. Based upon feedback from permit writers, it was determined that the complexity of the effort to monitor mid process effluent streams and to account for pollutant loading would increase facility operational costs and overly complicate the Department's compliance monitoring role.

⁶ Remember here that we are referencing activities. A major facility (>1 MGD) might have a minor activity (<1 MGD).

⁷ This would be limited to only activities covered under the general permits the department supports at the time of the permit development. This is different than alternative number 2 which would develop a new general permit to address multiple activities under one permit.

Summary of RWG discussion and views

Although there was general interest in the ability to implement the proposed tool, members of the work group were not able to cite specific examples where the proposed tool could be implemented. Additionally, individual members voiced concerns that the legal basis of the proposal was flawed and would potentially leave a permittee open to a future legal challenge.

The following questions were asked as part of the discussion:

- Question 1: *The current general permit approach is based on a process. Can a general permit be written based on a pollutant?*
- Answer 1: *The rules are limited to minor discharges (minor being either the activity or the facility). Although it might be ok to write a general permit for an individual pollutant, it wouldn't be ideal because the general permits focus on types of activities and treatment technologies for those types of activities.*
- Question 2: *How is a General Permit Different from a Traditional Water Quality Based Permit?*
- Answer 2: *General permits are typically designed to simplify the permitting process for a class of dischargers⁸ by focusing on a small set of water quality indicators (e.g. TSS, pH, etc.) and using them as metrics to limit the permitted process to a specified amount of concentration increase. Additionally, the GP conditions focus on ensuring that additional pollutants (e.g. chemical additives or incidental pollutants) are not introduced into the effluent stream in significant concentrations. This minimizes the cost of regulatory oversight to both the regulator and permittee while applying effluent limits that are generally protective of water quality and reflect standard treatment technology and/or best management practices.*

The federal rules that describe the general permit process acknowledge the presence of intake pollutants and exempts them from individual monitoring. This is reflected in 40 CFR 122.21 (g)(7) presented below:

Effluent Characterization: The requirements in paragraphs (g)(7)(vi) and (vii) of this section state that an applicant must provide quantitative data for certain pollutants known or believed to be present do not apply to pollutants present in a discharge solely as the result of their presence in intake water; however, an applicant must report such pollutants as present. Net credits may be provided for the presence of pollutants in intake water if the requirements of 122.45(g) are met.

Part (g)(7)(vi) and (vii) refer to the portion of the application process that requires the monitoring of toxic pollutants in a sources effluent. In effect, since there is no requirement to monitor for toxics, there can be no assessment of reasonable potential and no water quality based effluent limits.

F. PROPOSED RULE LANGUAGE

Not applicable

G. AUTHORITY AND PRECEDENCE

⁸ In Oregon, general permits are limited to Minor facilities only.

DEQ believes that this provision is within the state’s authority to establish general permits under 40 CFR 122.28. As long as an activity is covered under one of the state approved general permits, not subject to another water-quality based limit pursuant to 40CFR 122.44 and is segregated from other effluent streams, a facility may separately apply for general permit in addition to its individual permit.

In rare cases, the Department has issued general permits to facilities with individual NPDES permits for other effluent streams.

H. OTHER SUPPORTING INFORMATION

Not Applicable

I. IMPLEMENTATION INFORMATION

Not Applicable

2. Background Pollutants Allowance

[updated]

**Items for RWG Discussion June 30 re:
“Background Pollutant Allowance” Rule**

The following are issues/options DEQ would like to discuss with the RWG at the June 30 meeting based on the comments we received from the workgroup in mid-June on our “Draft Background Pollutant Allowance Issue Paper” and discussion draft rule language.

In addition, DEQ made a few changes to the draft rule wording in response to comments received, which are highlighted in yellow below, and will address other issues/concerns either in the discussion section of the issue paper or in a Q&A section to be added.

DEQ continues to recommend, at a minimum, the background pollutant allowance provision as described in Option 1 in the attached issue paper. DEQ received several suggestions for broadening the applicability of that provision. DEQ solicits the input of the workgroup regarding whether the provision should be broadened as described in Options 2 and/or 3 below. Note that these options are not mutually exclusive, but that each option potentially builds upon the more narrow provision proposed by DEQ.

Does the workgroup support broadening the applicability of the background pollutant allowance? What are your thoughts on including Option 2 in addition to the provision recommended by DEQ?

Option 2:

1. The source of the pollutant is the facility’s intake water.

2. Intake waters could include multiple surface and groundwater sources, but no more than 50% of the pollutant mass load in the discharge may be attributable to groundwater sources.
3. **The pollutant concentration in the effluent must be equal to or less than the upstream ambient concentration in receiving water.**
4. The provision would only apply to human health criteria.
5. The criterion is exceeded in the water body upstream of the discharge.
6. The pollutant is not added by the facility through their process (i.e. there is no increase in the mass load of the pollutant to the receiving water above that attributable to the facility's intake water).
7. All aquatic life criteria and technology based effluent limits must be met.
8. There is no technologically and economically feasible means to further reduce the pollutant concentration in the discharge.

Implications of Option 2:

- This additional provision was suggested because DEQ's recommended provision would not be available to the many facilities that obtain their intake water or a portion of it from sources other than the receiving stream for the discharge.
- The background pollutant allowance would not be limited based on the source of the intake water, except for a limit to the pollutant load originating from groundwater.
- Because pollutant loads that originate from waterbodies other than the receiving water bring additional flow as well, in some cases the discharge may reduce the instream concentration. Under this option the discharge pollutant concentration would have to be equal to or lower than the ambient stream concentration.
- The justification for this option would need to assert that a small addition of pollutant load would not impair beneficial uses as long as the pollutant concentration is constant or reduced.
- In some cases the pollutant of concern may not be in the groundwater source. Yet Option 1 would be unavailable to sources that use groundwater for part of their intake water.
- For persistent bio-accumulative toxic pollutants, the total mass load may be a concern because the pollutant will persist in the water body and has the potential to bioaccumulate through the food chain into fish, among other organisms.
- As with Option 1, this provision would be limited to facilities that do not add the pollutant through their process, but obtain the pollutant entirely through their intake water.

Option 3.

Michael Campbell proposed two additional changes to Option 1:

1. Allow a 3% increase rather than 1% increase.
2. Use the full river flow basis (30Q5 or harmonic mean flow) for the Willamette and Columbia Rivers to calculate the concentration increase rather than limiting the river flow basis to 25%.

Implications of Option 3:

- The table below shows some hypothetical calculations showing the difference between allowing a 1% and a 3% increase. These scenarios are not real because the criterion is actually below the quantitation limit, but represents how the calculations would look if the pollutant were measurable.

- The difference between organism only criteria based on a 10^{-6} and 10^{-5} consumption rate is a factor of 10.
 A criterion of 1.4 becomes 14 when you change from a risk of 10^{-6} to 10^{-5}
 If that criterion value increases 1%, it becomes 1.41
 An increase of 3% brings it to 1.45
- If the full flow basis for the Willamette and Columbia are allowed, this is a potentially large load addition to these large rivers.
- If one believes that load is not an issue and we need be concerned only about concentration, this would not be a problem. However, DEQ believes that in the spirit of overall toxics reduction and particularly for persistent bioaccumulative pollutants, additional loading should be limited on rivers that already exceed the criteria.

Pollutant	D-toxin		
Criterion (Fish + Water)	0.000052 ug/l		
Small River			
Harmonic Mean Flow (cfs)	50.4		
Ambient Conc. (ug/l)	0.007		
Effluent Flow (mgd)	0.028		
Effluent Conc. (ug/l)	(6x Ambient) 0.042		
% Change in Waterbody	Final in-stream conc.	Effluent discharge conc.	
1.087%	0.00708	0.042	ug/l
1%	0.00707	0.041	ug/l
3%	0.00721	0.11	ug/l
5%	0.00735	0.18	ug/l
Large River (Scenario 1)			
Harmonic Mean Flow (cfs)	8510		

Ambient Conc. (ug/l)	0.007		
Effluent Flow (mgd)	0.028		
Effluent Conc. (ug/l)	(6x Ambient) 0.042		
% Change in Waterbody	Final in-stream conc.	Effluent discharge conc.	
0.007%	0.00700	0.042	ug/l
1%	0.00707	6.0	ug/l
3%	0.00721	18	ug/l
5%	0.00735	30	ug/l
Large River (Scenario 2)			
Harmonic Mean Flow (cfs)	8510		
Ambient Conc. (ug/l)	0.007		
Effluent Flow (mgd)	10		
Effluent Conc. (ug/l)	(10x Ambient) 0.070		
% Change in Waterbody	Final in-stream conc.	Effluent discharge conc.	
3.8%	0.00728	0.070	ug/l
1%	0.00707	0.020	ug/l
3%	0.00721	0.054	ug/l
5%	0.00735	0.087	ug/l

A. DESCRIPTION OF TOOL

The “background pollutants allowance” would be a water quality standard provision contained in the toxics standard rule (see below for draft rule language). This rule would allow certain permittees to discharge effluent at concentrations above the numeric criterion under the following limited circumstances:

Option 1

1. The facility obtains its water from the same water body or hydrologically connected water (see the intake credit rule definition) that it discharges to.
2. The provision would only apply to human health criteria.
3. The criterion is exceeded in the water body upstream of the discharge.
4. The source of the pollutant is the facility’s intake water.
5. The pollutant is not added by the facility through their process (i.e. there is no increase in the mass load of the pollutant in the receiving water).
6. The increase in concentration in the receiving water from the upstream ambient concentration is not greater than:
 - a. 1% calculated using 100% of the 30Q5 flow of the receiving stream; or
 - b. 1% for the Willamette and Columbia Rivers calculated using 25% of the 30Q5 flow of the river.
7. All aquatic life criteria and technology based effluent limits must be met.
8. There is no technologically and economically feasible means to further reduce the pollutant concentration in the discharge.

B. APPLICABILITY/SCOPE

This tool would apply only to facilities that discharge a pollutant to a water body that exceeds the water quality criterion for that pollutant immediately upstream of the discharge. The facility must also meet all the conditions listed above. This means that the provision would apply to facilities that take water in that contains the pollutant and concentrate it through one of their processes, even though they do not add the pollutant to the wastewater. This would primarily include non-contact cooling processes, but could also include other processes that cause a decrease in water volume but leave the mass of the pollutant constant, thereby concentrating the pollutant.

DEQ does not expect that this provision will be very useful for municipal wastewater treatment plants, but there may be a few exceptions. Most municipal wastewater treatment plants would not be able to meet the required conditions, in part because they receive their inflow from a variety of sources (e.g., households, industry). Frequently, municipal water supply is from variety of original sources as well, possibly including both groundwater and surface water sources.

C. DEQ RECOMMENDATION

DEQ recommends that we pursue adoption of a background pollutant allowance as a water quality standard provision. DEQ finds this alternative preferable to a multiple discharger variance or general permits for addressing the issue of background pollutants in intake water. The reasons for this are discussed below.

D. POLICY ISSUES AND OBJECTIVES

This provision is intended to address situations where a facility receives pollutants with their intake water that become concentrated before the facility discharges the water back into the same water body, but does not contribute additional mass of the pollutant to the water body. This may occur where a water body contains pollutants that are natural or that originate from other upstream sources and a downstream facility that uses river water for non-contact cooling, for example. Without this provision, such a facility may be required to remove pollutants that were generated by other upstream sources. In some cases, this could make it infeasible for the facility to use the water, yet industrial water supply is a designated beneficial use of the waters of the state.

Without this provision, facilities that discharge to water bodies that exceed the water quality criterion for the discharged pollutant are required to meet the criterion in their effluent at the “end of pipe,” before it enters the receiving water. Because the intake water already exceeds the criterion, they would not be able to meet the criterion in their discharge without treatment, even though they add no mass of the pollutant through their process or activity. The intake credit rule is a solution for facilities that take the water in and discharge it back to the river with no increase in mass or concentration. However, the intake credit rule may not be used if the facility increases the concentration of the pollutant. Therefore, facilities that reduce the water volume through evaporative cooling or other processes and thereby leave a constant pollutant mass load in a smaller volume of water, may not take advantage of the intake credit provision.

The objective of this policy is to provide a solution that:

1. protects human health,
2. is fair to facilities in the predicament described above, and
3. is not overly burdensome to the Department or the facilities to administer.

Streams that exceed water quality criteria, once listed as impaired, are subject to a TMDL, which will identify the sources of the pollutants and assign wasteload and load allocations to reduce the pollutant loads and meet the water quality standards. Through this process, the pollutant load in the water body will be reduced. As the ambient load is reduced, the concentration in the discharge of facilities using the stream for intake water will also be reduced.

E. POLICY EVALUATION

Advantages and disadvantages

The advantages of this tool include:

1. It provides a fair and reasonable implementation tool. Facilities who do not contribute a pollutant will not be required to clean up the pollution generated by other sources as long as their activity of concentrating that pollutant does not represent a significant added human health risk.
2. Once adopted, this tool would be a more administratively efficient means to accomplish the policy objective for this particular circumstance than having to issue variances. Therefore it would be less costly for the Department, for the permittee and for EPA.

3. This provision would provide more regulatory certainty for sources than a variance approach, at least at this time when DEQ and EPA Region 10 experience with variances is very limited.
4. This meets the EQC policy objective of an environmentally meaningful and cost effective implementation tool for permitted sources.

Disadvantages of this tool include:

1. There is no precedence for this type of standards provision elsewhere.

Alternatives considered for the definition of an allowed "limited increase"

Three primary alternatives were considered for how to define an allowed limited, or "de minimis," increase that would not present a significant added risk to human health. Because this provision would apply only to reaches where the ambient upstream concentration exceeds the criterion, there is an existing human health risk concern in the water body.

DEQ recommends option 1, or a variation of this approach, and does not recommend using an alternate fish consumption rate or risk level as described in options 2 & 3.

Option 1 (DEQ recommended approach): An increase of not more than 1 % (or 3%) is allowed in the receiving water.

The rationale for this definition of an allowed limited increase is that the source/discharge in question is not contributing an additional incremental human health risk of any significance to the existing situation. While the existing pollutant load in the river is a concern, the source will increase the concentration by a very small amount and will not increase the mass load of the pollutant in the river at all. They are only concentrating the pollutant load that was in their river intake water by reducing the volume of water it is diluted in.

With this option, the rule or implementation guidance must specify how the percent increase is calculated; including what the increase is from and what amount of mixing back with the river flow will be allowed.

Advantages:

- The allowed increase would be the same regardless of pollutant, upstream ambient concentration or location.
- The allowed increase would be relatively simple to calculate.

Disadvantages:

- There would be a slight increase in concentration in streams that exceed the criterion.

- This option would not limit the discharge concentration to an alternate calculated value that could clearly meet EPA's 2000 human health methodology.

Option 2: The calculated value of a human health criterion using a cancer risk level of 10^{-4} or 10^{-5} .

In this case the discharge would have to meet a criterion that is calculated based on a higher human health risk value rather than 10^{-6} , which is the basis of Oregon's water quality criteria. The rule would need to define whether this limit would apply at the end of pipe or would allow some mixing with the receiving water.

Advantages:

- DEQ could clearly justify that this increase would be sufficiently protective of human health according to EPA guidance, because it would be calculated according to the same method used to derive the criteria and would use a high fish consumption rate of 175 g/d (i.e. a rate above EPA's subsistence rate of 144 g/d).

Disadvantages:

- This option would only apply to carcinogens, which are based on a cancer risk level. Non-carcinogens are based on a total exposure reference dose.
- In some cases, the ambient background may already exceed the 10^{-4} or 10^{-5} based value. In these cases, this alternative would not provide a solution to the intake pollutants concentration problem.
- In some cases, this may be a larger increase than is desirable. A risk level of 10^{-4} is 100 times greater than a risk level of 10^{-6} , and a risk level of 10^{-5} is 10 times greater. If this was applied in the effluent (end-of-pipe), depending on the dilution available, this approach could allow a larger increase than 1% after mixing for many pollutants, although that is less likely for criteria based on 10^{-5} . For example, in the case of arsenic, the proposed organism only criterion, based on a risk level of 10^{-6} , is 2.7 $\mu\text{g/l}$. An arsenic value based on 10^{-4} is 270 $\mu\text{g/l}$. If the background concentration is 5 $\mu\text{g/l}$, a discharge concentration of 270 $\mu\text{g/l}$ may result in an instream concentration of more than 5.5 $\mu\text{g/l}$, depending on the amount of mixing allowed.

Option 3: The calculated value of a human health criterion calculated based on a lower FCR.

Advantages:

- DEQ could justify that this increase would be sufficiently protective of human health according to EPA guidance if we could find an acceptable fish consumption rate lower than 175 g/d. Perhaps we would estimate a site specific consumption rate based on fish harvested from the water body where the discharge is located.

Disadvantages:

- In some cases, the ambient background will already exceed the value based on a lower consumption rate. Therefore, this option would not provide a solution to the intake pollutant concentration problem.
- Current 303d listings based on water quality data (as opposed to fish advisories) are based on human health criteria that were calculated using a fish consumption rate of 6.5 g/d. This option would not provide a solution for any water body currently listed.
- It could be difficult to establish an acceptable lower fish consumption rate to use as the basis.

Alternative tools considered to address background pollutants in intake water. The following tools are alternative means to address the situation where pollutants are present in the ambient water upstream of the discharge and are in the facilities intake water:

1. a multiple discharger variance for non-contact cooling water facilities
2. individual variances, and
3. general permits.

A discussion of these implementation tools is included in other sections of this "NPDES Implementation Tools" issue paper.

A variation to the proposal is that it would apply to pollutants in any intake water and not be limited to intake water from the receiving water body. For example, if the source water included groundwater that would not otherwise enter the water body within a reasonable time frame. Proponents of this variation assert that if the increase is truly insignificant from a human health perspective it should not matter where the intake pollutants are from. Opponents would suggest that in the latter case, additional mass of the pollutant is being added to the water body and that for persistent pollutants this should not be allowed, particularly when the water body already exceeds the criterion.

DEQ does not recommend this variant. Based on discussions of the RWG regarding the need for this provision and uncertainty regarding its use, DEQ recommends keeping the provision focused on the specific circumstances described above and included in the proposed language below.

Summary of RWG Discussion and Views

There is general agreement amongst Rulemaking Workgroup members with the policy objective stated above.

The permitted facility representatives emphasize the need for the implementation solution to be fair, provide regulatory certainty and be cost-effective. Their view is that in this situation the facility is not contributing to the human health risk because there is already a problem in the river and the effect of their facility is relatively negligible or "*de minimis*."

The environmental organizations on the Rulemaking workgroup emphasize the need to ensure that the human health impact is negligible, perhaps even within the margin of error or certainty that there would be any change in human health risk due to the facility at all. Some of the environmental organizations have the view that even though a facility does not contribute a pollutant, if they concentrate the pollutant through their activity they are contributing to the problem and the standards violation, because standards are written as instream concentrations.

F. PROPOSED RULE LANGUAGE

OAR 340-041-0033 (3). A 1% increase in the background pollutant concentration of a water body that exceeds an applicable human health criterion based on a fish consumption rate of 175 grams/day for that same pollutant, is allowed if all the conditions listed in this rule section [OAR 340-041-0033(3) (a) through (f)] are met. This limited incremental increase in the background pollutant concentration will not further impair the beneficial uses of Oregon waters or result in a significant added human health risk.

Deleted: If the

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Deleted: from the ambient concentration immediately upstream of a discharge may be allowed by the Department if all of the following conditions are true:

a) For the purpose of this section, "background pollutant concentration" means the ambient water body concentration immediately upstream of the discharge, regardless of whether those pollutants are natural or result from upstream human activity.

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b) The increase is caused by the existing discharge of a permitted facility.

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c) The mass of the pollutant in the discharge does not exceed the mass that is attributable to the pollutant in the facility's intake water and therefore the discharge does not increase the mass load of the pollutant in the receiving water body.

d) The 1% increase above the background pollutant concentration is calculated:

- a. For the Willamette and Columbia Rivers, using 25% of the 30Q2 flow of the water body;
- b. For all other waters, using 100% of the 30Q2 flow of the water body.

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e) The discharge complies with all applicable technology-based effluent limits, other applicable water quality standards, and the provisions of any applicable total maximum daily load.

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f) No other technologically and economically feasible means that would not have significant adverse environmental consequences are available to reduce the pollutant concentration in the discharge to the applicable water quality criterion.

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G. AUTHORITY AND PRECEDENCE

This provision is within the state's authority to establish water quality standards under the Clean Water Act and under State statutory authority for the EQC to adopt rules and implement the CWA in Oregon. DEQ must provide supporting documentation to EPA that demonstrates that "101a" uses (swimming and fishing, for human health) and other beneficial uses designated by the state are protected by the proposed criteria. EPA must approve or disapprove the criterion based on whether they conclude that it will protect uses and meet the requirements of the CWA.

DEQ is not aware of any precedence for this approach being explicitly used for toxics criteria. The general approach of allowing a minimal relative increase of a pollutant such that it does not impact the beneficial uses has been used for other parameters, such as temperature and turbidity, though the circumstances of each of these is different. For example, both temperature and turbidity include provisions that allow a limited increase from ambient conditions. These criteria are based on effects to aquatic life, they are pollutants that are part of the natural environment and have a high degree of variability, and the criteria are not derived from calculations that take into account exposure and risk.

