

# **Implementing Water Quality Standards Variances for NPDES Permit Holders Version 1.0**



State of Oregon  
Department of  
Environmental  
Quality

**Water Quality Division**

811 SW 6th Avenue  
Portland, OR 97204  
Phone: (503) 229-5555  
(800) 452-4011  
Fax: (503) 229-5408  
Contact: Andrea Matzke  
[www.oregon.gov/DEQ](http://www.oregon.gov/DEQ)

*DEQ is a leader in  
restoring, maintaining  
and enhancing the quality  
of Oregon's air, land and  
water.*

## Disclaimer

This draft internal management directive (IMD) represents the Department of Environmental Quality's current directions to staff on how to implement rule OAR 340-041-0059. This rule governs DEQ's issuance of variances, which in essence provide a short-term exemption from meeting water quality standards-based limits for a specific pollutant(s) and which require a Pollutant Reduction Plan to ensure progress toward meeting the water quality standards in the interim.

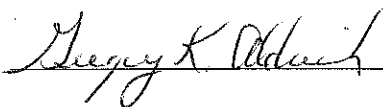
This IMD is not final agency action and does not create any rights, duties, obligations, or defenses, implied or otherwise, in any third parties. This directive should not be construed as rule, although some of it describes existing state and federal laws. The recommendations contained in this directive should not be construed as a requirement of rule or statute. DEQ anticipates revising this document from time to time as conditions warrant.

## Document Development

Prepared By: Jane K. Hickman, Senior Legal Policy Analyst, WQ Administration, HQ  
Andrea Matzke, WQ Standards Specialist, WQ Standards and Assessment Section, HQ  
Sonja Biorn-Hansen, Lead Policy/Technical Specialist, WQ Permitting, HQ  
Jennifer Wigal, Manager, WQ Standards and Assessment Section, HQ

Reviewed By: Annette Liebe, Manager, Surface Water Management Section, HQ  
Bob Dicksa, Senior WQ Permitting Specialist, Salem Office, DEQ  
Jon Gasik, Senior WQ Permitting Specialist, Medford Office, DEQ  
Spencer Bohaboy, Policy Development Specialist, WQ Permitting, HQ  
Jannine Jennings, Manager, WQ Standards & Assessment, U.S. EPA, Region 10  
Matthew Szelag, WQ Standards Specialist, U.S. EPA, Region 10

Approved By: Gregory K. Aldrich, Interim Administrator, DEQ  
Water Quality Division, HQ



Date 2/6/2012

Alternative formats (Braille, large type) of this document can be made available. Contact DEQ's Office of Communications & Outreach, Portland, at (503) 229-5696, or toll-free in Oregon at 1-800-452-4011, ext. 5696.

## Table of Contents

<b>1.0 Introduction</b>	4
1.1 Background	4
1.2 Purpose of This IMD	5
<b>2.0 Purpose of a Variance</b>	6
2.1 Situations Where a Variance May be Granted	6
2.2 Alternatives to a Variance	7
2.3 Timing of a Variance Request	8
2.4 Variance Permit Conditions	9
2.4.1 Interim permit limit (best achievable level)	9
2.4.2 Pollutant Reduction Plan requirement	10
2.4.3 Any studies or monitoring necessary to ensure compliance with the conditions of the variance	10
2.4.4 Annual progress report	10
2.4.5 Term/Duration of variance	10
<b>3.0 Variance Submittal Requirements</b>	11
3.1 Demonstration of Why a Variance is Needed	11
3.1.1 Naturally occurring pollutant concentrations prevent attainment of a WQBEL	12
3.1.2 Natural flow conditions prevent attainment of a WQBEL	13
3.1.3 Human-caused conditions prevent attainment of a WQBEL	13
3.1.4 Hydrologic modifications prevent attainment of a WQBEL	14
3.1.5 Natural features of a water body prevent attainment of a WQBEL	15
3.1.6 Controls more stringent than technology-based standards would result in substantial and widespread economic and social impact	15
3.2 Description of treatment or alternative options considered and why these options are not technically or financially feasible	16
3.3 Water quality data characterizing ambient and discharge water pollutant concentrations	17
3.4 Nonpoint Source Controls	17
3.5 Pollutant Reduction Plan	18
3.5.1 Minimum Elements of a Pollutant Reduction Plan	18
3.5.2 DEQ Approval of Pollutant Reduction Plan	23
3.5.3 Annual Progress Reports	23
3.6 POTW's legal authority to regulate the pollutant at issue	24
<b>4.0 DEQ's Review of Variances</b>	24
4.1 Technology-based controls are insufficient to meet WQBELs	25

# Implementing Water Quality Standards Variance for NPDES Permit Holders

4.2 No jeopardy to endangered species .....	25
4.3 No unreasonable risk to human health.....	26
4.4 No impairment of existing uses .....	26
<b>5.0 New Permit Holders.....</b>	<b>27</b>