H. OTHER SUPPORTING INFORMATION

Rationale for Beneficial Use Protection

Where a water body is already water quality limited for a human health criterion, DEQ believes that a 1% or less additional increase in concentration for a spatially limited section of river where there is no increase in the mass load of the pollutant in the water body would not be reasonably likely to increase human health risk. The human health criteria for fish consumption are based on eating 175 grams per day of fish. People who eat that quantity of fish are obtaining them from multiple water bodies, often including marine waters. Only a very small portion of the fish eaten, if any, would be affected the 1% allowed increase in concentration in a spatially limited extent of the water body. For carcinogens, the risk is based on exposure over a life time, and even for non-carcinogens, the cumulative exposure to attain a level where effects occur could occur over a long period of time. Therefore, we would not expect the 1% incremental increase allowed through this provision in spatially limited stream reaches to measurably change the exposure to the pollutant received by people eating fish.

The human health risk that is present due to the fact that the river exceeds the criteria and the sources of the pollutant contributing to the exceedence should be addressed. If a community water supply intake is present in the reach of the stream that exceeds the criteria, they should take appropriate action. The insignificant incremental increase that would be allowed under this provision would not change the need for the water source to address the issue.

I. IMPLEMENTATION INFORMATION

To be completed

3. Variances

[not updated since May RWG discussion]

One of the existing tools being discussed with the RWG is variances, which essentially allow a short-term exemption to facilities from meeting water quality standards. Federal regulations allow variances (40 CFR § 131.13) and provisions governing their use have been adopted by a majority of states into their water quality standards. Variances can be used as an implementation tool, under appropriate circumstances, to help facilities comply with very low toxic criteria levels, while improving water quality.

Oregon's existing water quality standards include an authorizing provision allowing variances to be granted. However, no variance has ever been sought for or granted to a facility in Oregon. DEQ's objective for these revisions is to revise current variance rule language to streamline the administration process, and to provide specific milestones that will result in water quality improvement through its implementation and add general clarification to the rule.

Objectives:

1. Propose rule revisions to ensure efficiency in the administrative process for granting variances, while also maintaining integrity in the variance issuance process.
2. Propose rule revisions that clarify what interim conditions and requirements apply during the variance period and under what circumstances.
3. Describe the information and rationale needed to request and justify a variance.
4. Describe how DEQ will coordinate internally and with EPA to foster predictable and timely processing and decisions on variance requests (a separate interagency agreement is recommended).

Goal Statement:

Propose revisions to Oregon's variance authorizing provision and develop an IMD that will:

- Ensure variances, where justified, are granted and implemented consistently through a transparent, well-defined, and reliable process;
- Foster water quality improvement during the variance period; and
- Promote certainty in the variance process by ensuring that variances can be granted within a reasonable time frame.

A. DESCRIPTION OF TOOL

Definition

A variance is a short-term exemption from meeting water quality standards which would otherwise be applicable to an individual discharger.

- Variances are most commonly discharger-specific, but some states in the Great Lakes area have also utilized “multiple-discharger” (i.e. where a general variance is granted to more than one discharger under a defined situation) or “waterbody” variances. As discussed here, this provision is limited to individual dischargers.
- A variance is granted for a specific pollutant(s) and does not otherwise modify the standards. A variance does not exempt the discharger from compliance with applicable technology-based limits (TBELs) or water quality-based limits (WQBELs) for other pollutants. Underlying water quality standards remain in effect for all other purposes (e.g., impaired water listings, TMDL development, etc.)
- A variance is granted for a specific period of time (length of time varies by state). The discharger must either meet the standard upon the expiration of this time period or must make a renewed demonstration of “unattainability.”

Feasibility Demonstration

In granting a variance, a demonstration is required to show that attaining the designated use is not feasible based on one or more of the grounds outlined in 40 CFR 13.1.10(g):

1. naturally occurring pollutant concentrations prevent the attainment of the use;
2. natural, ephemeral, intermittent, or low- flow conditions or water levels prevent the attainment of the use, unless these conditions may be compensated for by the discharge of sufficient volume of effluent discharges without violating State water conservation requirements to enable uses to be met;
3. human-caused conditions or sources of pollution prevent the attainment of the use and cannot be remedied or would cause more environmental damage to correct than to leave in place;
4. hydrologic modifications preclude the attainment of the use, and it is not feasible to restore the water body to its original condition or to operate such modification in a way that would result in the attainment of the use;
5. physical conditions related to the natural features of the water body, such as the lack of a proper substrate, cover, flow, depth, pools, riffles, and the like, unrelated to [chemical] water quality, preclude attainment of aquatic life protection uses; or
6. controls more stringent than those required by sections 301 (b) (I) (A) and (B) and 306 of the Act would result in substantial and widespread economic and social impact.

B. APPLICABILITY/SCOPE

Revisions to the regulatory language will apply to both aquatic life and human health criteria. The most common circumstances under which DEQ anticipates receiving variance requests include: (1) circumstances where a discharger cannot meet the revised human health water quality criterion for a toxic pollutant because the background concentration of the pollutant is naturally elevated (e.g., arsenic) or elevated as a result of past or ongoing contamination that cannot easily be remedied or would cause more environmental damage to correct than to leave in place (e.g., dieldrin); (2) circumstances in which technology has not yet been proven to consistently remove contaminants to the level needed; and, (3) circumstances where implementation of controls more stringent than technology-based requirements would result in substantial and widespread economic and social impact.

Information here from SAIC report? [Based on extrapolating the number of facilities sampled in the SAIC Report, DEQ may expect to receive approximately 40 requests for a variance under the current criteria, and an additional 16 under the proposed criteria.]

C. DEQ RECOMMENDATION

Under appropriate circumstances, variances can be used as an implementation tool to allow facilities to remain in compliance with more stringent proposed water quality toxics criteria for human health for a number of reasons. Variances are a legal tool under both the CWA, as well as under current state water quality standard rules. Although not all states are implementing variances, there are a number of states which employ variances and have been approved by EPA. DEQ acknowledges that there has not been a proven track record of approving and implementing variances in Oregon; however, DEQ and EPA will be working very closely to assure timely approvals of variances and developing a common understanding of the underlying justification factors leading to a variance request.

DEQ proposes to include a requirement that pollutant minimization plans (PMPs) be a required element of variance to assure pollutant loadings are reduced to the maximum extent practicable. This requirement will provide a tool for making environmental progress where possible, even if dischargers are unable to achieve permit limits required to meet the criterion in the short term. Variances can also provide a "bridge" if additional data or analyses are needed before Oregon can make a complete a TMDL or make a determination that the designated use is not attainable and an adoption of an alternative use is needed. Another significant factor when contemplating the use of variances is that the receiving waterbody continues to maintain the underlying water quality standards, even if specific elements cannot be achieved by an individual facility in the short term. Maintaining the current water quality standards allows for the possibility of developing more advanced pollutant reduction treatment technologies in the future that could also be less costly.

D. POLICY ISSUES AND OBJECTIVES

The intent of the variance provision is to:

- provide a temporary mechanism by which permits can be written to meet a modified water quality standard where discharger compliance with a specific water quality standard is demonstrated to be infeasible within the meaning of 40 CFR § 131.10(g);
- maintains original standards as goals rather than removing designated uses and associated criteria that may be ultimately attainable;
- ensure the highest level of water quality achievable during the term of the variance;

In recent years, states have also utilized the flexibility available through variances to include additional requirements during the variance period for achieving source reduction through implementation of pollutant minimization plans (PMPs). DEQ proposes to include a requirement that pollutant minimization plans (PMPs) be a required element of variance to assure pollutant loadings are reduced to the maximum extent practicable during the term of the variance. DEQ views PMPs as an important component of a pollution reduction strategy. PMPs will be discussed later on in this section and in greater detail through a separate IMD.

E. POLICY EVALUATION

Advantages and Disadvantages

Advantages

1. Variances are a currently available, legal tool under federal CWA and state water quality rules.
2. Variances have been successfully used in other states and approved by EPA.
3. Variances can and have been used as a tool to make environmental progress by requiring the applicant to develop pollutant minimization plans where possible even though they are temporarily not able to achieve permit limits required to meet the criterion.
4. Variances allow the receiving waterbody to maintain the beneficial use goal for the long term, even if it cannot be achieved in the short term. For example, technologies may improve and can lower costs; economic scenarios can change; what is not “affordable” in the short term may be affordable over a longer term.
5. A variance can provide a “bridge” if additional data or analyses are needed before the state can make a determination that the designated use is not attainable and an adoption of an alternative use is needed.
6. Variances could provide regulatory flexibility under a variety of circumstances, including situations where natural or human-caused background pollutants already exceed a water quality standard, if adequately justified based on one of the factors at 40 CFR 131.10(g).

7. Variances could provide opportunities to use solutions such as offsets or trading where meeting a WQBEL is not feasible through end-of-pipe treatment.

Disadvantages

1. The administrative process in submitting and approving a variance could be cumbersome.
2. Although variances are currently allowed in DEQ regulation, the Department has not received any variance requests to date and therefore, does not have a proven process in place.
3. EPA must approve each variance request. Some have stated concerns that EPA will not approve variance requests for the issues specific to OR.
4. Some dischargers do not like the perception as being seen as “out of compliance”, particularly in circumstances where background concentrations of pollutants contribute to WQBEL exceedance and are not wholly attributed to point source discharges.

Alternatives Considered

Many people frequently perceive variances as a “last resort” option for facilities unable to comply with applicable water quality standards. As such, there have been a number of alternatives to variances discussed with the work group which have focused on compliance tools that attempt to avoid those factors leading to a variance.

For example, proposed rule language for intake credits has been developed for situations where the origin of a pollutant in a discharge is solely attributable to pollutants already present in the intake water for a facility. Where the intake water contains pollutants at levels that exceed water quality criteria, facilities which use and discharge that intake water would most likely have reasonable potential for that pollutant, unless an intake credit was applied.

General permits which physically separate process and non-process waters may be allowed in certain circumstances to prevent a violation of water quality standards, thereby avoiding a request for a variance. The proposed “*de minimus*” concept allows some increase in discharge concentration at end of pipe, as long as the mass of the pollutant does not increase. This concept is still being discussed by the work group, DEQ, and EPA as to what is considered an “insignificant” increase in concentration and if this increase in concentration is still protective of the designated use.

Summary of RWG Discussion and Views

There has been a substantial amount of discussion with work group members over the past year on the topic of variances. The majority of work group members have some level of concern about implementing variances, primarily focusing on issues, such as lack of a track record in Oregon, EPA approval requirement, and a “slippery slope” perception of legally allowing an exceedance of a water quality standard. Environmental

representatives have provided both verbal and written comments to DEQ in regards to interpretation of certain regulatory language. In response, DEQ has provided a response (i.e. “variance decision memo”) to some of the major comments received from these groups. Please see [Appendix X](#) for the responses to these concerns.

Industrial representatives have expressed concerns on whether or not their industries would meet any of the six justification factors at 40 CFR 131.10(g). In particular, 131(g)(6) which discusses substantial and widespread economic impacts associated with controls more stringent than those required by sections 301 (b) (1) (A) and (B) and 306 of the CWA. A rationale based on this factor could be more difficult for industry to support than, for example, a POTW, given that financial impacts based on their products may not have widespread impacts to the local economy or are not as easily definable as an expected rate increase to ratepayers. Thus, industrial representatives have emphasized that they need assurances that the background issue can actually be resolved through the variance process.

Representatives from ACWA also have reservations regarding the use of variances and have submitted an alternative pollution prevention compliance tool to variances (this tool will be discussed at the May 20 meeting). Below is an excerpt taken from ACWA’s proposal⁹:

“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.”

EPA is generally supportive of using variances as a compliance tool to help meet the CWA. EPA staff have stated that they are committed to the variance process and will work to assure timely completion of variance review and approval.

F. PROPOSED RULE LANGUAGE

340-041-0059

Water Quality Variances

[Inclusion of language to clarify intent and policy will be added here— i.e. provides a temporary mechanism by which permits can be written to meet a modified water quality standard, encourages maintenance of original standards as goals rather than removing designated uses and associated criteria that may be ultimately attainable, ensures the highest level of water quality achievable during the term of the variance, etc.]

⁹ ACWA. Increased Fish Consumption Rate. NPDES Compliance through Pollution Prevention. April 23, 2010.

(1) *Applicability.* The Commission or Department may grant point source variances from the water quality standards in this Division where the requirements in sections (1) through (8) of this Rule are met.

(a) *The water quality variance may apply only to the point source for which the variance is requested and only to the pollutant or pollutants specified in the variance; the underlying water quality standard otherwise remains in effect.*

(b) *A water quality standard variance may not be granted if:*

(A) *The standard will be attained by implementing technology-based effluent limits required under sections 301(b) and 306 of the federal Clean Water Act, and by the discharger implementing cost-effective and reasonable best management practices for nonpoint source control;*

(B) *The variance would likely jeopardize the continued existence of any threatened or endangered species listed under section 4 of the Endangered Species Act or result in the destruction or adverse modification of such species' critical habitat;*

(C) *The conditions allowed by the variance would result in an unreasonable risk to health;*

(D) *A source requesting a variance is a new facility, unless a proposed variance for a new facility:*

- (i) *Prevents or mitigates a threat to public health or welfare;*
- (ii) *Provides a net environmental benefit; or*
- (iii) *Remediates water contamination pursuant to the Comprehensive Environmental Response Compensation and Liability Act (CERCLA, 42 U.S.C. 9601 et seq. as amended through July 1, 2006), or the Resource Conservation and Recovery Act (RCRA, 42 U.S.C. 6901 et seq. as amended through July 1, 2006).*

(2) *Conditions to Grant a Variance.* Before the Commission or Department may grant a variance, the permittee must demonstrate that a loss of an existing use would not result from the granting of the variance and that attaining the water quality standard is not feasible for one of the following reasons:

(a) *Naturally occurring pollutant concentrations prevent the attainment of the use;*

(b) *Natural, ephemeral, intermittent, or low flow conditions or water levels prevent the attainment of the use, unless these conditions may be compensated for by the discharge of sufficient volume of effluent discharges to enable uses to be met without violating state water conservation requirements;*

(c) *Human-caused conditions or sources of pollution prevent the attainment of the use and cannot be remedied or would cause more environmental damage to correct than to leave in place;*

(d) Dams, diversions, or other types of hydrologic modifications preclude the attainment of the use, and it is not feasible to restore the water body to its original condition or to operate such modification in a way which would result in the attainment of the use;

(e) Physical conditions related to the natural features of the water body, such as the lack of a proper substrate, cover, flow, depth, pools, riffles, and unrelated to water quality preclude attainment of aquatic life protection uses;

(f) Controls more stringent than those required by sections 301(b) and 306 of the federal Clean Water Act would result in substantial and widespread economic and social impact.

(3) Variance Duration.

(a) The duration of the variance period must be specified as part of each variance and shall not exceed the term of the NPDES permit. The variance shall remain in effect in the event that a NPDES permit is administratively extended, as long as the discharger submits to the Director an application for renewal of the NPDES permit and variance at least one hundred eighty days prior to the date of expiration of the NPDES permit. The permittee must be in compliance with the effluent limitation sufficient to meet the underlying water quality standard upon the expiration of the variance.

Deleted: If the variance term is the same as the permit term, then the variance shall stay in effect as long as the permit is in effect. The permittee must be in compliance with the effluent limitation sufficient to meet the underlying water quality standard upon the expiration of the variance;

(b) The variance is effective only after EPA approval. The effective date will be specified in a NPDES permit or order.

(4) Variance Submittal Requirements. To request a water quality standards variance, a permittee must submit the following information to the Department for approval:

(a) A demonstration that attaining the water quality standard for a specific pollutant is not feasible based on one or more of the conditions found in section (2) of this Rule;

(b) Sufficient water quality data and analyses to characterize ambient and discharge water pollutant concentrations; and

(c) A proposed pollutant minimization plan, including proposed pollutant offsets or trading and/or other proposed pollutant reduction activities; unless the Department makes a specific determination that such information is not required.

(5) Variance Permit Conditions.

The Department shall establish and incorporate into the discharger's NPDES permit all conditions necessary to implement the approved variance. Such permit conditions shall, at a minimum, require:

(a) A permit limit or requirement representing the best achievable effluent quality based on discharge monitoring and which is no less stringent than that achieved under the previous permit;

(b) The implementation of a pollutant minimization plan, pollutant offsets or trading, and/or other pollutant reduction activities submitted in accordance with section (4)(c) above;

(c) That reasonable progress is made toward attaining the underlying water quality standards through appropriate conditions to be determined by the Department. Such conditions may include, but may not be limited to, requirements for the permittee to conduct additional studies, monitoring or management practices.

(6) Public Notification Requirements.

(a) If the Department proposes to grant a variance, it must provide public notice of the proposed variance and an opportunity for public comment and hearing. The public notice requirement may be satisfied by including the proposed variance in the public notification of a draft NPDES permit;

(b) The Department will publish a list of all variances to state water quality standards that have been granted pursuant to this Rule. Newly granted variances will be added to this list within 30 days of their effective date. The list will identify: the person or entity to which the variance was granted; the underlying water quality standards to which the variance was granted; the water(s) affected; the effective date and duration of the variance; the allowable pollutant limit granted under the variance; and how to obtain additional information about the variance.

(7) Variance Renewals. A variance may be renewed if the permittee makes a renewed demonstration pursuant to section (2) of this Rule that attaining the water quality standard is not feasible, and demonstrates that all requirements of the variance are being met. Renewal of the variance shall be denied if the applicant does not comply with the conditions of the original variance or otherwise does not meet the requirements of this Rule.

(8) Variances for Multiple Dischargers or Water Bodies.

(a) If the Department determines that a multiple discharger or water body variance is necessary to address widespread water quality standards compliance issues, including the presence of human-caused or naturally high background levels of pollutants in a watershed, the Commission may adopt a variance for multiple dischargers or water bodies through a separate rule provision.

Comment [AM1]: A multiple discharger variance would be done as a separate rule provision if warranted sometime in the future. DEQ has determined that it will not pursue a specific MDV provision as part of this current rulemaking.

G. AUTHORITY AND PRECEDENCE

History of EPA Policy/ Guidance

EPA first formally indicated allowability of state WQS variance provisions in a 1976 decision from EPA's general counsel, which specifically considered an Illinois variance provision. Since then, EPA has continuously expanded upon the acceptability of state WQS variance procedures through several policy memos, *Federal*

Deleted: (b) Before a multiple discharger or water body variance is adopted, the Department must demonstrate that attaining the water quality standard(s) is not feasible for one of the reasons identified in section (2) of this Rule;¶ (c) A multiple discharger or water body variance must include: the applicability and duration of the variance; the procedures for dischargers to follow in applying for coverage under the variance; any permit conditions necessary to implement the variance; and renewal requirements;¶ (d) A multiple discharger or water body variance, as a provision of DEQ's water quality standards, is not effective until it is approved by EPA. ¶

Register notices to various proposed and final rules, and in EPA's 1994 *Water Quality Standards Handbook, 2nd Edition*.

States' Utilization of Variances

Most states have general authorizing provisions and procedures for variances. Over 20 states covering all but 1 of the EPA regions, have granted variances to state water quality standards under their variance provisions. Parameters covered by the variances range from metals such as mercury and copper, to conventional parameters such as bacteria, as well as parameters such as ammonia and dissolved oxygen. EPA Region 10 has approved a variance for a municipal facility in Idaho. The degree of use of variances in these twenty states varies, as well as the approaches that these states have taken in granting variances.

H. OTHER SUPPORTING INFORMATION

None

I. IMPLEMENTATION INFORMATION

This section outlines DEQ's general approach and procedures in implementing variances. Detailed guidance will be developed through an Internal Management Directive.

General

Conditions Generally Applicable to All Variances:

- An applicant for a water quality standards variance must submit a request for a variance to the Department. The application must include all relevant information showing that the requirements for a variance have been satisfied. The burden is on the applicant to demonstrate that attaining the designated use is not feasible for one of the reasons specified in 40 CFR 131.10(g).
- Generally, the duration of a variance will coincide with a reissuance of a NPDES permit. However, variances will be granted for the minimum amount of time needed. This will be determined based on the justification provided by each applicant and subsequent DEQ approval. The applicant must either meet limits based upon the water quality standards upon the expiration of this time period or renew its demonstration as described in DEQ's regulations.
- Each variance request is subject to public notification requirements; DEQ expects that the public comment opportunity will be concurrent with the opportunity to comment on the draft permit.
- An individual variance is granted for a specific pollutant(s) and beneficial use and does not otherwise modify the water quality standards for the water body.
- A variance does not exempt the discharger from compliance with applicable technology-based limits or water quality-based limits for other pollutants.
- Sources shall continue to achieve the lowest effluent concentration possible under their current operations and treatment. Where pollutant minimization plans are expected to result in improved

effluent quality, milestones and/or more stringent effluent quality requirements will be incorporated as part of the variance.

- The permittee is required to develop a pollution minimization plan to identify reasonable and cost effective measures for reducing or eliminating pollutant loading. Measures may include, but are not limited to the following: treatment optimization, investigating inflow and infiltration issues; exploring alternate source waters; or examining pre-treatment local limits. Other measures could include trading or offsets. Milestones will be established for pollutant minimization plans to ensure implementation of the measures described in the plan. If circumstances do not exist to minimize pollution, a pollution minimization plan will not be required.
- The requirements of the variance will be included as conditions of the NPDES permit.
- The variance is effective only after EPA approval.
- The permittee must demonstrate that a loss of an existing use would not result from the granting of the variance
- BMPs that may be implemented by a particular discharger should be implemented either before or as part of the PMP.

Administrative Process

1. Request for Variance

If a facility will ultimately be able to meet effluent limits based on the water quality criterion and WQBEL, but needs additional time to comply (e.g. secure funding, install or optimize treatment technology, etc.), an enforceable compliance schedule is the most appropriate implementation tool and will be developed by the permit writer.

In other cases, a discharger may not be able to achieve the WQBEL developed during the Reasonable Potential Analysis due to factors such as, background concentrations of pollutants, high costs for treatment technologies, or lack of technology that has been consistently shown to remove specific pollutants to very low levels. A facility may be eligible for a variance if it can demonstrate that attaining a designated use is not feasible due to one of the six conditions found under the use attainability analysis (UAA) provisions at 40 CFR 131.10(g). Another case where a variance may be appropriate is when a facility has opportunities to improve its water quality (and possibly meet criteria), but implementation of those measures will occur over time and uncertainty exists regarding the ultimate water quality that the facility is capable of achieving.

In some cases, the most appropriate long term solution may be a change to the designated beneficial use and applicable criteria through a use attainability analysis (UAA). A variance may be issued as an interim measure before adequate information is available and rulemaking can occur to establish the correct attainable use and appropriate criteria.

2. Variance Evaluation Report

Comment [AM2]: Will need to re-work this section based on input from permit writer staff

During a pre-application review conference or following the initial review of a permit evaluation, the permittee and permit writer will identify pollutants that will require effluent limits. At that point, the permittee has the option to request a variance, and must be prepared to provide additional documentation, including treatment engineering studies and additional effluent and ambient data¹⁰. This additional information is needed to support a variance justification for not being able to meet a water quality standard on a short term basis. The permit writer will use the additional information to write a "Variance Evaluation Report" that will summarize the applicable information and provide the justification the Department used to approve the permittee's request for a variance. The Department may request additional information if the supplied information does not adequately support one of the six conditions specified for granting a variance. Generally, the additional information needed would include, but not be limited to:

1. Pollutant source investigation report
2. Intake water source and river mile
3. Receiving waterbody and river mile
4. Water quality standards at issue
 - *designated uses,*
 - *water quality criterion that cannot be fully attained, and*
 - *303(d) listing status and other related information.*
5. Reason for variance request per 40 CFR 131.10(g) and description why compliance with the water quality standards cannot be achieved
6. Water quality data summary
 - a. *intake water concentration (if applicable)*
 - b. *determination of ambient background concentration for pollutant at issue*
 - c. *any other relevant information.*
7. Effluent data summary
 - a. *effluent concentration*
 - b. *determination of downstream ambient concentration after mixing*
8. Demonstration that advanced treatment technology is necessary to achieve compliance with the water quality standard for which the variance is sought
9. Treatment or alternative options to treatment considered, and justification describing why these options are either not technically feasible or satisfy the condition described at 40 CFR 131.10(g) . This analysis also includes any facility-controlled nonpoint source actions to reduce the pollutant of concern.
10. Proposed duration and justification for the requested variance term
11. Proposed interim discharge limits/conditions representing the lowest level of pollutant(s) achieved during the term of the variance. An interim criterion shall also be determined.
12. Characterization of associated risk to human health and aquatic life as a result of the variance

Comment [AM3]: This report may include some of the numbered items listed below. Right now, the purpose of this section is to try and capture information needed. We'll work on the format of the variance, in terms of the specific requirements, and how to fold it into a NPDES permit during the development of an IMD.

¹⁰ This data is in addition to the data submitted in the initial permit application or developed by the permit writer.

3. DEQ Review and Decision

Once DEQ receives the application, standards and permitting staff will review application for completeness and adequacy and will make approval recommendations to the Director or the Commission. DEQ staff will coordinate its review of the application with the permit development and issuance process. An applicant will need to provide adequate justification showing that at least one of the six variance conditions prevents attainment of the designated use. A description of each variance condition is given below, including the types of situations DEQ is now aware of that may be appropriate for consideration under the different factors.

Comment [AM4]: Various DEQ internal deadlines will be decided at a later date

1. *Naturally occurring pollutant concentrations prevent the attainment of the use*

This variance condition describes a situation where natural background concentrations of a pollutant, such as a naturally occurring earth metal, already exceeds or contributes to a water quality criterion violation. This occurrence may be more frequent given proposals to make human health criteria more stringent, use of more robust analytic methods and the expansion of toxics monitoring throughout the state. These pollutants are naturally occurring and may contaminate a facility's wastewater through the facility's intake water.

In some cases, dischargers may only be using intake water for non-contact cooling processes which do not increase mass of the pollutant, but can concentrate the pollutant through evaporative processes and water re-use. This may lead the facility to install cost prohibitive treatment to remove very small amounts of pollutant for very little, if any, environmental gain. In addition, some treatment technologies have not yet been proven to reduce pollutants to this level. Some facilities falling into this category may be able to employ an intake credit, but others would likely need a variance. Applicants should include, at a minimum, the information below in support of this rationale.

Comment [AM5]: This section (and related sections) will be re-worked to reflect an "evaluation report format" that would be included w/ a NPDES renewal application.

- Sufficient upstream ambient data to adequately characterize pollutant concentrations.
- Sufficient effluent and mixing zone (if receiving waterbody is not water quality limited) analysis data.
- Information demonstrating that the pollutant is naturally occurring, including the source or sources of the pollutant and how they enter the facility discharge. In some cases, it can be difficult to distinguish whether the source of the pollutant is naturally occurring or from human-caused pollution. Ultimately, this determination could be based on best professional judgement, however, DEQ staff will review the pollutant investigation report to evaluate whether or not the facility has provided a sound rationale in determining the source of the pollutant.

2. *Natural, ephemeral, intermittent, or low- flow conditions or water levels prevent the attainment of the use, unless these conditions may be compensated for by the discharge of sufficient volume of effluent discharges without violating State water conservation requirements to enable uses to be met;*

DEQ anticipates that this factor is most suitable for use attainability analysis situations where assessments are being done to evaluate water flow conditions related to the attainability of the aquatic life uses. Some states have also used this factor to evaluate the attainability of recreational uses. At this time, DEQ is not aware of any specific situation where this condition would be applicable. As result, DEQ does not foresee variances being developed based on this factor in the short term. However, if a situation developed where a variance could be considered under this condition, DEQ will work with EPA to determine course of action.

3. *Human-caused conditions or sources of pollution prevent the attainment of the use and cannot be remedied or would cause more environmental damage to correct than to leave in place;*

Similar to condition #1 above, this factor may be applicable in circumstances where pollutant concentrations already exceed the applicable water quality criteria within the waterbody, but, in this instance, the source of the pollutant is anthropogenic, as opposed to naturally-occurring. An example of this type of human-caused condition is "legacy" pollutants which are ubiquitous in the environment and result from past use of toxic chemicals, such as DDT, PCBs, or dieldrin. Although many of these products have since been banned, some will continue to persist in the environment for many more years and may come from diffuse sources. As with naturally-occurring pollutants, facilities may bring the contaminant into their facilities through process waters (e.g. non-contact cooling), and then discharge the same contaminant (without adding mass) to the receiving waterbody, where the concentration may slightly increase.

One way facilities may use this factor to justify a variance would be to demonstrate that for an individual facility, it is not able to affect the presence of one or more pollutants in their effluent (i.e., "...sources of pollution ... cannot be remedied..."). The sources of the pollutant within the watershed may be so diffuse as to make quantifiable estimates difficult (i.e. impeding the facilities' ability to implement or reduce at source concept), or the amount of treatment needed to reduce the pollutants of concern to necessary effluent concentrations is cost prohibitive or not proven.

Another use of this factor would be to describe how taking an alternative approach would have adverse environmental consequences (i.e., "... would cause more environmental damage to correct than to leave in place.") For example, for a facility that has non-contact cooling water as part of their process, the cooling water can be used multiple times prior to being discharged. This leads to a reduction in the amount of water the source draws from the river, thereby conserving in-stream water flow and minimizing temperature impacts. The facility could alternatively consider reducing the number of passes to decrease pollutant concentrations in its effluent, but that alternative may contribute to temperature increases in the river and would reduce streamflow in the reach between the withdrawal and the discharge. Other alternatives could include consideration of additional treatment, which could result in other unintended

environmental effects, such as potential disposal issues with waste generated from various treatment technologies (e.g. brines, spent resin); or alternative water source issues (e.g. high levels of arsenic in ground water), etc.

4. *Hydrologic modifications preclude the attainment of the use, and it is not feasible to restore the water body to its original condition or to operate such modification in a way that would result in the attainment of the use;*

DEQ anticipates that this factor is most suitable for use attainability analysis situations where assessments are being done to evaluate water flow conditions related to the attainability of the aquatic life uses. Some states have also used this factor to evaluate the attainability of recreational uses. At this time, DEQ is not aware of any specific situation where this condition would be applicable. As result, DEQ does not foresee variances being developed based on this factor. However, if a situation developed where a variance could be considered under this condition, DEQ will work with EPA to determine course of action.

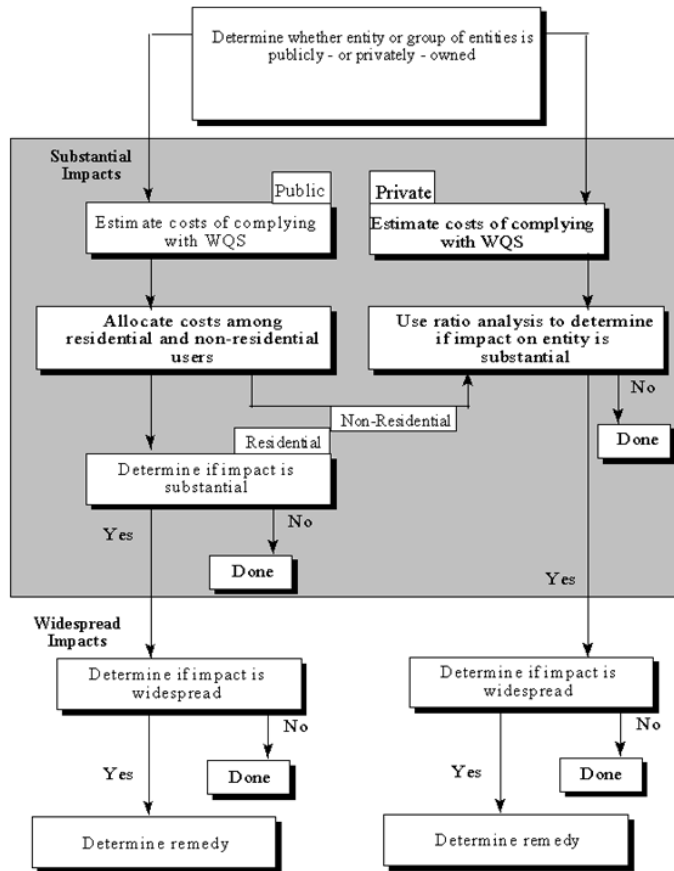
5. *Physical conditions related to the natural features of the water body, such as the lack of a proper substrate, cover, flow, depth, pools, riffles, and the like, unrelated to [chemical] water quality, preclude attainment of aquatic life protection uses; or*

DEQ anticipates that this factor is most suitable for use attainability analysis situations where assessments are being done to evaluate water flow conditions related to the attainability of the aquatic life uses. At this time, DEQ is not aware of any specific situation where this condition would be applicable. As result, DEQ does not foresee variances being developed based on this factor. However, if a situation developed where a variance could be considered under this condition, DEQ will work with EPA to determine course of action.

6. *Controls more stringent than those required by sections 301 (b) (1) (A) and (B) and 306 of the Act would result in substantial and widespread economic and social impact.*

EPA has developed a guidance which describes the steps involved in the determination of “substantial and widespread economic and social impact” for point sources covered by sections 301(b) and 306 of the Clean Water Act. [EPA’s 1995 Economic Interim Guidance for Water Quality Standards \(EPA-823-B-95-002\)](#) is not an exhaustive description of all appropriate economic analyses; however, a justification submitted consistent with this guidance would most likely meet EPA’s needs in order to approve a variance under this condition. Below is a diagram taken from the guidance which describes the basic steps in determining substantial and widespread economic impact for both private and public entities.

**Figure 1-1:
Steps in the Economic Impact Analysis
Determining Whether Impacts Will be Substantial and Widespread**



4. Public Notification Process

If the Department proposes to grant a variance, it must provide public notice of the proposed variance and an opportunity for public comment and hearing. This requirement can be done in conjunction with the public notice and comment period of a NPDES permit.

5. EPA Approval Process

Individual variances will be approved by action of the DEQ Director. The variance is not effective, however, until it has been approved by EPA. DEQ will submit the variance evaluation report along with DEQ approval documentation to EPA Region 10 within XXX weeks of the issuance of the variance. EPA standards staff will evaluate the variance package and determine whether or not the documentation supports the proposed variance.

Aquatic life criteria variances submitted to EPA for approval are subject to Endangered Species Act (ESA) consultation requirements. Section 7(a)(2) of the ESA requires that federal agencies, in consultation with the U.S. Fish and Wildlife Service and the National Oceanic and Atmospheric Administration Fisheries Service, ensure that their actions are not likely to jeopardize the existence of federally listed species or result in the adverse modification of designated critical habitat of such species. Extended time for ESA consultation will need to be built into the standard variance approval timeframe for variances that require such consultation.

EPA has up to 90 days to review and act upon the variance. EPA and DEQ will work together to develop mutually acceptable timeframes for variance approvals. The effective date of the variance will be no earlier than the date of EPA approval.

6. Public Information on Variances

The Department will publish a list of all approved variances to state water quality standards that have been granted by the state and approved by EPA on the DEQ standards website @ XXXXXXXXXX. Newly granted variances will be added to this list within 30 days of their effective date. The list will identify: (1) the person or entity for which the variance was granted; (2) the underlying water quality standards to which the variance was granted; (3) the water(s) affected; (4) the effective and expiration dates of the variance; (5) the allowable pollutant limit granted under the variance; and (6) where additional information on the variance may be found.

7. Renewal Process

Insert language here re: Permits w/ variances would float to the top of the priority list within a year of expiration.

Variances may be renewed if an applicant reapplies and demonstrates that the designated use is still not attainable or that the conditions upon which the variance was granted continue to exist at the time of the permit renewal. The renewal request must be submitted at least 180 days prior to the expiration of the NPDES permit. Renewal of the variance may be denied if the applicant does not comply with the conditions of the original variance or otherwise does not meet the requirements set forth in variance regulations. In addition the Department will require the permittee to submit information demonstrating that reasonable progress has been made towards achieving the underlying water quality standard.

Requirements and Conditions for a Variance

General

Approved variances, including interim conditions and requirements, will be incorporated into NPDES permits. Interim variance conditions and requirements will be developed on a case by case basis depending on the circumstances of the facility requesting the variance. At a minimum, each facility requesting a variance will be required to submit for DEQ review and approval, the following information:

1. Demonstrate that advanced treatment technology is necessary to achieve compliance with the water quality standard for which the variance is sought.
2. Describe treatment or alternative options considered to meet water quality standards, and describe why these options are either not technically feasible or how the variance would satisfy the condition described at OAR 340-041-0061(2).
3. Comply with applicable technology-based limits or water quality-based limits for other pollutants.
4. Continue to achieve the lowest effluent concentration possible under current operations and treatment. At a minimum, these requirements will reflect the best effluent quality achieved under current operations and treatment, presuming the facility is operating the system at optimum performance levels under a variety of environmental conditions. Where changes in operations or treatment are expected to improve effluent quality, those expected improvements will be reflected in the required effluent concentrations.
5. Describe and implement opportunities to reduce the pollutant of concern. For example, treatment optimization strategies or source reduction opportunities will be implemented where possible. These activities would be included in a Pollution Minimization Plan (PMP).

Pollution Minimization Plan (PMP)

A PMP is required for facilities which request a variance; however, DEQ anticipates that PMPs will be tailored to specific circumstances of each facility. In some cases, PMPs will be quite extensive, depending upon the degree to which the discharger contributes to pollutant loading. In other cases, the contribution could be quite small and the opportunities to reduce pollutant loadings are very limited. For example, a facility that only uses intake water for non-contact cooling purposes may only slightly increase the pollutant concentration (but not add mass) from background pollutant concentrations due to evaporative processes. A PMP would be required, but the expectation of identifying additional opportunities to further reduce pollutant concentrations would be lowered.

Conversely, where a discharge results in a water quality criterion exceedance through a facility's industrial process, source materials used, and/or inflow and infiltration issues, and treatment to reduce effluent

concentrations are not available, the Department would work with the facility to develop a more robust PMP to reduce the pollutant of concern through interim milestones for implementation. PMPs would be reviewed on a yearly basis to assess progress and identify impediments in reaching specific milestones, as well as affirm that conditions on which the variance was based on have not changed.

The objective of a PMP is to implement, where possible, activities which could reduce the amount of pollutant reaching a waterbody and achieve progress toward meeting the water quality standards. The intent is to reduce pollutant contributions to the maximum extent practicable and, while water quality standards may be achieved following implementation, achievement of water quality standards is not an explicit requirement of the PMP. PMP activities could include, but not be limited to the following:

1. Source Reduction

In some cases, a facility may be able to identify major contributors of a pollutant of concern. In other cases, sources are unclear and not quantifiable. The most economic and effective way of reducing overall toxics in the environment may be to reduce the use of these materials whenever possible, as described below. Interim milestones could be developed based on the time needed to set up and implement public education campaigns, a mercury take back program, or develop additional requirements for a pre-treatment program, etc.

- **explore alternate sources for intake water**

For example, there may be a ground water or surface water source that could be available to the facility, thus avoiding a water quality criterion violation which would have otherwise occurred. However, the facility would need to balance the advantages and disadvantages of using this source. If a facility knows that an alternate source is available which would meet water quality criteria, a compliance schedule to allow time needed to implement the change in process could be the better alternative. If the outcome is uncertain, then a variance may still be the appropriate tool.

- **material substitution**

In the case of source material, some pollutants “hitchhike” onto raw materials used in industrial processes, such as wood forest products or the electronics industry. Facilities may be able to substitute materials containing pollutants with other, less toxic, materials. Manufacturers may also be able to reformulate products to be environmentally safer, cost competitive, and effective. If a facility is able to substitute materials used in their industrial process for less toxic ones, it may want a compliance schedule to allow time needed to implement the change in process. If the outcome is uncertain, then a variance may be the appropriate tool.

- **pollution prevention programs**

In some circumstances, the discharger may not be responsible for background pollutants, but may be able to help fund or initiate outreach and education efforts to reduce the pollutant source entering their facility (e.g. mercury take back programs).

- **develop pre-treatment local limits**
A POTW may have a pre-treatment program for a categorical standard, but those limits do not necessarily reduce the amount of another toxic pollutant not covered by that standard. A POTW could develop a local limit for all the indirect industrial users to help reduce the pollutant of concern from entering the collection system, thus reducing potential treatment costs and receiving water concentrations. Other options could be explored as well.
- **offsets/trading**
Offsets may allow a permittee to reduce loading from an upstream source in order to create the assimilative capacity they need to meet water quality standards downstream at the discharge point. If sufficient assimilative capacity was reached and a water quality criterion met, the facility would not need to apply for a variance. This may not be feasible in situations where legacy or naturally-occurring pollutants are diffuse in the environment and are not easily identifiable or preventable.

2. Treatment/Process Optimization Strategies

- **Investigate inflow and infiltration interactions**
For example, a POTW may have an antiquated collection system which allows arsenic from ground water to seep through cracked pipes and be carried as influent to the treatment plant, thus contributing to an exceedance of the arsenic water quality criterion. A facility could develop interim limits based on expected capital improvements to the collection system. For instance, the variance could include a requirement that X feet of leaking pipes would be replaced, or that X% of capital improvements would be made over a certain time period.
- **Optimize current treatment technology**
Treatment optimization may be most feasible where relatively low pollutant reductions are needed, or where sampling data show that pollutant loads increase throughout the treatment process as a result of chemical additions or treatment techniques. It may, however, be difficult to see improvements in removal efficiencies if the facility is already well-maintained and operated. Some optimization strategies include:
 - ✓ Operator training
 - ✓ Maintenance activities
 - ✓ Adjusting coagulant doses
 - ✓ Increasing filter maintenance and backwash cycles
 - ✓ Installation of automation equipment

4. Intake Credits

[updated]

A. DESCRIPTION

Where applicable, **Intake Credits** may be used in both the “reasonable potential” determination and water quality based effluent limit calculation segments of the permit development process.

An **Intake Credit** is a procedure that allows permitting authorities to conclude that the return of unaltered intake water pollutants to the same body of water under identified circumstances does not cause, have the reasonable potential to cause, or contribute to an excursion above water quality standards and, therefore, water quality-based effluent limitations (WQBELs) for that pollutant are not needed. The permittee must satisfy all the following five conditions to qualify for the “reasonable potential” use of the procedure:

- The facility withdraws 100 percent of the intake water containing the pollutant from the same body of water into which the discharge is made;
- The facility does not contribute any additional mass of the identified intake pollutant to its wastewater;
- The facility does not alter the identified intake pollutant chemically or physically in a manner that would cause adverse water quality impacts to occur that would not occur if the pollutants were left in-stream;
- The facility does not increase the identified intake pollutant concentration at the edge of the mixing zone, or at the point of discharge if a mixing zone is not allowed, as compared to the pollutant concentration in the intake water, unless the increased concentration does not cause or contribute to an excursion above an applicable water quality standard; and
- The timing and location of the discharge would not cause adverse water quality impacts to occur that would not occur if the identified intake pollutant were left in-stream.

In the event that permittee is determined to have the reasonable potential, the **Intake Credit** procedure to address ambient pollutant load may also be used in the “calculation” of the WQBEL provided the permittee has demonstrated all of the following five conditions

- The facility withdraws 100 percent of the intake water containing the pollutant from the same body of water into which the discharge is made;
- The observed maximum ambient background concentration and the intake water concentration of the pollutant exceeds an applicable water quality criterion for that pollutant;
- The facility does not alter the identified intake pollutant chemically or physically in a manner that would cause adverse water quality impacts to occur that would not occur if the pollutants were left in-stream;
- The facility does not increase the identified intake pollutant concentration, as defined by the department, at the point of discharge; and
- The timing and location of the discharge would not cause adverse water quality impacts to occur that would not occur if the identified intake pollutant were left in-stream.

B. APPLICABILITY/SCOPE

It is anticipated that the primary use of intake credits will be in major industrial permittees, possibly in conjunction w/other identified implementation options (e.g. use of effluent compartmentalization and general permit). This is due to the relative simplicity to quantify the source, fate and transport of a pollutant through a facility.

It is also anticipated that there will be limited application of intake credits with major domestic permittees. The expected process to quantify the source, fate and transport of a pollutant in the setting of a domestic sewage collection system would require a more robust field investigation and modeling effort than for industrial permittees. The expense of this process might preclude a permittee from pursuing it.

C. DEQ RECOMMENDATION

DEQ recommends that we pursue this approach if there is general support from the Rulemaking Workgroup. At this time, DEQ finds this alternative will be effective for a limited spectrum of facilities with background pollutant issues. Accordingly, additional implementation tools to address background pollutants are necessary.

D. POLICY ISSUES AND OBJECTIVES

Oregon's Reasonable Potential Analysis procedures require the department to determine if a facility's effluent discharge has the reasonable potential to cause or contribute to an excursion above a numeric or narrative water quality criterion. The department must establish water quality-based effluent limits (WQBEL) when a determination is made that a pollutant is, or may be, discharged at levels which cause, have the reasonable potential to cause, or contribute, to an excursion of the water quality criterion.

A number of the state's surface and ground waters contain naturally-occurring or legacy pollutants in excess of the state's water quality criteria. Based upon current rule and procedure, a facility using source water containing pollutants would receive an affirmative finding of *Reasonable Potential*. Consequently, WQBELs are calculated for the facility, effectively requiring that it take responsibility for the removal of the pollutants present in the source waters. This issue is further complicated, when incidental sources of the same pollutants are present in the production process or water is lost due to evaporation.

Other important elements in this discussion include the department's efforts to promote the sustainable reuse of the state's water resources and the maintenance of a healthy in-stream temperature. Often, efforts to address one element of the state's water quality criteria (e.g. toxics) might conflict with efforts to protect for other criteria (e.g. temperature). The net effect of this situation would be to burden many facilities with WQBELs requirements requiring additional treatment to address naturally occurring or legacy pollutants contained in source waters. This might result in facilities attempt to achieve compliance through a reduction of efforts to control in-stream temperature or the removal of waters from the state's surface waters through evaporative loss and/or ground water infiltration.

The objective of this implementation tool is to develop a process to address the presence of pollutants in source waters through the NPDES point source permitting process that balances the goals of reduction of in-stream toxic pollutants, maintenance of healthy in-stream temperature, and preservation of a sustainable water resource.

E. POLICY EVALUATION

Advantages and Disadvantages

As part of the rule making process to address the revised fish consumption values and corresponding human health criteria, a number of implementation tools were considered. It should be understood that “intake credits” were selected to be one of a number of proposed tool options that could either be applied alone, or work in concert with the other tool options.

Advantages of the use of intake credits are:

- Permit-based process utilizing a modified version of existing RPA and WQBEL calculation processes. This authorizes a permit writer to implement the proposed rule with a minimum of administrative complexity.
- Strong precedent of use for water quality based evaluations in a number of states and by the EPA. Intake Credits are permitted in most states (including Oregon) for Technology-Based Effluent Limits (TBELs). Subsequently, there is a body of existing guidance and permit examples to draw from for Oregon implementation.
- The permittee is ultimately responsible for addressing any alterations of water quality that their facility might cause and not the underlying pollutant condition. Since the standard practice of many industrial and domestic processes is to remove sediments and excessive mineral content from source water before use, the net effect is that the net effect is that the overall mass of pollutant in the water body is typically reduced.

Disadvantages of the use of intake credits are:

- Intake credits are perceived to have a limited scope of application due to the standard practice of many of the state’s facilities to increase the pollutant concentration of their effluent over that of the source water.

Alternatives Considered

Although intake credits are commonly allowed for use with Technology Based Effluent Limits (TBELs), up to a few years ago only participating states in the Great Lakes Initiative where permitted by EPA to use them with WQBELs. Accordingly, proposed rule language for intake credit use in Oregon closely followed the GLI language and limited the scope of alternatives that could be developed.

In developing the proposed rule language, the department chose to incorporate a “no net addition” provision into the WQBEL calculation procedure. This allows for incidental concentrations of a pollutant to be introduced from a production process as long as the added concentration was removed prior to discharge. In the original GLI language, the provision was permitted but with a sunset clause that indicated that no

incidental addition of pollutants would be permitted after a specified date. California, recently added an intake credit rule to their state rules that incorporated the “no net addition” provision. After discussion and consultation, EPA supported the department’s use of the “no net addition” provision in Oregon’s rules.

Another approach considered, was to *directly incorporate intake credits into permits by referencing the GLI language without making rule changes*. This approach has been followed in Nevada, but there was concern regarding the legal viability of this approach.

The final approach considered, was to *allow the procedure be applied for any pollutants sourced from municipal water systems, regardless of the original water shed*. For example, the rulemaking work group discussed a scenario where Portland’s municipal water system transported water from the Bull Run / Columbia watershed to a facility that subsequently discharged it to the local waterbody (Willamette River). EPA was consulted and they indicated that although the intent of the GLI rule was to allow pollutants from municipal sources, it was limited to only those pollutants that would have inevitably reached the discharge location. In the case of the scenario, the pollutants removed from the Bull Run water shed would have inevitably ended up in the Columbia River (upstream from the confluence with the Willamette) and transferred them to the Willamette River watershed. The act of transferring the pollutants was grounds to disqualify the use of intake credit procedure.

Summary of RWG discussion and views

Discussion of the RWG primarily focused on understanding how the proposed language would be implemented and the type and number of facilities state-wide that be able to use it. Those RWG members that had more specific questions submitted their comments via email and a telephone conference call was conducted to answer in greater depth the written comments and additional questions.

Comments included concerns over the applicability of intake credits for both human health and aquatic toxicity issues, when the immediate focus of the group is toward human health criteria. There were also concerns on how the procedure would be implemented if a facility was granted a mixing zone in the permit or discharged to a 303 d listed water-body. The most voiced concern, was regarding the limited scope of the procedure in light that many of Oregon’s point sources generally increase the concentration of their intake waters.

F. PROPOSED RULE LANGUAGE

I. General

The following provisions apply to the Consideration of Intake Pollutants in Determining Reasonable Potential Rule and the Consideration of Intake Pollutants in Establishing Water Quality Based Effluent Limits Rule.

(1) An "intake pollutant" is the amount of a pollutant that is present in public waters (including groundwater as provided in (4), below) at the time it is withdrawn from such waters by the discharger or other facility supplying the discharger with intake water.

(2) An intake pollutant is considered to be from the "same body of water" as the discharge if the Department finds that the intake pollutant would have reached the vicinity of the outfall point in the receiving water within a reasonable period had it not been removed by the permittee. This finding may be deemed established if:

(a) The background concentration of the pollutant in the receiving water (excluding any amount of the pollutant in the facility's discharge) is similar to that in the intake water;

(b) There is a direct hydrological connection between the intake and discharge points; and

(c) Water quality characteristics (e.g., temperature, pH, hardness) are similar in the intake and receiving waters.

(3) The Department may also consider other site-specific factors relevant to the transport and fate of the pollutant to make the finding in a particular case that a pollutant would or would not have reached the vicinity of the outfall point in the receiving water within a reasonable period had it not been removed by the permittee.

(4) An intake pollutant from groundwater may be considered to be from the "same body of water" if the permitting authority determines that the pollutant would have reached the vicinity of the outfall point in the receiving water within a reasonable period had it not been removed by the permittee, except that such a pollutant is not from the same body of water if the groundwater contains the pollutant partially or entirely due to human activity, such as industrial, commercial, or municipal operations, disposal actions, or treatment processes.

(5) The determinations made under Sections II and III, below, shall be made on a pollutant-by-pollutant, and outfall-by-outfall basis.

II. Consideration of Intake Pollutants in Determining Reasonable Potential:

(1) The Department may determine that there is "no reasonable potential" for the discharge of an identified intake pollutant to cause or contribute to an excursion above a narrative or numeric water quality criterion contained in Oregon's water quality standards where a discharger demonstrates to the satisfaction of the Department (based upon information provided in the permit application or other information deemed necessary by the Department) that:

(a) The facility withdraws 100 percent of the intake water containing the pollutant from the same body of water into which the discharge is made;

(b) The facility does not contribute any additional mass of the identified intake pollutant to its wastewater;

(c) The facility does not alter the identified intake pollutant chemically or physically in a manner that would cause adverse water quality impacts to occur that would not occur if the pollutants were left in-stream;

(d) The facility does not increase the identified intake pollutant concentration at the edge of the mixing zone, or at the point of discharge if a mixing zone is not allowed, as compared to the pollutant concentration in the intake water, unless the increased concentration does not cause or contribute to an excursion above an applicable water quality standard; and

(e) The timing and location of the discharge would not cause adverse water quality impacts to occur that would not occur if the identified intake pollutant were left in-stream.

(2) Upon a finding under subsection (1) of this section that a pollutant in the discharge does not cause, have the reasonable potential to cause, or contribute to an excursion above an applicable water quality standard, the Department is not required to include a water quality-based effluent limit for the identified intake pollutant in the facility's permit, provided:

(a) The NPDES permit evaluation report includes a determination that there is no reasonable potential for the discharge of an identified intake pollutant to cause or contribute to an excursion above an applicable numeric water quality criterion and references appropriate supporting documentation;

(b) The permit requires all influent, effluent, and ambient monitoring necessary to demonstrate that the conditions above in subsection (1) of this section, are maintained during the permit term; and

(c) The permit contains a re-opener clause authorizing modification or revocation and re-issuance of the permit if new information shows that the conditions in subsection (1) (a) through (e) of this section are not being met.

III. Consideration of Intake Pollutants in Establishing WQBELS

(1) The Department may consider pollutants in intake water as provided in this Section III when establishing water quality-based effluent limitations based on narrative or numeric criteria, provided that the discharger has that the following conditions are met:

(a) The facility withdraws 100 percent of the intake water containing the pollutant from the same body of water into which the discharge is made;

(b) The observed maximum ambient background concentration and the intake water concentration of the pollutant exceeds an applicable water quality criterion for that pollutant;

(c) The facility does not alter the identified intake pollutant chemically or physically in a manner that would cause adverse water quality impacts to occur that would not occur if the pollutants were left in-stream;

(d) The facility does not increase the identified intake pollutant concentration, as defined by the Department, at the point of discharge; and

(e) The timing and location of the discharge would not cause adverse water quality impacts to occur that would not occur if the identified intake pollutant were left in-stream.

(2) Where the conditions in subsection (1) of this section are met, the Department may establish a water quality-based effluent limitation allowing the facility to discharge a mass and concentration of the intake pollutant that are no greater than the mass and concentration found in the facility's intake water. A discharger may add mass of the pollutant to its waste stream if an equal or greater mass is removed prior to discharge, so there is no net addition of the pollutant in the discharge compared to the intake water.

(3) Where proper operation and maintenance of a facility's treatment system results in the removal of an intake water pollutant, the Department may establish limitations that reflect the lower mass and concentration of the pollutant achieved by such treatment.

(4) Where intake water for a facility is provided by a municipal water supply system and the supplier provides treatment of the raw water that removes an intake water pollutant, the concentration of the intake water pollutant shall be determined at the point where the water enters the water supplier's distribution system.

(5) Where a facility discharges intake pollutants from multiple sources that originate from the receiving water body and from other water bodies, the Department may derive an effluent limitation reflecting the flow-weighted amount of each source of the pollutant provided that adequate monitoring to determine compliance can be established and is included in the permit. When calculating the flow-weighted effluent limitation, the pollutant from the receiving water body shall be assumed to have a concentration that is no greater than the concentration in the facility's intake water; the same pollutant from other sources shall be assumed to have a concentration that is no greater than the most stringent applicable criterion/objective.

(6) The permit shall specify how compliance with mass and concentration-based limitations for the intake water pollutant will be assessed. This may be done by basing the effluent limitation on background concentration data. Alternatively, the Department may determine compliance by monitoring the pollutant concentrations in the intake water and in the effluent. This monitoring may be supplemented by monitoring internal waste streams or by a Department evaluation of the use of best management practices.

(7) In addition to the above, effluent limitations must be established to comply with all other applicable State and Federal laws and regulations including technology-based requirements and anti-degradation policies.

(8) When determining whether WQBELs are necessary, information from chemical-specific whole effluent toxicity and biological assessments shall be considered independently.

G. AUTHORITY AND PRECEDENCE

For technology based effluent limits and standards, 40 CFR 145(g) indicates that they can be adjusted to reflect credit for pollutants in the discharges intake water. Therefore, the discharger is only responsible to treating the portion of the pollutant load generated or concentrated as part of their process. The credits are commonly referred to as "Intake Credits". The passage below is an excerpt from federal guidance¹¹ describing the application of the concept in greater detail:

EPA's NPDES permitting regulation at 40 CFR 122.45(g) currently provides a mechanism for adjusting technology-based effluent limitations to account for pollutants in a discharger's intake water in certain situations. The regulation provides that technology-based limitations shall be adjusted where the applicable effluent limitations guidelines direct that limitations be applied on a net basis, or where the discharger demonstrates that the presence of intake water pollutants prevents compliance with the applicable technology-based limitations despite proper installation and operation of the treatment system(s). The regulation also identifies four specific conditions restricting the use of net credits:

(1) Net credits for generic or indicator pollutants are not allowed unless the permittee demonstrates that the constituents of the generic measure in the effluent and influent are substantially similar or unless appropriate additional limits are placed on process water pollutants.

(2) Credit may be granted only to the extent necessary to meet the applicable technology-based limitation, up to a maximum value equal to the influent value.

(3) Credit is generally limited to discharges to the same body of water from which the intake water is drawn although the permitting authority may waive this requirement if no environmental degradation will result.

(4) Credit is precluded for return of materials generated from the treatment of intake water (e.g., raw water clarifier sludge.)

For water quality based effluent limits and standards, the concept of intake credits are not explicitly discussed in the general federal regulation and are less well developed. Various states and EPA regions do have policies and guidance permitting the use of intake credits in the reasonable potential analysis and development of Water Quality Based Effluent Limits (WQBEL). The most developed of these is contained in the *Great Lakes Water Quality Guidance* (GLWQG) which was published in the Federal Register¹² and subsequently adopted by the eight Great Lake States in EPA Region 5. The GLWQG essentially offers an alternative reasonable potential analysis (RPA) process incorporating the concept of "Intake Credits" in cases when "*the concentration of the pollutant of concern upstream of the discharge*

¹¹ Water Quality Guidance for the Great Lakes System -- Supplementary Information Document, Section VIII.E: Reasonable Potential, p. 557. Available on line at http://www.epa.gov/gliclear/docs/usepa_sid.pdf.

¹² Vol. 60, No. 56 / Thursday, March 23, 1995. p. 15365-15425

exceeds the most stringent applicable water quality criterion for that pollutant.” This alternative RPA process seems to use the test of whether a pollutant “*will cause, have the reasonable potential to cause, or contribute to an excursion above any State water quality standard...*” (40CFR 122.44(d)(1)) as the basis for its approach. Reportedly¹³, the initiative was intended as guidance for state programs in developing rules and regulations rather than a specific authorizing provision.

The following is an excerpt from the **GLWQG Supplementary Information Document** describing the terms of the procedure:

This procedure allowed permitting authorities to conclude that the return of unaltered intake water pollutants to the same body of water under identified circumstances does not cause, have the reasonable potential to cause, or contribute to an excursion above water quality standards and, therefore, WQBELs for that pollutant were not needed. The permittee would be eligible for the reasonable potential procedure in proposed procedure 5.E of appendix F upon demonstration of five conditions.

-- First, the permittee would need to demonstrate that it withdraws 100 percent of the intake water containing the pollutant from the same body of water into which the discharge is made.

-- Second, the permittee would need to demonstrate that it does not contribute any additional mass of the specified intake water pollutant to its wastewater. In other words, the pollutant present in the discharge must be due solely to its presence in intake water from the receiving water body.

-- Third, the permittee would need to demonstrate that it does not alter the identified intake water pollutant chemically or physically in a manner that would cause adverse water quality impacts to occur from the discharge that would not occur if the pollutant were left in-stream. Alterations could occur as long as they do not cause adverse water quality impacts.

-- Fourth, the permittee would need to demonstrate that the pollutant is not concentrated at the edge of any available mixing zone after discharge from the facility.

-- Fifth, the permittee would need to demonstrate that the timing and location of the effluent discharge do not cause adverse water quality impacts to occur that would not occur if the pollutant were left in-stream.

If the permittee demonstrated the five conditions to the satisfaction of the permitting authority, the proposed procedure further identified three conditions that the permitting authority would have to address: (1) the permitting authority must summarize the basis for the determination that there is no reasonable potential for the discharge of an identified intake water pollutant to

¹³ Based upon conversations with Melinda McCoy of EPA Region X.

cause or contribute to an excursion above a narrative or numeric water quality criterion within a State or Tribal WQS in the NPDES permit fact sheet or statement of basis, including an evaluation of the permittee's demonstration of the five specified conditions described above; (2) the permit must require all monitoring of the influent, effluent and ambient water necessary to determine that the conditions of procedure 5.E of appendix F are maintained during the permit term; and (3) the permit must contain a re-opener clause authorizing the permitting authority to modify or revoke and reissue the permit if new information indicates that changes in any of the conditions of procedure 5.E of appendix F have occurred.

Intake credits have been adopted into the administrative rules of a number of states including CA, OH, IN, MI, WI, IL, MN, PA and NY, although there they are only included in a limited number of actual permits due to the inherent limitations of the Intake Credit procedure and the availability of other implementation procedures.

H. OTHER SUPPORTING INFORMATION

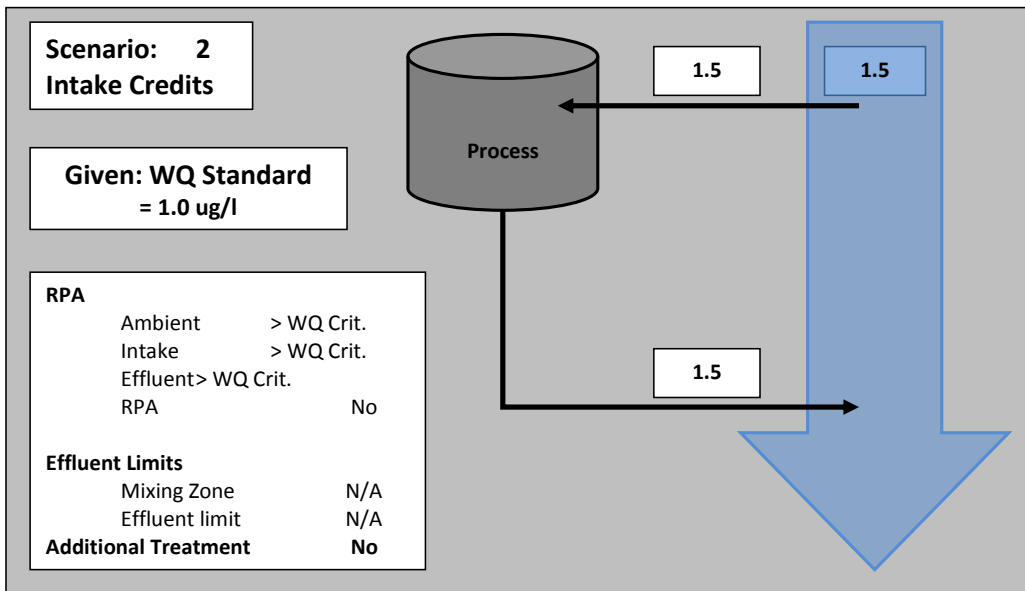
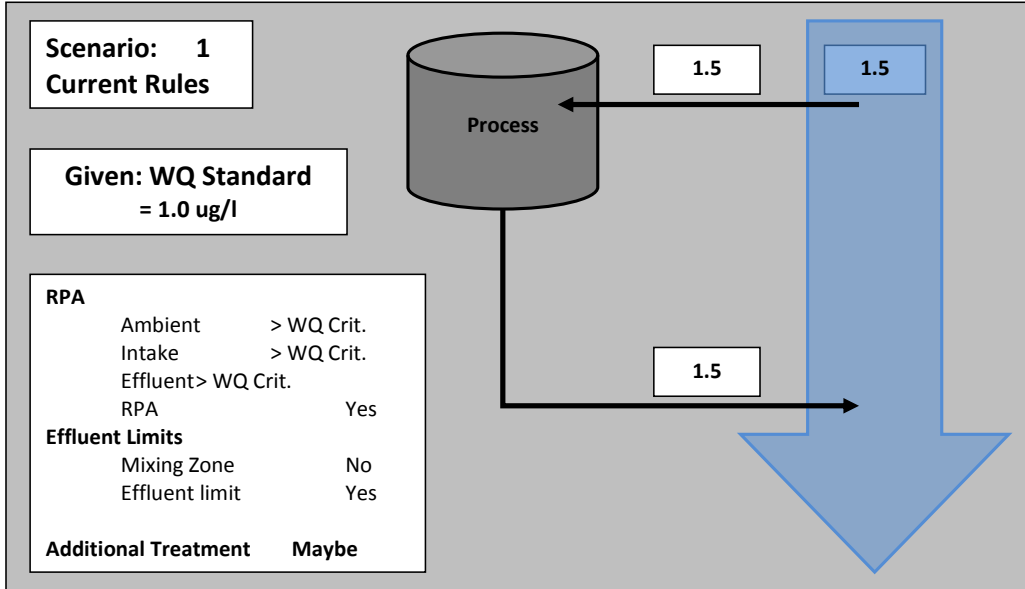
Not Applicable

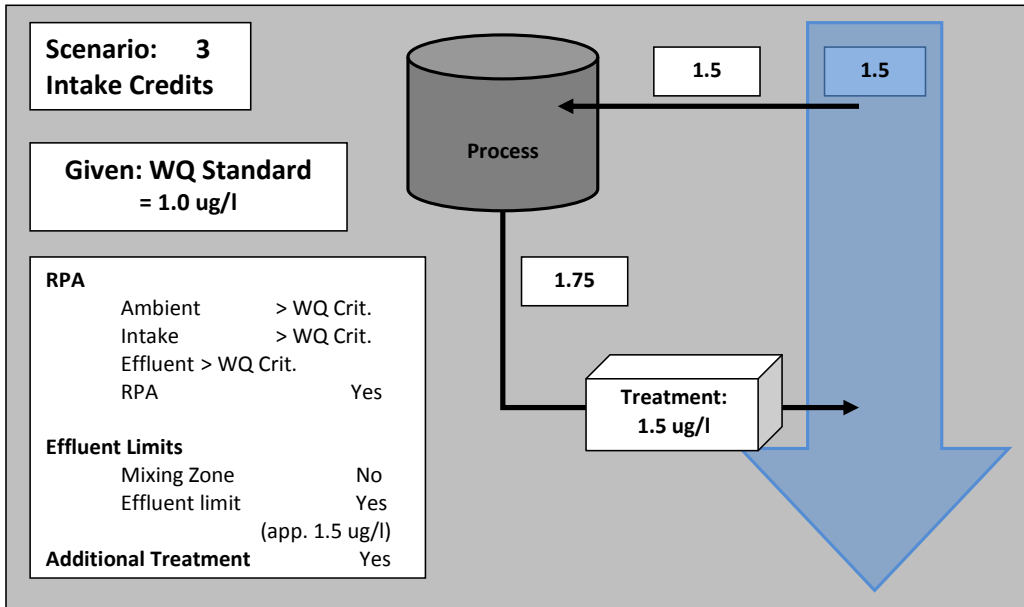
I. IMPLEMENTATION INFORMATION

It is anticipated that an Internal Management Directive will be developed to provide technical guidance on the implementation of the procedure. Additionally, provisions will be made to incorporate the Intake Credit procedure into the Reasonable Potential and WQBEL calculation spreadsheets.

The following figures have been prepared to demonstrate a very simplistic intake credit scenario.

Scenario 1 is a simplified example where a Facility is using surface water that ambient concentration is above water quality Criteria. Based upon current rule, the evaluation only reflects the concentration at the point of discharge to address the application of current rules. **Scenario 2** and **3** demonstrate the use of intake credit procedure using the same variables as in **Scenario 1** for the RPA and WQBEL calculation processes, respectively.





V. Water Body Standards Revisions

1. *Water Quality Restoration Standards*

A. DESCRIPTION OF TOOL

Restoration water quality standards have been proposed in situations where waterbodies cannot meet water quality standard goals set by state and federal regulations and are not expected to meet standards for a long period of time due to the magnitude of the exceedence, source of pollutants, or availability of treatment technologies to consistently remove very low levels of contaminants. On January 26, 2010, EPA published proposed water quality standards for nutrients for the state of Florida¹⁴ in the [Federal Register](#). As part of this proposed rulemaking, EPA is seeking comments on the overall viability of implementing restoration standards as an alternative to compliance tools such as variances. This specific requirement of the proposed rule would apply to water quality standards for nutrients in Florida waters. However, the principles and implementation strategies explored in the FR can be considered by other states seeking a similar approach under the current federal regulations. The majority of the discussion here references this document.

As proposed in the FR and other discussions outside the FL rule, water quality restoration standards would be a waterbody-specific water quality standard that a state could adopt for an impaired water. The state would retain the current designated use as the ultimate designated use. However, under this approach, the state would also adopt interim, less stringent designated uses and criteria that would be the basis for enforceable permit requirements and other control strategies during a prescribed timeframe. The state would need to demonstrate that the interim uses and criteria and applicable timeframe are based on a UAA evaluation of what is attainable and by when. The water quality standards revision for the waterbody, including the interim uses, criteria, and timeframe, would all be incorporated into a state WQS on a site specific basis, just as would be required for any other designated use change or adoption of a site specific criterion.

B. APPLICABILITY/SCOPE

As proposed, any waterbody not meeting water quality standards could be eligible to implement a water quality restoration standard for a pollutant once an adequate assessment had been performed (and subsequently adopted into state standards and approved by EPA). Elements of this assessment as described in the proposed Florida regulation would include:

¹⁴ Environmental Protection Agency, Federal Register Notice, 40 CFR Part 131, Water Quality Standards for the State of Florida's Lakes and Flowing Waters; Proposed Rules. January 26, 2010.

- an inventory of point and nonpoint sources within the watershed
- an evaluation of current ambient conditions and the necessary reductions to achieve the numeric criteria
- a determination of control strategies and management practices available and resources to implement them
- a demonstration that it is infeasible to attain the long-term designated use in the short term
- a timeframe to establish each restoration phase which would include interim restoration designated uses and associated water quality criteria

C. DEQ RECOMMENDATIONS

Based on the information provided in Florida's proposed Federal Register Notice, DEQ sees the potential for using restoration standards to make water quality standards improvements in a logical, step wise fashion for waterbodies where meeting water quality standards may take many years. However, before restoration standards can be adopted, work must be done to conduct the assessment described above and to develop the interim uses and criteria. A specific waterbody has not yet been identified where restoration standards could be applied as part of this rulemaking, however, the Department is open to pursuing restoration standards, where applicable, under a separate rulemaking. Once these waterbodies are identified, DEQ anticipates further discussions on determining enforceable interim designated uses and water quality criteria.

D. POLICY ISSUES AND OBJECTIVES

The objective of restoration standards is to provide an alternative approach to compliance in situations where impaired water quality conditions have been identified and the expectation for that waterbody is that it will take many years to show improvement. In some cases, it may not be feasible within a relatively long time horizon (e.g., 20 years) to attain water quality standards established to meet goals of the CWA. Developing interim goals within a regulatory framework can provide a clear regulatory pathway to promote active restoration, maintain progressive improvement, and ensure accountability.

One of the most significant issues with implementing this approach is collecting and evaluating the data necessary to establish load reductions needed to meet enforceable interim criteria and designated uses. In watersheds where a TMDL has not been completed, gathering this information to do a UAA would require a significant amount of monitoring and analysis.

E. POLICY EVALUATION

Advantages and disadvantages

Advantages:

- This approach provides a regulatory alternative to compliance in situations where waterbodies are impaired for pollutants which may take many years to reduce (e.g. nutrients, legacy pollutants).
- Promotes active restoration from both point and nonpoint sources

Disadvantages:

- This approach only applies to a specific waterbody —This tool does not apply on a statewide waterbody scale
- Enforceable interim designated uses and criteria must be determined and approved through rulemaking. Determining what these criteria levels should be at a point sometime in the future could be challenging.
- A significant amount of information needs to be collected in order to do the analysis. In the absence of a TMDL, data collection would be challenging.

Alternatives Considered

Not applicable

Summary of RWG Discussion and Views

[updated]

At the May 20 RWG meeting where the topic of restoration standards was discussed, some workgroup members expressed concern that DEQ has not systematically thought through how some of the implementation tools associated with adopting a higher fish consumption rate will be implemented once the criteria become effective. There was acknowledgement that although DEQ and other workgroup members have not identified a specific waterbody for restoration standard rulemaking at this time, there is a need to consider other compliance options, so that some type of step-wise approach could be developed to smooth this transition. DEQ will be presenting an issue paper on “delayed implementation” at the June 30th work group meeting which will discuss various options with a proposed recommendation from DEQ.

F. PROPOSED RULE LANGUAGE

Rulemaking is not applicable at this time.

G. AUTHORITY AND PRECEDENCE

To date, there are no water quality restoration standards that have been approved by EPA, however, water quality restoration standards are available under current regulations and do not depend on the outcome of the FL rule, although that will help inform EPA and others on public opinion. DEQ has the regulatory authority to use this tool under their current rules, therefore, no additional authorizing language is needed. However, specific rule language would be needed once a waterbody was identified.

H. OTHER SUPPORTING INFORMATION

None

I. IMPLEMENTATION INFORMATION

To be determined.

IV. Tools Not Recommended for Current Rulemaking

1. *Multiple Discharger Variance*

A. DESCRIPTION OF TOOL

A variance is a standards provision which allows a discharger a temporary exemption from meeting applicable water quality standards. Variances must be supported with a demonstration based on at least one of the factors found at 40 CFR 131.10(g). For more detailed information on variances, see pgs. XX – XX.

Rather than issuing one variance per discharger, a multiple discharger variance (MDV) is a variance that applies to more than one discharger who cannot meet limits for certain limits. In the case of Oregon, DEQ is considering adopting a MDV into its water quality standards regulation to address facilities with non-contact cooling water that cannot meet specific human health criteria for toxics pollutants due to concentrating those pollutants. Multiple discharger variance provisions and procedures have historically been established in other states for a particular type or class of discharger (e.g., POTWs) and a particular pollutant (i.e. mercury). While multiple dischargers may apply for coverage under a MDV once it has been established (by adoption into water quality standards) and approved by EPA, each discharger must submit an application to DEQ for coverage. Application requirements are described in the procedures associated with the MDV provision.

The MDV provision would be adopted by the Commission into Oregon's WQS regulation. However, each application of the variance in individual permits would be granted by DEQ, and would be granted in conjunction with the NPDES permitting process.

The MDV provision is submitted to EPA for review and approval under CWA § 303(c), with an accompanying feasibility demonstration. The subsequent application of the variance in individual NPDES permits is carried out by DEQ and is not submitted to EPA for review and approval under CWA § 303(c).

The public notice and comment period for the MDV provision occurs at the time of its adoption into the WQS regulation. Implementation of the MDV conditions in a discharger's permit does not require any additional public notice and comment requirements other than what is already required for a discharger's draft NPDES permit.

As part of each NPDES permit renewal, the discharger would request continued coverage under this rule and provide information and water quality data to show that it meets each of the applicability criteria described below in section B.

B. APPLICABILITY/SCOPE

Multiple discharger variances allow the Department to address reoccurring issues faced by numerous dischargers. In this instance, facilities with non-contact cooling waters that are unable to meet the

human health criteria for specific toxic pollutants will likely have similar justifications for their inability to meet the criteria. A MDV that covers this scenario would allow facilities to simply demonstrate that they meet the prerequisites to be covered by the MDV, rather than going through a more rigorous individual variance process. A narrowly tailored MDV provision applying equally to any discharger fitting within the boundaries of the provision would save resources for facilities and the Department. The provision, as described, would only apply to industries with non-contact cooling waters meeting certain specified conditions. Municipal wastewater treatment facilities would not be eligible for a MDV because the same fact pattern would not exist.

Specifically, the MDV would apply to industrial dischargers who:

1. withdraw intake water containing a pollutant concentration that already exceeds the applicable human health water quality criterion, and
2. use this water for non-contact multiple pass cooling purposes, and :
 - a. the discharge is to the same body of water from which the intake water is withdrawn
 - b. the mass of the pollutant in the discharge does not exceed the mass that is attributable to the pollutant in the facility's intake water, and
 - c. the increase in the pollutant's concentration after complete mixing with the waterbody does not significantly increase the concentration in the waterbody, nor pose an unreasonable risk to human health.

In addition to meeting the applicability criteria above, the Commission must determine that it is infeasible for such dischargers to meet human health criteria for toxics pollutants for one of the reasons identified below (per 40 CFR 131.10(g)(1) and (3) demonstration factors):

1. Naturally occurring pollutant concentrations prevent the attainment of the use; or
2. Human caused conditions or sources of pollution prevent the attainment of the use and cannot be remedied or would cause more environmental damage to correct than to leave in place.

Industrial permits

Based upon knowledge of process and DEQ permit writer input, the primary industrial categories with a potential to significantly increase discharge concentrations are power generation, timber and wood product manufacturing and, metal working and smelting activities. The most significant process responsible for the increase in concentration is the use of multi-pass non-contact cooling waters. Out of a current pool of 110 individual NPDES industrial permits in Oregon, 39 (7 major and 32 minor) were identified by using this information as having the potential to possess non-contact utility water activities that might significantly increase the concentration of the pollutants in their source waters. The locations of these facilities are relatively well distributed throughout the state with the largest number of facilities (6) discharging to the Columbia and (5) Willamette Rivers.

The Willamette River has 11 303(d) listings for toxic pollutants, while the Columbia River has 4 listings for toxics. There are 9 waterbodies listed for iron, manganese, or arsenic, however, DEQ does not expect these three pollutants to have a compliance issue once the revised proposed criteria are effective. Fourteen other waterbodies where these potential non-contact cooling facilities discharge to are not currently listed for toxics (See Table 3). In effect, there are approximately 15 potential non-contact cooling facilities which discharge to 6 waterbodies currently listed for toxics (does not include facilities where the receiving stream is only listed for arsenic, iron, manganese, or ammonia).

Most industrial facilities in Oregon are required to monitor for toxics “known” to be in their processes, although those facilities with a greater potential for toxicity are required to monitor for larger blocks of pollutants typically associated with their industrial categories. The result is that most larger and “major” facilities have the requirement to monitor for a larger pool of pollutant parameters, many of which are typically seen in Oregon’s surface and ground waters. Consequently, if a facility does not use a particular pollutant in their process, there may still be the requirement to monitor for it in their intake/effluent depending on their specific circumstances.

Table 3: Toxics Listing Status for Receiving Waterbodies of Industrial Facilities Which Have a Potential to Use Non-Contact Cooling Processes

Potential Non-Contact Cooling Facility Receiving Waterbodies (# of facilities)	Toxics 303(d) Listing
Bear Creek (1)	
Columbia River (6)	Arsenic, DDE, PCB, PAH
Columbia Slough (1)	Iron, Manganese
Grande Ronde River (1)	
Klamath River (2)	Ammonia
Little Deschutes River (1)	
McKay Creek (1)	Iron
McKenzie River (1)	
Molalla River (1)	
Nehalem River (1)	
North Slough (1)	
Noti Creek (1)	
Oak Creek (Calapooia Drainage) (1)	
Pacific Ocean (1)	
Phillips Creek (1)	
Pudding River (1)	DDT, Iron, Manganese
Rock Creek (1)	
Santiam River, North (1)	
Scoggins Creek (1)	
Snake River (2)	Mercury
Umpqua River, South (1)	Arsenic, Cadmium
Wiley Creek (1)	
Willamette River (4)	Aldrin, Arsenic, DDT, DDE, Dieldrin, Iron, Manganese, Mercury, PCB, Pentachlorophenol, PAH,
Willamette River, Coast Fork (1)	Iron, Mercury
Willamette River, Middle Fork (1)	
Willow Creek (1)	Arsenic
Yamhill River, North (1)	Iron, Manganese
Yamhill River, South (2)	Iron

C. DEQ RECOMMENDATION

Based on the information compiled regarding the potentially affected entities, and the other tools being pursued as part of this rulemaking package, DEQ does not see a compelling case to include a MDV provision within this package

Preliminary research by DEQ staff reveals that relatively few facilities (approximately 15) that discharge to an impaired waterbody for toxics would meet the MDV criteria as currently drafted. Of the 15 facilities, there are 3 industries categorized as major facilities. The other 12 facilities are categorized as minor facilities which typically have a lower regulatory burden to monitor for toxics, subsequently reducing their potential to detect toxics in the effluent.

To date, EPA has only approved MDVs for a single pollutant (i.e. mercury) in the states of Michigan, Indiana, and Ohio. In order for a MDV to be useful as a tool for addressing background concentrations of pollutants in Oregon, the provision would need to include more than one pollutant. Although some ambient data have been collected on toxic chemicals, there are not definitive studies to indicate which pollutants should be included within a MDV. DEQ would need to identify the pollutants that, based on the information available, are most likely to present issues for facilities in this context. The most basic analysis could identify toxics on the current 303(d) list, recognizing this approach may unintentionally exclude future pollutants of concern.

Discussions to date with EPA indicate that DEQ would need to provide a more robust justification (per 131.10(g)(1) or (3)) that would be equally applicable to any discharger/pollutant combination for which a variance could be issued under this MDV. Other specific details will need to be developed as well.

While DEQ does not recommend incorporating a multiple discharger variance to address background pollutants as part of this rulemaking package, DEQ does not rule out exploring this approach further as part of future rulemakings. Over time, DEQ will gain knowledge and experience relative to ambient and facility data and develop a better understanding of the types and numbers of facilities that could request variances, the pollutants of concern, and the review and approval process. If warranted, DEQ could develop a MDV based on more specific information at a later date.

D. POLICY ISSUES AND OBJECTIVES

Some dischargers in Oregon will likely find it difficult to meet more stringent human health criteria and may request variances from meeting water quality standards. Further, DEQ has identified a situation where a number of facilities may request a variance based on the same applicability factors, as described in section B above for non-contact cooling facilities. No other scenarios were identified by work group members. DEQ considered the inclusion of a MDV as part of its 2011 rulemaking proposal as a way to streamline the variance approval process by grouping facilities with similar circumstances

and rationales under one variance approval process, so that staff would not need to replicate the analysis and process on an individual basis.

There are few states which have adopted provisions for multiple discharger variances (i.e. MI, OH, and IN). States that have adopted MDVs, have been approved for a single pollutant (e.g. mercury). Given the wide occurrence of background pollutants and the lack of toxic ambient monitoring data in Oregon, the MDV would need to include multiple background pollutants in order to capture potential toxics of future concern and be a useful tool for facilities. More discussions with EPA are necessary to explore how the inclusion of more than one pollutant could be accomplished within a MDV context.

A variance may only be granted where there is a demonstration that one of the use removal factors (40 CFR 131.10(g)) has been satisfied. The 131.10(g) demonstration for the MDV would rely on either, or a combination, of the following two factors:

- (1) naturally occurring pollutant concentrations prevent the use, and/or
- (3) human caused conditions or sources of pollution prevent the attainment of the use and cannot be remedied or would cause more environmental damage to correct than to leave in place

Further discussions with EPA are necessary to determine what supporting information DEQ would need to provide to EPA in order to support a single up-front approval action. For example:

- Selection of specific criteria for which the MDV would be applicable
- A rationale per 131.10(g)(1) and/or (3) that would be equally applicable to any discharger/pollutant combination for which a MDV could be issued under the provision
- A determination that treatment or other alternative options do not vary significantly amongst dischargers, and
- Detailed information on how DEQ would make its determination as to whether factor 1 and/or 3 is supported in any given case. Preliminary discussions with EPA have indicated that factor 3 will be less challenging to support, than the justification for factor 1.

Additional issues to discuss with EPA include; interim effluent limits, process for EPA renewal/approval of MDVs, and duration of a MDV.

E) POLICY EVALUATION

Advantages and Disadvantages

Advantages:

- Could potentially cover facilities that have non-contact cooling concentration issues without issuing individual variances with each permit which requires separate EPA approval, thus streamlining the approval process.

Disadvantages:

- DEQ will need to provide a more rigorous upfront demonstration of 131.10(g) factors and explore how much variability exists in evaluating alternatives to treatment for non-contact cooling facilities.
- Relatively narrow applicability--would not include other water quality issues affecting increased effluent concentrations for industrial facilities.

*Alternatives Considered**Additional provisions in Variance Rules*

One alternative to a MDV considered during work group discussions was to develop a separate provision (i.e. "background concentration allowance") within the variance rules which would describe the kinds of information that DEQ expects would lead to granting a variance for facilities that concentrate background pollutants. The objective of this provision would be to facilitate approval for dischargers meeting certain criteria as well as to provide more specificity and certainty regarding the kind of information DEQ would expect to receive from facilities and how it would evaluate this information in arriving at the conclusion that a variance was warranted in similar situations. This provision would be applicable to either non-contact cooling or contact cooling processes. Each discharger would provide DEQ with a rationale per 131.10(g)(1) and/or (3) that would be applicable to its discharge, as well as data and information to show that it meets the rule's applicability criteria. EPA would need to approve each variance request.

Advantages:

- Could potentially address a broader set of circumstances than non-contact cooling; could also address facilities that concentrate background pollutants but that come into contact with other process water.
- Provides in rule, additional specificity regarding the kind of information DEQ and EPA would expect to grant/approve a variance.
- Would most likely streamline the EPA approval process by providing an upfront rationale.

Disadvantages:

- Requires EPA review and approval for each variance issued with the permit.

Additional Detail in IMD

The last option briefly discussed with the work group members on a January 15, 2010 conference call was to not include any provisions in the variance provisions addressing background concentration issues. Instead, information supporting variances based on background concentration issues could be more explicitly illustrated in an Internal Management Directive to assist permit writers in evaluating variances based on 131.10(g)(1) and/or (3) factors. This illustration would also, most likely, streamline the EPA approval process.

Advantages:

- DEQ would be able to further evaluate ambient and facility data and develop a better understanding of the types and numbers of facilities that could request variances, the pollutants of concern, and the review and approval process. The information contained in the IMD could be adaptive to reflect information and understanding gained over time.

Disadvantage:

- An upfront demonstration rationale for granting variances based on background pollutant concentrations would not be provided in rule.
- A lack of rule provisions not specifically addressing industrial facilities with background pollutant concentration issues could potentially cause an administrative burden on both discharger and DEQ staff in reviewing and approving variances based on similar situations, such as a non-contact cooling scenario.

Summary of RWG Discussion and Views

[updated]

Multiple discharger variances and the alternatives discussed here have been discussed on several occasions with work group members, including a conference call on January 15, 2010 and a more substantive work group discussion on April 27.

Discussions to date indicate some members would not be comfortable with DEQ adopting and implementing a MDV with the information they have been presented with thus far. Others have expressed that DEQ should proceed with a MDV if a MDV would alleviate burdens associated with an individual variance request and approval process. A few members stated that in absence of a MDV, providing a background concentration allowance in the variance provisions would provide greater confidence that either DEQ or EPA would approve the variance based on certain background pollutant

conditions. After further analysis by DEQ staff in determining the potential scope of facilities with a potential to concentrate background pollutants through non-contact cooling processes, DEQ determined that a multiple discharger variance was not yet ripe for current rulemaking. Some stakeholders concurred with this assessment based on comments from work group members, although there was not enough time allotted for a formal gauge of the work group.

F. PROPOSED RULE LANGUAGE

Multiple Discharger Variance

340-041-0059

Water Quality Variances

[1 – 8] This proposed language immediately follows the variance provisions. Note that this language is the same language work group members last received. If a MDV was to go forward, this language will very likely be modified for clarification purposes, as well as address potential EPA concerns.

(9) Variances for Multiple Dischargers or Water Bodies.

(a) If the Department determines that a multiple discharger or water body variance is necessary to address widespread water quality standards compliance issues, including the presence of human-caused or naturally high background levels of pollutants in a watershed, the Commission may adopt a variance for multiple dischargers or water bodies through a separate rule provision.

(b) Before a multiple discharger or water body variance is adopted, the Department must demonstrate that attaining the water quality standard(s) is not feasible for one of the reasons identified in section (2) of this Rule;

(c) A multiple discharger or water body variance must include: the applicability and duration of the variance; the procedures for dischargers to follow in applying for coverage under the variance; any permit conditions necessary to implement the variance; and renewal requirements;

(d) A multiple discharger or water body variance, as a provision of DEQ’s water quality standards, is not effective until it is approved by EPA.

Other Implementation of Water Quality Criteria

(1)

[Section 2 below will replace the current variance language]

(2) *Multiple Discharger Variance for Non-Contact Cooling Facilities.* With the adoption of this rule, the Commission determines that permittees which use multiple pass cooling and cannot meet the water quality toxic criteria for human health due to either natural or human-caused pollutants which already exceed water quality criteria in a waterbody will not be required to meet calculated water quality-based effluent limits. For purposes of this section, "multiple pass cooling water" means water used for cooling that does not come into direct contact with any raw material, intermediate product, final product or waste product, not including additives, and makes at least two passes for the purpose of removing waste heat. The alternative requirements and information required to be submitted by the permittee are described in the following subsections.

(a) *Findings of the Commission.*

(A) *The Commission finds that where pollutant levels exceed human health criteria and are of natural origin, and where those pollutants are in the facility's intake water, and the facility uses a non-contact multiple pass cooling system, that the naturally-occurring pollutant levels result in the facility being unable to meet the applicable water quality standards addressing human health toxic pollutants. Further, the Commission finds that remedying these naturally-occurring pollutants would result in unwarranted environmental impact on other water quality standards parameters, including temperature, and could adversely impact water quantity.*

(B) *The Commission finds that where pollutant levels exceed human health criteria and are of human origin, and where those pollutants are in the facility's intake water, and the facility uses a non-contact multiple pass cooling system, that the anthropogenic pollutant levels result in the facility being unable to meet the applicable water quality standards addressing human health toxic pollutants. Further, the Commission finds that remedying these pollutants of human origin would result in unwarranted environmental impact on other water quality standards parameters, including temperature, and could adversely impact water quantity.*

(C) *Conditions to Grant a Background Concentration Allowance.* Permittees will be covered under this provision and the conditions and requirements described in this section will be included in their NPDES permit where the following conditions exist;

(i) *The mass of the pollutant in the discharge does not exceed the mass that is attributable to the pollutant in the facility's intake water;*

- (ii) The increase in the pollutant's concentration after complete mixing with the waterbody does not significantly increase the concentration in the waterbody;*
 - (iii) Remedies to reduce the pollutant of concern would cause more environmental damage to correct than to leave in place; and*
 - (iv) The pollutant's concentration after mixing with the waterbody does not pose an unreasonable risk to human health.*
- (D) Demonstration for Request. An applicant is required to submit documentation and data necessary to support a background concentration allowance. The application must be included with the applicant's renewal application and include all relevant information that demonstrates the following;*
- (i) Sufficient data to characterize natural or human-caused background pollutant contributions to water quality criteria violations; and*
 - (ii) Treatment or alternative options considered to meet water quality standards, and a description of why these options are not technically feasible;*
 - (iii) [Others?]*
- (E) The facility must continue to achieve the lowest effluent concentration possible under current operations and treatment based on facility-specific data.*
- (F) If the Department finds that the facility meets the requirements of this section, the terms and conditions described in this section will be included in the facility's NPDES permit for the duration of the permit. DEQ may extend coverage under this provision in subsequent permit terms upon review of updated information submitted in renewal applications.*

Background Concentration Allowance

340-041-0059

Water Quality Variances

[Note that this language is the same language work group members last received.]

(8) *Individual variances for background pollutants. The Department expects that the justification for a variance required in (2)(a) and (2)(c) would be met and that a source would qualify for a variance under the following circumstances:*

(a) The pollutant concentration in the intake water body exceeds an applicable human health water quality criterion due to naturally occurring pollutant concentrations, human-caused conditions or sources of pollution, or a combination of naturally occurring and human-caused conditions or sources of pollution;

(b) The mass of the pollutant in the discharge does not exceed the mass that is attributable to the pollutant in the facility's intake water;

(c) The increase in the pollutant's concentration after mixing with the water body does not increase the concentration in the water body by more than three percent;

(d) The cumulative increase in the pollutant's concentration under variances granted under this paragraph (8)(d) at any point in the water body after discharges mix with the water body does not exceed ten percent;

(e) The discharge of the pollutant complies with all applicable technology-based effluent limits, other applicable water quality standards, and the provisions of any applicable total maximum daily load; and

(f) No other technologically and economically feasible means that would not have significant adverse environmental consequences are available to the source to reduce the pollutant concentration in its discharge to the applicable water quality criterion.

G. AUTHORITY AND PRECEDENCE

The federal WQS regulation at 40 CFR § 131.13 authorizes states and authorized tribes to include variances in their WQS. Variance policies and individual variances are required to be submitted to EPA for review and approval. For specific references on variance authority, refer to footnotes XXX, under the variance subchapter.

There are few states with an EPA approved multiple discharger variance. While many, if not all of the Great Lake states have MDV provisions within their water quality standards regulations as part of the Great Lakes Initiative, Michigan, Indiana, and Ohio are the only states which actively implement multiple discharger variances for mercury¹⁵.

Michigan

¹⁵ Through communication with Dave Pfeiffer, EPA Region 5 Office and Danielle Salvaterra, EPA Headquarters April 14, 2010

One example of a MDV that has been approved and subsequently renewed is the state of Michigan for mercury associated with a wildlife use designation. Although the MDV provision in the WQS regulations is general, there is a detailed implementation strategy that must be renewed every 5 years. The MDV is a 5 year permit applicable to either industrial or municipal facilities and applies to all state waterbodies. The basis for determining whether or not a designated use is feasible to meet is based on 40 CFR § 131.10(g)(6)-- Controls more stringent than those required by sections 301(b) and 306 of the Act would result in substantial and widespread economic and social impact. For more information on MI's MDV, please see Appendix B.

Indiana and Ohio

Unlike Michigan's implementation strategy which is not part of the state's WQS regulations, the states of Indiana and Ohio have specific WQS regulatory language to implement a multiple discharger variance for mercury.

Wisconsin

Wisconsin includes a finding within the WQS regulatory language which references studies conducted by Ohio for their mercury MDV. The objective is to streamline the variance approval process. However, each variance is individually submitted and approved.

H. OTHER SUPPORTING INFORMATION

None

I. IMPLEMENTATION INFORMATION

More research is needed to fully detail this section. Some of the implementation procedures will be very similar to individual variances in that some information will need to be provided to DEQ to evaluate whether or not a discharger meets applicability criteria; however, the expectation is that the process will be less burdensome, since DEQ would have provided a sound demonstration rationale within a separate MDV provision. Since this provision effectively limits the scope of facilities to those who only concentrate pollutants through a non-contact cooling process and do not add mass, a pollutant minimization plan would not be required.

Under DEQ's draft approach:

- Each discharger meeting the applicability criteria will most likely be required to individually provide DEQ the information necessary to support the 131.10(g) demonstration which may include:
 - Sufficient data to characterize that factor (1) or (3) is supported
 - Treatment or alternative options considered

- A description of why implementation of these options would cause more environmental damage than the small increase in pollutant concentration
- During the variance period, the facility would be required to achieve the lowest effluent concentration possible under current operations and treatment and based on facility-specific data.
- MDVs would be applicable for the duration of the NPDES permit term.
- MDVs could be extended upon the submittal of a renewal application from the discharger; however, details about what should be included in the discharger's renewal application have not yet been explicitly identified.
- Upon expiration of the variance, the underlying numerical criteria have full regulatory effect.

A MDV provision must be approved by the Commission. It is only effective after subsequent EPA approval. Current knowledge suggests that the multiple discharger variance rule provision would undergo periodic DEQ review at a regular interval (e.g., 5 years) to ensure that the conditions and DEQ's conclusions regarding the basis for the multiple discharger variance is still supported. Results of these periodic reviews would be submitted to EPA for review.

V. Delayed Implementation of Approved Human Health Water Quality Criteria

A. DESCRIPTION OF TOOL

In order to address compliance challenges in implementing very low toxics criteria for human health, some workgroup members have expressed that it would be beneficial to develop a step-wise implementation approach to compliance, rather than requiring attainment immediately following EQC adoption and EPA approval. DEQ evaluated several different delayed implementation approaches that could potentially achieve this objective. Alternatives considered include postponing the effective date of compliance and allowing a lower fish consumption rate (FCR) or higher risk factor to be used in the criteria calculations on a short term basis.

B. APPLICABILITY/SCOPE

Options that would delay implementation of the revised criteria could be fairly narrow to rather broad. The section below lists alternatives considered and more fully describes the scope associated with each option.

C. DEQ RECOMMENDATIONS

DEQ acknowledges the legitimate concerns expressed by workgroup members regarding dischargers' ability to comply with very low toxic criteria. Additionally, DEQ staff may need time to develop protocols and other materials associated with reviewing and implementing some of the compliance tools discussed by the rulemaking workgroup and EPA staff may need time to prepare for potential variance approval requests. Analysis described in the Policy Evaluation section indicates that many of the approaches to delaying implementation of the numeric criteria are fairly limited due to legal or risk-based concerns.

Of the alternatives considered, delaying the effective date is the most straight forward option. However, given EPA's recent disapproval of OR's human health criteria based on a fish consumption rate of 17.5 g/day, delaying an effective date until sometime after EPA approval is not likely to be approved by EPA. In order to approve this approach, EPA would need to conclude that the existing toxics criteria are protective of designated uses until such time DEQ made the new criteria effective. By virtue of its disapproval letter, EPA has stated that human health criteria based on a fish consumption rate of 17.5 g/day is not sufficient, so similarly, DEQ would expect that EPA would not approve an implementation scheme that relies on DEQ's currently effective criteria which is based on 6.5 g/day.

Furthermore, based on DEQ's past experience with segregating criteria into two tables (one effective in advance of EPA's action and one *not* effective until EPA action), DEQ has found this to be confusing to

many stakeholders, as well as DEQ staff. Therefore, DEQ believes that this approach would reduce potential confusion regarding implementation of the regulation.

Based on reasons described above, DEQ recommends specifying in the water quality standards rule that the revisions become effective for both state and federal CWA programs upon EPA approval.

D. POLICY ISSUES AND OBJECTIVES

Described under Description of Tool section.

E. POLICY EVALUATION

Advantages and disadvantages

There are several advantages and disadvantages to consider in regards to DEQ's recommended option.

Advantages:

- ✓ Limits confusion by specifying in the rule language a single date (upon EPA approval) on which the criteria become effective
- ✓ This approach is likely the most legally defensible option of the alternatives listed in this section

Disadvantages:

- ✓ Does not allow for an extended period of time to collect data, conduct analysis, explore compliance options, and develop variance or other compliance permitting tools documentation
- ✓ The current criteria for toxics, which are less protective of human health, will remain effective for CWA purposes until such time that the more stringent criteria become effective. This discrepancy is more pronounced given EPA's recent disapproval of OR's toxics criteria based on 17.5 g/day. The interim effective criteria would then be based on 6.5 g/day.

Alternatives Considered

1. Delayed effective date

The objective of this option is to delay implementation of the numeric criteria, so that both the regulated entities and DEQ have additional time to prepare for implementation. Two variations to this approach are described below. The first approach outlines DEQ's recommended approach. In either case, the compliance date occurs some time after EQC adoption.

Date for compliance aligns with date of EPA approval (DEQ's Recommended Approach)

Under this option, the date that the criteria become effective for both State and Federal purposes is the date of EPA approval. For example, if the EQC adopted the new criteria in June 2011, the rules would specify that the criteria would become effective for state and federal purposes (e.g. NPDES permitting, development of 303(d) list) on the date of EPA approval. As DEQ cannot predict the exact timing of EPA action, the exact date on which the criteria would become effective would not be known in advance of that date. However, federal regulations require that EPA must approve the criteria within 60 days of DEQ's submission of criteria, or disapprove them within 90 days (Per 40 CFR 131.21(a)(1) and (2)).

In 2004, DEQ's rule provided that toxics criteria that were more stringent than older criteria (i.e. Table 33A under the 2004 rulemaking) were effective under state regulations for implementation in NPDES permits before EPA approval of the revised criteria. Although this approach provides greater environmental protection in the short term (until EPA approval), it also led to confusion when interpreting the criteria tables. Furthermore, this approach can lead to confusion if EPA later disapproves the criteria.

The most significant disadvantage of this option is that it would not significantly delay an effective date past the EQC adoption date, given that the EPA must approve the criteria within 60 days or disapprove within 90 days of DEQ's submission of criteria (Per 131.21(a)(1) and (2)).

State effective date is established at a date after EPA approval (e.g. one year from EQC adoption).

Under this option, the rule would specify that the criteria would become effective on some date in the future (e.g. one year after EQC adoption). This delay in the effective date would allow facilities to conduct additional studies, explore other compliance strategies, or seek additional funding. In the interim, Clean Water Act programs (permits, etc.) would be implemented using the currently effective criteria. Additionally, this delay would allow more time for DEQ staff to "ramp up" and prepare to implement various tools used for compliance with a higher fish consumption rate.

A challenge with this approach is that Oregon would need to use CWA approved criteria in the interim period (between EPA approval and the effective date of the new criteria). Thus, it is likely that EPA would have to determine that the currently effective criteria (i.e. human health criteria based on 6.5 g/day) would be protective of human health during this interim period. Given that EPA disapproved DEQ's 2004 criteria based on 17.5 g/day on June 1, 2010, DEQ expects that EPA would conclude that 6.5 g/day was not protective of the designated use.

2. Establish Less Stringent Criteria on a Short Term Basis

In consideration of various implementation challenges, DEQ could implement a step wise approach to compliance by adopting criteria based on a lower interim fish consumption rate or alternative risk levels in the short term. This option would establish alternate criteria for specific periods of time (e.g. one to five years) and provide that the criteria based on a FCR of 175 g/day and a 10^{-6} risk level would become effective at a set date in the future. The following are two variations to this approach.

Alternate Fish Consumption Rate

Under this option DEQ would adopt criteria based on a lower interim fish consumption rate for a specified period of time (e.g. one to five years) and establish the effective date for criteria based on 175 g/day at some future date. Two obvious challenges of this approach would be selecting the appropriate FCR for the interim step and the length of time those interim criteria would be effective. As a starting point, values in the [CRITFC](#)¹⁶ study could be used as interim rates, but ultimately determining an appropriate FCR would depend on the level of protection the FCR provided to fish consumers. EPA notes in its Technical Support Document¹⁷ that its disapproval is based on a conclusion that DEQ's 2004 toxic human health criteria were based on a FCR that was too low (17.5 g/day). Criteria based on anything less than 17.5 g/day would not be consistent with EPA's recent action. Once a FCR was determined, DEQ would need rulemaking to establish interim toxics criteria based on the alternate FCR.

Another primary question for discussion and analysis is whether an alternate FCR would ultimately assist a discharger in meeting toxics criteria. For example, it appears from the SAIC report¹⁸ that increasing the fish consumption rate from 17.5 g/day to 175 g/day has a small impact on what additional parameters would have reasonable potential to exceed water quality standards. However, the analysis was only based on 16 facilities, so it is not a comprehensive analysis of other potential toxics which may have compliance issues. The parameters for which the higher fish consumption rate would make a difference are listed below.

¹⁶ Columbia River Inter-Tribal Fish Commission. October 1994. A Fish Consumption Survey of the Umatilla, Nez Perce, Yakama, and Warm Springs Tribes of the Columbia Basin, Technical Report 94.3.

¹⁷ Environmental Protection Agency. June 1, 2010. Technical Support Document for EPA' Action on Oregon's New and Revised Human Health Criteria.

¹⁸ Science Applications International Corporation. June 2008. [Cost of Compliance with Water Quality Criteria for Toxic Pollutants for Oregon Waters](#)

Table 1: Number of facilities impacted by increasing the fish consumption rate

Parameter	No. of facilities w. detects (n=16)	*RPA = yes with lower rate of fish consumption (17.5 g/day)	RPA = yes with higher rate of fish consumption (175 g/day)
Arsenic	13	10	11
Bis(2-Ethylhexyl)Phthalate	6	1	4
Mercury	12	4	11
Tetrachloroethylene	1	0	1

*Reasonable Potential Analysis

According to the SAIC study, increasing the fish consumption rate changes the reasonable potential analysis results for only **4** parameters. The most significant is for mercury, with the number of facilities showing values of mercury that exceed the revised criteria increasing from 4 to 11. However, as part of the 2004 rule revision, Oregon withdrew its national CWA § 304(a) human health criterion for total mercury and replaced these criteria with a new fish tissue-based “organism only” human health criterion for methylmercury. DEQ does not have a current criterion for methylmercury, although a new criterion will be proposed as part of this toxics rulemaking. Consequently, until data on methylmercury are collected and analyzed, it is unclear what the state of compliance will be. Also note that the current rulemaking will propose a higher criterion for arsenic than reflected in the SAIC report. Therefore, some of the compliance issues associated with arsenic may be minimized.

In exploring alternate FCRs, there could be several variations to this approach:

- i) In the short term, compliance is based on a lower fish consumption rate (i.e. >17.5 g/day, but < 175 g/day) *on a statewide basis*. The idea is that the FCR would increase to 175 g/day at a later specified date.
- ii) In the short term, compliance is based on a lower fish consumption rate (i.e. >17.5 g/day, but < 175 g/day) *on selected reaches, or in a specific geographic area*. This approach targets those areas where people actually eat fish. The FCR would then increase to 175 g/day at a later specified date.
- iii) In the short term, *compliance for NPDES permit purposes* is based on a lower fish consumption rate (i.e. >17.5 g/day, but < 175 g/day), while the newly proposed criteria apply for all other CWA purposes (e.g. 303(d) and 305(b)). The FCR would then increase to 175 g/day for NPDES permitting at a later specified date.

Alternate risk level

A variant on modifying the criteria based on fish consumption rates would be for DEQ to adopt criteria based on an alternative risk level (e.g., 10^{-5} risk level for carcinogens) in the short term with criteria based on 175 g/day at a 10^{-6} risk level becoming effective at a set date in the future. For carcinogens, the interim FCR could be developed based on a lower, but still acceptable, cancer risk level of 10^{-5} (proposed criteria based on 10^{-6}) however, for non-carcinogens which are based on specific reference doses, DEQ is unaware of any defensible analogous approach. The reference dose serves as a threshold level to which a person should not suffer from appreciable risks of deleterious effects over a lifetime of exposure. Similar to the approach described using an alternate fish consumption rate, DEQ would need rulemaking to establish interim toxics criteria that would require EPA approval prior to becoming effective.

Summary of RWG Discussion and Views

To be added after June 30 workgroup discussion.

F. PROPOSED RULE LANGUAGE

Not applicable

G. AUTHORITY AND PRECEDENCE

Once EPA approves OR's water quality standards, the following applicable water quality standards for purposes of the CWA become effective: (1) identifying impaired waters, (2) developing NPDES permit limitations, (3) evaluating proposed discharges of dredged or fill material under section 404, and (4) in issuing certifications under section 401 of the Act (Per 131.21(c)). For criteria that are more stringent than the old criteria and have been adopted by the EQC, federal law allows DEQ to choose to implement those more stringent criteria for state regulatory purposes, until such time EPA either approves or disapproves them. For example, the toxic standards criteria that were adopted by the EQC in 2004 became effective for state NPDES permitting purposes for those criteria that were more stringent than criteria in Table 20. These criteria, however, were disapproved by EPA on June 1, 2010.

If DEQ adopted interim criteria, or relied on currently effective water quality standards prior to the 175 g/day, 10^{-6} risk level criteria becoming effective, EPA would need to determine that the criteria effective in the interim fully met the statutory and regulatory requirements to protect beneficial uses.

DEQ is not aware of any other state which has implemented lower fish consumption rates or alternate risk levels as an interim step, until such time more stringent criteria became effective.

H. OTHER SUPPORTING INFORMATION

None

I. IMPLEMENTATION INFORMATION

To be determined.

Appendix A

Waterbodies* Listed for Toxics on the 2004/2006 Integrated Report¹⁹

Watershed (USGS 4th Field Name)	Water Body (Stream/Lake)	303(d) Toxics Listing
COAST FORK WILLAMETTE	Coast Fork Willamette River	Iron, Mercury
COAST FORK WILLAMETTE	Coast Fork Willamette River / Cottage Grove Reservoir	Mercury
COAST FORK WILLAMETTE	Dennis Creek	Mercury
COAST FORK WILLAMETTE	Row River / Dorena Lake	Mercury
COOS	Elk Creek	Iron
COOS	Isthmus Slough	Manganese
COQUILLE	Fishtrap Creek	Iron
CROSSES SUBBASINS	Columbia River	Arsenic, DDE, PCB, PAH
CROSSES SUBBASINS	Klamath River	Ammonia
CROSSES SUBBASINS	Malheur River	DDT, Dieldrin
CROSSES SUBBASINS	Owyhee River	Arsenic, DDT, Dieldrin, Mercury
CROSSES SUBBASINS	Snake River	Mercury
CROSSES SUBBASINS	Willamette River	Aldrin, Arsenic, DDT, DDE, Dieldrin, Iron, Manganese, Mercury, PCB, Pentachlorophenol, PAH,
CROSSES SUBBASINS / LOWER OWYHEE	Owyhee River / Owyhee, Lake	Mercury
DONNER UND BLITZEN	Bridge Creek	Iron, Manganese, Beryllium
DONNER UND BLITZEN	Little Blitzen River	Beryllium
GOOSE LAKE	East Branch Thomas Creek	Iron
GOOSE LAKE	Thomas Creek	Iron
JORDAN	Jack Creek / Antelope Reservoir	Mercury
JORDAN	Jordan Creek	Arsenic, Mercury
LOST	Klamath Strait	Ammonia

¹⁹ For information on the 2004/2006 Integrated Report, please visit:
<http://www.deq.state.or.us/wq/assessment/rpt0406.htm>

Watershed (USGS 4th Field Name)	Water Body (Stream/Lake)	303(d) Toxics Listing
LOST	Lost River	Ammonia
Lower Columbia	Unnamed Creek	Chromium (hex)
Lower Columbia	Unnamed Creek	Copper
Lower Columbia	Unnamed Creek	Iron
Lower Columbia	Unnamed Creek	Manganese
Lower Columbia	Unnamed Creek	Zinc
LOWER OWYHEE	Overstreet Drain	Copper, Iron, Lead, Manganese
LOWER WILLAMETTE	Arata Creek / Blue Lake	Ammonia, Manganese
LOWER WILLAMETTE	Columbia Slough	Iron, Manganese
LOWER WILLAMETTE	Johnson Creek	DDT, Dieldrin, PCB, PAH
LOWER WILLAMETTE	South Columbia Slough	Iron, Manganese
MCKENZIE	Blue River	Manganese
MCKENZIE	Mohawk River	Iron
MIDDLE COLUMBIA-HOOD	Dog River	Beryllium, Iron
MIDDLE COLUMBIA-HOOD	East Fork Hood River	Beryllium, Copper, Iron
MIDDLE COLUMBIA-HOOD	Evans Creek	Beryllium, Copper, Iron
MIDDLE COLUMBIA-HOOD	Hood River	Beryllium, Copper, Iron
MIDDLE COLUMBIA-HOOD	Indian Creek	Chlorpyrifos
MIDDLE COLUMBIA-HOOD	Lenz Creek	Arsenic (tri), Beryllium, Chlorpyrifos, Iron, Manganese
MIDDLE COLUMBIA-HOOD	Middle Fork Hood River	Beryllium, Iron
MIDDLE COLUMBIA-HOOD	Mitchell Creek	Zinc
MIDDLE COLUMBIA-HOOD	Neal Creek	Arsenic (tri), Beryllium, Chlorpyrifos, Guthion, Iron, Manganese
MIDDLE COLUMBIA-HOOD	West Fork Hood River	Beryllium
MIDDLE WILLAMETTE	Champoeg Creek	Dieldrin
MIDDLE WILLAMETTE	Pringle Creek	Copper, Dieldrin, Lead, Zinc
MIDDLE WILLAMETTE	Pringle Creek Trib	Heptachlor
MOLALLA-PUDDING	Pudding River	DDT, Iron, Manganese
MOLALLA-PUDDING	Zollner Creek	Arsenic, Chlordane, Dieldrin, Iron, Manganese, Nitrates
NECANICUM	Ecola Creek	Iron

Watershed (USGS 4th Field Name)	Water Body (Stream/Lake)	303(d) Toxics Listing
NORTH UMPQUA	Cooper Creek / Cooper Creek Reservoir	Iron, Mercury
NORTH UMPQUA	North Umpqua River	Arsenic
NORTH UMPQUA	Platt I Reservoir	Mercury
NORTH UMPQUA	Sutherlin Creek	Arsenic, Beryllium, Copper, Iron, Lead, Manganese
NORTH UMPQUA	Unnamed creek	Arsenic
NORTH UMPQUA	Unnamed creek	Iron
NORTH UMPQUA	Unnamed creek	Lead
SOUTH UMPQUA	Galesville Reservoir	Mercury
SOUTH UMPQUA	Middle Creek	Arsenic, Cadmium, Copper, Manganese, Nickel, Zinc
SOUTH UMPQUA	Olalla Creek	Iron
SOUTH UMPQUA	South Fork Middle Creek	Cadmium, Copper, Manganese, Zinc
SOUTH UMPQUA	South Umpqua River	Arsenic, Cadmium
TUALATIN	Beaverton Creek	Iron, Manganese
TUALATIN	Fanno Creek	Dieldrin
Tualatin	Koll Wetland	Chromium (hex), Copper, Lead, Silver, Zinc
TUALATIN	Tualatin River	Iron, Manganese
UMATILLA	Athena Spring	Nitrates
UMATILLA	Birch Creek	Iron
UMATILLA	Butter Creek	Iron
UMATILLA	McKay Creek	Iron
UMATILLA	Umatilla River	Iron, Manganese
UMATILLA	Wildhorse Creek	Iron, Manganese
UMPQUA	Calapooya Creek	Iron
UMPQUA	Cook Creek	Beryllium, Copper, Iron, Lead, Manganese
UPPER WILLAMETTE	A-3 Drain	Arsenic, Dichloroethylenes, Tetrachloroethylene
UPPER WILLAMETTE	Amazon Creek	Arsenic, Copper, Dichloroethylenes, Lead, tetrachloroethylene, Trichloroethylene
UPPER WILLAMETTE	Amazon Creek Diversion Channel	Arsenic (tri), Copper, Lead, Mercury

Watershed (USGS 4th Field Name)	Water Body (Stream/Lake)	303(d) Toxics Listing
UPPER WILLAMETTE	Amazon Diversion Canal/A3 Drain	Mercury
UPPER WILLAMETTE	Calapooia River	Iron, Manganese
UPPER WILLAMETTE	Long Tom River	Iron, Manganese
UPPER WILLAMETTE	Marys River	Iron, Manganese
UPPER WILLAMETTE	Willow Creek	Arsenic
WALLA WALLA	Pine Creek	Iron
WARNER LAKES	Fifteenmile Creek	Silver
WARNER LAKES	Twelvemile Creek	Arsenic (tri), Silver
WARNER LAKES	Twentymile Creek	Arsenic, Silver
WILSON-TRASK-NESTUCCA	Mill Creek	Iron
YAMHILL	Cedar Creek	Iron
YAMHILL	North Yamhill River	Iron, Manganese
YAMHILL	Salt Creek	Manganese
YAMHILL	South Yamhill River	Iron
YAMHILL	West Fork Palmer Creek	Chlorpyrifos
YAMHILL	Yamhill River	Iron, Manganese

* Toxics listings for any one waterbody may only represent a certain portion of that waterbody as being water quality limited.

Appendix B

Multiple Discharger Variance

EXAMPLE FROM MICHIGAN

Variance "Type": Multiple discharger variance (MDV) (may include either municipal or industrial permits)

Pollutants: Mercury (1.3 ng/L criterion associated with wildlife designated use)

Applicable Waterbody: Statewide

Applicable Duration: Five years

Attaining the Designated Use is Not Feasible Because:

40 CFR § 131.10(g)(6) - Controls more stringent than those required by sections 301(b) and 306 of the Act would result in substantial and widespread economic and social impact

Summary of Interim Conditions/Limits:

For reissuance of permits with reasonable potential and existing mercury limits:

- The mercury permit limit will be set at the facility-specific level currently achievable (LCA) (using MI's mercury LCA calculation procedures) for the life of the permit.
- Require monitoring using Method 1631.
- Require a mercury pollutant minimization plan for the duration of the permit so that reasonable progress is made toward attaining the water quality standard.
- Use of a LCA that is calculated using some procedure other than MI's mercury LCA calculation procedures will be evaluated by MDEQ on a case-by-case basis and submitted to EPA for review and approval.

For reissuance of permits with reasonable potential but without previous mercury limits:

- Monitor with Method 1631 monthly for two years of the permit.
- Set the mercury permit limit at the facility-specific LCA (using MI's mercury LCA calculation procedures) effective at Year 3 (allow 2 years of monitoring before the limit takes effect).
- Require monitoring using Method 1631.
- Require a mercury pollutant minimization plan for the duration of the permit so that reasonable progress is made toward attaining the WQS.

- Use of a LCA that is calculated using some procedure other than MI's mercury LCA calculation procedures will be evaluated by MDEQ on a case-by-case basis and submitted to EPA for review and approval.

For reissuance of permits with insufficient data for mercury limit determination:

- Require monthly monitoring with Method 1631 to start at permit issuance and continue for the permit duration.
- Include a Special Condition that triggers a mercury pollutant minimization plan if the monitoring data after one year indicates the presence of mercury at levels indicating reasonable potential to cause or contribute to exceedances of water quality standards.
- Evaluate the need for a permit modification to include a mercury limit, or include a mercury limit at the time of permit reissuance, if reasonable potential exists.

History/Timeline:

<i>Original Variance (approx. 2 years)</i>	
February 18, 2000	Michigan DEQ submitted its Mercury Permitting Strategy, which incorporated a MDV for mercury, to EPA. The Strategy (applicable from 2000-2004) incorporated an interim level currently achievable (LCA) of 30 ng/L.
May 24, 2002	EPA approves MDV.
<i>Variance Renewal #1 (<2 mos)</i>	
May 18, 2004	Michigan DEQ submitted its revised Mercury Permitting Strategy, which incorporated a MDV for mercury, to EPA. The revised Strategy (applicable from 2005-2009) incorporated an interim LCA of 10 ng/L.
June 29, 2004	EPA approves the MDV.
2004-2007	EPA's approval of the variance, particularly the uniform LCA of 10 ng/L, was challenged in federal court.
November 30, 2007	A settlement agreement in regards to the above-noted challenge was reached.
September 5, 2008	Michigan DEQ submits a revised procedure for calculating LCAs to EPA which replaced a component of the previously approved mercury MDV that established a statewide LCA of 10 ng/L.
September 30, 2008	EPA approves the methodology submitted to EPA on September 5,

	2008, that Michigan will use to develop LCAs.
<i>Variance Renewal #2</i>	
August 17, 2009	Michigan DEQ develops a DRAFT Multiple Discharger Variance for Mercury applicable for 2010-2014.

Appendix C

History of EPA Policy and Guidance on Variances

- 1976 EPA first formally indicated allowability of state WQS variance provisions in [Decision of the General Counsel No. 44, dated June 22, 1976 \(PDF\)](#) (8 pp., 338 K), which specifically considered an Illinois variance provision.
- 1977 EPA expanded upon the acceptability of state WQS variance procedures in [Decision of the General Counsel No. 58 \(OGC No. 58\) \(PDF\)](#) (11 pp., 533 K), dated March 29, 1977 (published, in part, at 44 F.R. 39508 (July 6, 1979)).
- 1979 The Director of EPA's Criteria and Standards Division transmitted [EPA's definition of a WQS variance \(PDF\)](#) (1 pp., 78 K) to the Regional WQS Coordinators on July 3, 1979.
- 1983 The Preamble to the 1983 WQS regulation revision suggested that substantial and widespread social and economic impact, the sixth element for use removal under 40 CFR § 131.10(g), is an important and appropriate test that, if met, could be used as the basis for granting a variance (see 48 FR 51403).
- 1985 On March 15, 1985, the Director of the Office of Water Regulations and Standards, responding to questions raised on WQS variances, issued a [reinterpretation of the factors that could be considered when granting variances \(PDF\)](#). It explained that it would be appropriate to grant short-term variances to individual dischargers based on any of the six factors for removing a designated use as listed at 40 CFR § 131.10(g).

1989 In [Guidance for State Implementation of Water Quality Standards for CWA Section 303\(c\) \(2\) \(B\) \(December 1988\) \(PDF\)](#), EPA described State variance procedures as a potential mechanism for addressing circumstances where feasibility issues in attaining WQS may arise as a result of a State's adoption of statewide criteria for a large number of toxic pollutants for human health or aquatic life protection.

Appendix D

State of Oregon

Department of Environmental Quality

Memorandum

To: Neil Mullane
Water Quality Division Administrator

Date: May 13, 2010

From: Andrea Matzke, Standards and Assessment Section
Jennifer Wigal, Water Quality Standards & Assessment Section

Subject: Toxics Rulemaking: DEQ recommendations on addressing work group issues associated with revised variance regulatory language.

Purpose

DEQ staff have been developing and exploring various implementation tools for permitting with the rulemaking work group as part of the human health toxics rulemaking. Variances as an implementation tool has been extensively discussed with work group members. DEQ currently has authority in our water quality standards rules to issue variances, but we have not utilized this option to date. The purpose for reviewing the variance rule language is to improve the usefulness of this tool in appropriate circumstances. As part of these discussions, there have been a number of concerns expressed by several of the stakeholders relating to proposed variance regulatory language. In order to finalize language, DEQ staff is providing recommendations in response to major concerns raised by these work group members.

Issues Raised from Rulemaking Work Group and DEQ Recommendation

1) Aquatic Life Criteria Eligibility for Variances

Description

The current variance rule and proposed revised language allows facilities to apply for variances for any water quality criteria, including toxics criteria for human health and aquatic life criteria, as long as certain criteria are met. Participants from the work group representing Columbia River Keepers and NW Environmental Advocates have concerns about facilities applying for variances based on an aquatic life criteria exceedence.

Columbia River Keepers

The rationale for revising variances for human health criteria pollutants does not apply to the unchanged aquatic life criteria. Moreover, DEQ has not vetted the implications of revising Oregon's variance language for aquatic life criteria. At this time, the revisions to the variance language reflect an implementation tool for adopting an accurate fish consumption rate in Oregon. The rationale for revising, and in turn easing the accessibility to, variances are in no way associated with aquatic life criteria. In the context of this rulemaking, DEQ is obligated to follow the EQC's directive. That directive does not address increasing the accessibility to and ease in obtaining variances for water quality standards that protect aquatic life.

NW Environmental Advocates

I think this is a mistake. (1) we have not discussed how this applies to a wide range of pollutants, (2) this will require ESA consultation on EPA's action on the rule, (3) the existing use protection requirement will be harder to address for aquatic life than for human health and (4) it does not appear that DEQ has thought about how this will work for aquatic life.

Recommendation

The existing variance rule provision is broadly applicable, including aquatic life criteria. Consequently, we do not see a compelling reason to exclude criteria associated with aquatic life in the proposed variance regulations. The proposed variance language has been developed to set up a framework for how variance requests are assessed and processed. In addition, variances must be approved by EPA. EPA's approval action will trigger an ESA consultation for a variance from an aquatic life criterion if that variance may affect a threatened or endangered species. DEQ acknowledges that an ESA consultation could pose a challenge to the administrative process; however, that should not preclude a discharger's ability to request a variance. Facilities should have the opportunity to provide documentation in support of a variance request.

2) Variance Duration

Description

In the existing variance regulation, a variance may not exceed three years or the term of the NPDES permit, whichever is less. The Department proposes changing the duration to coincide with the

duration of a NPDES permit. Participants from the work group representing Columbia River Keepers and NW Environmental Advocates have concerns with extending a variance beyond a 5 year permit term which may occur if a permit is administratively extended.

Columbia River Keepers

CRK appreciates that DEQ is proposing to align the term of a variance with, at most, a permit term. CRK requests that DEQ remove any language that would allow a variance to stay in effect for longer than one permit term.

NW Environmental Advocates

Even the GLI does not allow variances longer than 5 years or the term of a permit. 40 CFR Pt. 132, App. F Procedure 2 B. "...shall not exceed five years or the term of the NPDES permit." Plain language. Why does DEQ think that GLI even applies to Oregon? Why does DEQ think that it can go beyond GLI?

Recommendation

We recommend changing the duration of the variance to coincide with the duration of a NPDES permit. This alignment allows a variance to stay in effect until a new permit is reissued. This dovetailing fosters efficiency in the administrative process for granting variances and provides the opportunity to satisfy the public notice and comment requirements for both the variance and NPDES permit at the same time. If a permit is not reviewed within the 5 year timeframe, the variance will remain in effect until the permit is reissued or revoked, as long as the discharger submits to the Director an application for renewal of the NPDES permit and variance at least one hundred eighty days prior to the date of expiration of the NPDES permit. We propose revising language to the variance provision to reflect this clarification:

(3) Variance Duration.

(a) The duration of the variance period must be specified as part of each variance and shall not exceed the term of the NPDES permit. The variance shall remain in effect in the event that a NPDES permit is administratively extended, as long as the discharger submits to the Director an application for renewal of the NPDES permit and variance at least one hundred eighty days prior to the date of expiration of the NPDES permit.

Permits may be administratively extended for several reasons, including limited staff resources, aligning permit issuance on a watershed basis, insufficient data, or legal challenges. In these cases, it would not be practical for DEQ to revise or revoke the variance and modify the permit accordingly for that purpose alone. Rather, in these situations, DEQ would work to resolve all the issues with the permit and get it renewed, including making a decision about whether or not the variance should be renewed or modified.

Generally, from an environmental standpoint, it is very unlikely water quality conditions resulting from dischargers who receive variances will change significantly in a time period of less than 5 years. Requirements under an existing pollutant minimization plan for a variance would still continue to apply in the event that a permit was administratively extended. In addition, dischargers will be required to submit an annual status report of their approved PMP to the Department for review. Any inadequacies will be rectified.

In addition, if information is made available during a triennial review process that circumstances have changed and the variance is no longer appropriate, the variance could be terminated.

Supporting Information

There are no specific regulations which have addressed the duration of a variance, nor has there been policy guidance documentation from EPA limiting the duration of a variance. The most relevant [memo](#) regarding duration of variances was written in 1992 from EPA's Office of General Counsel to EPA Region 8, where it was concluded that variances were not required, by regulation, to be limited to 3 years.

Section 303(c) of the CWA requires states to conduct a triennial review of their water quality standards. If the state adopts new or revised water quality standards, they must be submitted to EPA for approval. A variance is considered a temporary change to a water quality standard, so would fall under this three year review requirement. However, section 303(c) does not require an expiration and re-adoption of standards every three years, rather it is an opportunity to identify what standards need to be revised based on updated science or other circumstances. If during a triennial review process information is submitted to the Department showing that the conditions on which the variance was based and/or the justification for the variance are no longer valid, the variance could be terminated by the Department.

DEQ's proposed regulatory language for duration of a variance is similar to language found in Ohio's²⁰ multiple discharger variances for mercury regulations. Michigan²¹ allows variances to remain in effect, as long as the NPDES permit is in effect.

²⁰ "Maximum time frame for variances. A WQS variance shall not exceed five years or the term of the NPDES permit, whichever is less, with the exception that a WQS variance may remain in effect beyond the term of the NPDES permit if, at least one hundred eighty days prior to the date of expiration of the NPDES permit, the applicant submits to the director an application for renewal of the NPDES permit, in accordance with Chapter 119. of the Revised Code and paragraph (C) of rule 3745-33-04 of the Administrative Code, and an application for renewal of the variance in accordance with paragraph (D)(8) of this rule. Such a variance shall remain in effect until the director issues a final action on the NPDES permit renewal application unless the application for renewal of the variance is not substantially complete or not submitted within the time required in this paragraph, or unless the permittee did not substantially comply with the 3745-33-07 9 conditions of the existing variance. The director shall review and modify as necessary WQS variances as part of each WQS review pursuant to section 303(c) of the act."

3) Existing Use Protection

Description

40 CFR 131.10(g)²² and (h)(1) address existing uses and removal of a use. Essentially, a variance cannot be granted if it results in a removal of an existing use. However, the degree to which an existing use must be protected has not been clearly defined by EPA. Before making a determination of whether or not a variance results in a removal of an existing use, the existing use must also be identified. Existing use is defined by whether or not the use has actually been attained in the water body on or after November 28, 1975, as well as determining the highest level of water quality that has been achieved since that date. Several participants representing the Columbia River Keepers and NW Environmental Advocates have concerns that DEQ is not sufficiently addressing this requirement as part of revising the variance regulations.

NW Environmental Advocates (Columbia River Keepers concur)

As will be repeated elsewhere in comments, a variance cannot waive existing use protection. See 40 CFR 131.10(g) and (h)(1). This simply must be discussed in this paper. In order to not waive existing use protection, first the existing uses must be identified. Second, it has to be made clear that this is a real requirement.

Recommendation:

We agree that existing uses cannot be waived when determining whether or not to grant a variance request from a discharger; however, the scale of this determination needs to be considered as part of this analysis. Removal of an existing use per 40 CFR 131.10(g) specifically relates to removing a designated use when conducting a Use Attainability Analysis. When applied to a variance, the analysis is most appropriately related to whether or not the discharge under a variance scenario results in a removal of an existing use for that waterbody. One way of evaluating whether or not the existing use is protected is by examining any changes to discharge loads. For example, if the discharge pollutant load proposed under a variance scenario is the same as (or lower than) the load under the previous permit, we conclude that it is reasonable to assume that there would not be a corresponding removal of an existing use. We cannot envision a scenario where a variance would be given to a facility seeking to increase their load. Proposed variance permit conditions require that dischargers have a permit which represents the best effluent quality that they can achieve and can be no less stringent than that achieved under the previous permit.

²¹ "The duration of a water quality variance shall not exceed the term of the NPDES permit. If the time frame of the variance is the same as the permit term, then the variance shall stay in effect until the permit is reissued or revoked."

²² 40 CFR 131.10(g) States may remove a designated use which is not an existing use, as defined in §131.3, or establish sub-categories of a use if the State can demonstrate that attaining the designated use is not feasible because:

To affirm the applicability of the existing use requirement when determining whether or not to grant a variance, we propose adding language to the variance provision:

*(2) Conditions to Grant a Variance. Before the Commission or Department may grant a variance, the permittee **must demonstrate that a loss of an existing use would not result from the granting of the variance and that attaining the water quality standard is not feasible for one of the following reasons:***

4) Applicability of NPS BMPs

Description

40 CFR 131.10(h)(2)²³ addresses the evaluation of whether or not a use could be attained in a water body if the water body were not being impacted by point or nonpoint sources of pollution. The state must demonstrate that a designated use (identified in CWA section 101(a)) is not attainable before the use can be removed. NW Environmental Advocates has expressed concern regarding how DEQ intends to apply this requirement, given that a variance request is discharger-specific, and is not a request for removal of a designated use for a waterbody. NWEA proposes that DEQ interpret the federal requirement at 40 CFR 131.10(h)(2) to apply to BMPs both within the immediate control of the discharger and those activities outside of its control.

NW Environmental Advocates

Along the same lines, DEQ may not remove designated uses if they can be attained by cost effective and reasonable NPS BMPs. See 40 CFR 131.10(h)(2). This language shows up in the DEQ rule language but is otherwise completely ignored by DEQ in this paper.

A variance must demonstrate that implementation of all cost-effective and reasonable best management practices for nonpoint sources cannot correct the underlying water quality problem: It would be my suggestion that DEQ look at creating a mechanism to evaluate what it knows about the BMPs in force at the time of the variance application, devise a method of evaluating whether the BMPs improve, require collection of data to demonstrate an improvements in water quality as a result, etc. The fact is that DEQ has given no consideration to this provision and that this provision is not only federal law but it dovetails perfectly with the Commission's charge no. 3.

[Also refer to NWEA's memo of 2/10/10, *Proposed Method of Addressing Non-Point Source Requirements of 40 C.F.R. § 131.10(h)(2) When Considering Variance Requests.*]

²³ 40 CFR 131.10(h) States may not remove designated uses if: ... (2) Such uses will be attained by implementing effluent limits required under sections 301(b) and 306 of the Act and by implementing cost-effective and reasonable best management practices for nonpoint source control.

Recommendation:

We do not agree that 40 CFR 131.10(h)(2) applies to cost effective and reasonable BMPs which are outside the control of the discharger applying for a variance. Although DEQ could choose to broaden the definition of this language, the practical implementation of a variance as a compliance tool would be jeopardized by placing an unreasonable burden on both the discharger and DEQ staff to conduct the rigorous BMP analysis.

EPA has previously interpreted this requirement to mean that BMPs required to be implemented prior to granting a variance should be limited to those BMPs that may be implemented by a particular discharger (See *Water Quality Guidance for the Great Lakes System: Supplementary Information Document (SID)* (EPA-820-B-95-001, March 1995). Part of this rationale relates to the applicability of the variance request. Variances, as described by DEQ's regulations, are facility-specific, and do not result in removing the designated use on a waterbody segment. Rather, the effect of the variance is to change the water quality standards applicable to the facility, and keep the underlying water quality standards in effect for all other purposes. Nonetheless, we agree that if the permittee can implement cost-effective and reasonable BMPs for nonpoint sources over which it has control, the permittee should implement those BMPs either before requesting a variance for its point source discharge or as part of the requirements the facility would implement as part of its variance. Requiring a discharger to implement all BMPs to address NPSs of pollutants upstream should not be a prerequisite for DEQ to grant a variance request. For example, if a discharger owned and/or controlled large tracts of land which contributed to nonpoint sources of pollution impacting its point source discharge, it would be incumbent upon the discharger to implement BMPs to reduce pollutant levels as part of its approved PMP. However, DEQ envisions BMP implementation occurring as part of the PMP in the variance request, rather than as a prerequisite for variance approval.

NW Environmental Advocates developed a memo²⁴ which proposed a method of addressing nonpoint source requirements when considering a variance request. The "BMP Analysis" described in the memo is similar to the extensive types of analyses that may be performed in the context of a TMDL or in evaluating the effectiveness of individual BMPs. Given the likely scenario of a discharger requesting a variance prior to TMDL development, it is likely that an analysis performed (pre or post TMDL) would conclude that the BMPs currently in place would not be sufficient to reduce the pollutant level needed for the discharger to meet WQBELs. If the "BMP Analysis" described in the memo is followed, the discharger would then be responsible for funding and implementing BMPs on public and private lands to achieve load reductions needed for the waterbody to meet water quality standards, or at the very least, reduce loads to the maximum extent practical prior to requesting a variance. We anticipate that facilities are likely to request a variance prior to TMDL completion. As a result, the kind of analysis described in this memo would most likely not be completed yet.

²⁴ Nina Bell. Proposed Method of Addressing Non-Point Source Requirements of 40 C.F.R. § 131.10(h)(2) When Considering Variance Requests. February 10, 2010.

There is also uncertainty about what the status of compliance would be for the discharger while the BMP analysis was being performed by DEQ staff. Dischargers could be vulnerable to third party lawsuits if WQBELS were exceeded and a compliance mechanism was not in place. This requirement would also add a significant burden to DEQ staff in the variance request process and would render this tool as too burdensome to implement. The “BMP Analysis” or something similar could be appropriate in a TMDL context where Designated Management Agencies are accountable for load reductions and assessing effectiveness of BMPs, but this rigorous analysis should not be applicable to an individual discharger’s request for a variance.

Supporting Information

In the Great Lakes Initiative Supplementary Information Document, EPA received comments regarding the interpretation of 40 CFR 131.10(h)(2) means in the context of issuing variances. The following is an excerpt from the Great Lakes Initiative Supplementary Information Document in response to this:

Comment: Several commenters suggested that EPA should eliminate the requirement of Best Management Practices as a condition for obtaining a variance. Other commenters stated that the BMP requirement should be clarified, or that BMPs should be limited to those that may be implemented by a particular discharger on a reasonable and cost-effective basis.

Response: EPA disagrees that the BMP requirement should be eliminated. EPA agrees, however, that the BMPs that must be implemented before a variance may be granted should be limited to those that may be implemented by a particular discharger. WQS variances are not intended to allow water quality that is already below standards to be further degraded. In addition, as stated in procedure 2.F.1, the purpose of variances are to improve water quality as much as possible by requiring effluent limitations that represent the level of water quality achievable by the permittee. If the permittee can implement cost effective and reasonable BMPs for nonpoint sources, over which it has control, that will attain water quality standards, the permittee should implement those BMPs rather than requesting a variance for its point source discharge. If implementing such BMPs will improve water quality but not meet the standards, implementation by the permittee will result in a reduced variance request and an overall improvement in water quality.

5) Applicability of Variances to New Facilities and Expanded Industrial Activities

Description

In the proposed variance regulations, variances would not generally be granted to new facilities. This rationale is based on the assumption that new facilities should be able to mitigate and implement compliance strategies before discharging to a waterbody, in keeping with the overall objectives of the CWA. However, there may be circumstances in which a new facility may be allowed a variance based on

social or environmental benefits. For example, leaking septic systems may be impacting a nearby waterbody. An analysis is completed and is determined that building a POTW to centrally treat wastewater from homes is more environmentally preferable than retaining individual septic systems. Industry and members representing municipalities support these exceptions for new facilities, however, the Columbia River Keepers representative has concerns about its inclusion. The comments below were submitted previous to the work group discussion in January 2010.

Columbia River Keepers

RWG members have raised the question of whether the variance rule could apply to new facilities. This issue had not been discussed at any meeting. For example, DEQ had not explained why it is appropriate to authorize a new facility to discharge pollution that exceeds a WQS, but obtain a variance to make the discharge "legal." This is an important point: at its core, how does DEQ justify allowing variances for new facilities given CWA sec. 101(a) ("The objective of this Act is to **restore** and **maintain** the chemical, physical, and biological integrity of the Nation's waters")? Similarly, the purpose of the rulemaking is to protect human health and improve water quality. While implementation tools are part of the rulemaking package, DEQ is not obligated to reach so far as to allow additional water quality degradation in the form of new facilities with new pollutant discharges that exceed WQS.

Recommendation

In principle, DEQ does not intend to grant variances for new facilities, however, DEQ does recommend including several exceptions to new facilities that wish to apply for a variance. Below is proposed language to address such circumstances:

(1) Applicability. The Commission or Department may grant point source variances from the water quality standards in this Division where the requirements in sections (1) through (8) of this Rule are met.

(a) The water quality variance may apply only to the point source for which the variance is requested and only to the pollutant or pollutants specified in the variance; the underlying water quality standard otherwise remains in effect.

(b) A water quality standard variance may not be granted if:

(A) The standard will be attained by implementing technology-based effluent limits required under sections 301(b) and 306 of the federal Clean Water Act, and by the discharger implementing cost-effective and reasonable best management practices for nonpoint source control;

(B) The variance would likely jeopardize the continued existence of any threatened or endangered species listed under section 4 of the Endangered Species Act or result in the destruction or adverse modification of such species' critical habitat;

(C) The conditions allowed by the variance would result in an unreasonable risk to health;

(D) A source requesting a variance is a new facility, unless a proposed variance for a new facility:

- (iv) Prevents or mitigates a threat to public health or welfare;*
- (v) Provides a net environmental benefit; or*
- (vi) Remediates water contamination pursuant to the Comprehensive Environmental Response Compensation and Liability Act (CERCLA, 42 U.S.C. 9601 et seq. as amended through July 1, 2006), or the Resource Conservation and Recovery Act (RCRA, 42 U.S.C. 6901 et seq. as amended through July 1, 2006).*

Rulemaking Work Group members discussed this issue fairly extensively at the January 2009 meeting in which variances were discussed. Many members were concerned with applying a blanket disallowance on new facilities which could apply for variances and requested that DEQ identify situations where variances could be allowed. The language above was developed in response to this request. If appropriate, DEQ would prefer to use a compliance schedule for new facilities where needed to achieve water quality standards. However, allowing a compliance schedule for new sources and dischargers may only occur on a limited basis. DEQ may issue compliance schedules for new sources or new dischargers that are under construction and have not begun discharging if all of the following are true:

- This is the first NPDES permit to be issued for the source,
- A new, revised or newly interpreted water quality standard was issued less than three years before commencement of the relevant discharge (see 40 CFR § 122.47(a)(2)), and
- The new, revised or newly interpreted standard was issued or revised after commencement of construction.

Staff would closely analyze any requests from expanding facilities or newly permitted facilities to determine if a variance was warranted.

Appendix E

Questions and Answers

[The responses to the questions below are from the previous version in the Variance White Paper and have not been revised based on more recent RWG discussions and further edits to the rule language. This is provided here as a placeholder for these types of questions and will be reviewed and edited on a future revised issue paper.]

Variations

- 1. The Oregon Environmental Quality Commission currently has the authority to grant variances. Why is the Department proposing changes to allow it to also hold that authority? Is it legal for DEQ to grant variances, instead of the EQC?**

To foster efficiency in the administrative process for granting variances, the Department is proposing changes to allow the Director of DEQ to authorize variances. The EQC generally meets every six weeks, however, agendas are typically very full and items brought to the EQC require an additional 6 weeks lead time for DEQ staff to prepare the materials. A backlog of variance requests may lead to delays in approval. DEQ thinks that when variances are granted, the process for granting the variance should occur at the same time as the permit issuance. By giving authority to the DEQ Director, the variance approval process will be more efficient and timely.

It is legal for DEQ to grant variances. By adopting the authorizing rule language granting the Department to grant variances, the EQC is delegating that authority to the Department.

- 2. Under what circumstances will the Department grant a variance, and likewise, under what circumstances will the Commission grant a variance?**

The Department will grant individual variances that are applicable to a single facility. Unique circumstances or controversial situations may warrant EQC approval. This will be determined on a case by case basis.

A multiple discharge variance requires explicit rulemaking to address the particular facility/pollutant situation. As such, the Commission would adopt such rules. Additionally, circumstances where a variance would apply to a waterbody as opposed to an individual facility would also be granted by the Commission.

3. How will the Department ensure integrity and consistency in the process for granting variances? Is there a public appeals process?

The Department will develop an IMD to guide the variance process. It will focus on the application requirements and procedures, justification for requesting a variance, establishing interim permit conditions under a variance, approval and renewal process, and situations where a variance would not be appropriate or approved.

In addition, every variance request will be subject to public notice and comment requirements. DEQ expects to satisfy these requirements by including the proposed variance in the public notice for a draft NPDES permit.

DEQ and EPA will work together to develop mutually acceptable timeframes to guide the variance approval process. In addition, DEQ anticipates assistance from EPA in conducting reviews based on the economic condition.

If a member of the public provided comments during the public comment period and does not support a decision by DEQ, he or she will have the same recourse available to the public to appeal any other part of the permit by making a request to the Department to reconsider the decision to grant a variance.

4. Why is the Department changing the allowable maximum duration for a variance? Why does the Department believe this maximum duration is appropriate?

The Department is changing the duration of a variance to coincide with the duration of a NPDES permit. In this approach, the duration of the water quality variance would not exceed the term of the permit. This avoids the situation where a variance expires before a new permit is reissued. This dovetailing fosters efficiency in the administrative process for granting variances and streamlines the public notice and comment requirements for both variance and NPDES permits. If a permit is not reviewed within the 5 year timeframe, the variance will remain in effect until the permit is reissued or revoked. Under no circumstances would a variance continue for greater than 10 years.

5. Isn't there a requirement under Clean Water Act section 303(c)(1) which requires DEQ to review a variance on a triennial basis? How does this mesh with a variance that has been approved for a period longer than 3 years?

Section 303(c) of the CWA requires states to conduct a triennial review of their water quality standards. If the state adopts new or revised water quality standards, they must be submitted to EPA for approval. A variance is considered a temporary change to a water quality standard, so

would fall under this three year review requirement. However, section 303(c) does not require an expiration and re-adoption of standards every three years, rather, it is an opportunity to identify what standards need to be revised based on updated science or other circumstances. If during a triennial review process information is submitted to the Department showing that the conditions on which the variance was based and/or the justification for the variance are no longer valid, the variance could be terminated by the Department of the Commission.

6. During the variance period, will an effluent limit be included in the facility's permit for the pollutant which is the subject of the variance? How will DEQ determine what the interim effluent limit should be?

During the variance period, the facility will be required to achieve the lowest effluent concentration possible under current operations and treatment. At a minimum, these requirements will reflect the best effluent quality achieved under current operations and treatment, presuming the facility is operating the system at optimum performance levels under a variety of environmental conditions. In some cases, the discharger may be able to reduce pollutant concentrations in its effluent through source reduction, treatment optimization, or other pollutant minimization strategies. In these cases, a lower effluent limit may be possible to achieve and would be incorporated into an interim limit.

7. How will the Department ensure that reasonable progress is being made toward meeting the underlying or original water quality standards during the variance period?

Where appropriate, the Department will condition the variance on the performance of additional studies, monitoring, development and implementation of specific activities contained in the pollutant minimization plan, implementation of pollutant offsets or trading, and/or other controls deemed necessary. Where required, these terms and conditions, as well as milestones, and monitoring and reporting requirements will be incorporated into the applicant's NPDES permit or department order.

8. How does the antidegradation process fit with the variance process?

An antidegradation policy provides a means for maintaining and protecting water quality of surface waters by requiring that all activities with the potential to affect existing water quality undergo review and comment prior to any decision to approve or deny a permit or certificate for the activity. Any activity that proposes to discharge a new or increased load (beyond loads presently allowed in an existing permit) or that will lower the water quality of a high quality water is subject to an antidegradation review. A permit application that will result in a discharge of a new or increased load or that will lower water quality is subject to an antidegradation review. However, permit renewals with the same or lower discharge load as the previous permit may not be considered as a lowering of water quality from existing water quality

conditions. DEQ anticipates that facilities applying for a variance from a revised human health criterion will not be increasing discharge loads from their current NPDES discharge loads. Nothing in the variance provisions removes the antidegradation review requirements where they apply.

9. Could a new or expanding discharge receive a variance?

DEQ does not intend to grant variances for new facilities. DEQ would closely analyze any requests for variances for expanding facilities or newly permitted facilities. DEQ's preference, in these circumstances, would be to use a compliance schedule, if needed, to achieve water quality standards.

10. Would a variance be subject to public notice and comment requirements?

Yes, as with revisions to state water quality standards, a variance request would also require public notice and comment. Since variances will be linked to the NPDES permitting cycle, public notice can serve both permitting and variance requirements.

11. What sort of requirements would be expected under a pollutant minimization plan?

A pollutant minimization plan would be developed based on factors such as, discharge concentrations, pollutant source, fate and transport of the pollutant in the environment, current treatment technology, etc. For example, if a discharger is not increasing mass, but there is a slight increase in concentration of a background pollutant to a receiving stream, the Department may not require additional measures. Conversely, where a discharge results in a water quality criterion exceedance through a facility's industrial process, source materials used, and/or inflow and infiltration issues, and treatment to reduce effluent concentrations are not available, the Department would work with the facility to develop a PMP to reduce the pollutant of concern, including milestones for implementation, as appropriate.

12. What information would be needed to justify a request for renewal of a variance? Does a renewal need to be reviewed and approved by EPA?

Variances may be renewed if an applicant reapplies and demonstrates that the designated use is still not attainable or that the conditions upon which the variance was granted continue to exist at the time of the permit renewal. Renewal of the variance may be denied if the applicant does not comply with the conditions of the original variance or otherwise does not meet the requirements set forth in variance regulations. If applicable, the Department will require the applicant to submit information demonstrating that reasonable progress has been made towards achieving the underlying water quality standard.

Yes, EPA would need to review and approve a request for a renewal, as this is a short-term exemption from meeting water quality standards.

13. If a facility is approved for a variance, does it mean that the facility will never be in compliance with the water quality criterion?

No. Variances may only be used on a short-term basis from meeting an applicable water quality standard. If an applicant is not able to meet the criterion by the expiration of the variance time limit, the applicant would need to demonstrate that the conditions upon which the variance was granted continue to exist in order to be approved for renewal. The renewal request is an opportunity to ascertain progress in meeting the applicable water quality criterion and to determine next steps. DEQ's goal is to maintain the underlying designated use even if the use cannot be met in the short term. However, DEQ would consider a use attainability analysis to determine whether or not the designated use continues to be appropriate. If the analysis indicated that the designated could not be supported, changes to the water quality standards (the beneficial use designation and criteria) through a use attainability analysis and rule-making may be appropriate.

14. Will the Department allow a multi-discharger permit?

The variance authorizing language being proposed by the Department is directed to individual facilities.

A multiple discharge variance requires explicit rulemaking to address the particular facility/pollutant situation. As such, the Commission would adopt such rules. Additionally, circumstances where a variance would apply to a waterbody as opposed to an individual facility would also be granted by the Commission.

15. Are there any situations where the Department would not approve a variance to a facility based on certain circumstances?

Although the Department anticipates that variances will be a useful tool to comply with revised human health toxics criteria, there may be situations where a variance will not be appropriate. For example, in situations where:

- a. a use attainability analysis is the more appropriate long term goal, although a variance may be an option if time is needed to demonstrate a different designated use;*
- b. discharge concentrations would pose an unreasonable risk to human health;*
- c. discharge concentrations would likely jeopardize the continued existence of any threatened or endangered species listed under section 4 of the Endangered Species Act or result in the destruction or adverse modification of such species' critical habitat;*

- d. *the Department disagrees with the information or rationale presented to justify the variance under one of the 6 factors that must be used to allow a variance or does not believe the applicant has provided sufficient measures for reducing or mitigating its contribution;*
- e. *a new facility requests a variance*

General Implementation

[These questions have been submitted to DEQ, and although DEQ can address the majority of these, they have not been formally answered. These questions serve as a placeholder for now.]

1. Does effective date mean it will be the compliance date for both CWA purposes and NPDES permitting?
2. If a permittee is in the middle of the permit process and the new criteria become effective, what are the effluent limits based on?
3. When will the IMDs become final? One month after EQC adoption? One month after effective date? Need to have final IMDs in place well before permittees need to comply.
4. Permits issued on a watershed basis (e.g. Willamette): Depending on the phase of the TMDL, you could end up with some permits based on FCRs of 6.5, 17.5, or 175.
5. Equity issue of permit limits: Competitive disadvantage for industries which must comply with more stringent effluent limits based on when their permit is up for renewal. For example, if a permit expires sometime between now and before the proposed criteria become effective, the effluent limits for HHC could be based on 6.5 which would buy that facility some time before they would need to comply with 175
6. Examine categories of industries: Should the focus be on certain categories of dischargers? Might not want to start with more difficult issues—don't want to set up a bad precedence for some of the tools, particularly variances
7. Integrated Report timing and the availability of mixing zones if 303(d) limited: If the effective date is postponed until mid 2012, 2012 IR may have additional listings based on the higher FCR, so could limit use of mixing zones for compliance.

Appendix F

Response to Workgroup Comments

[This will be a placeholder for DEQ to respond to workgroup comments]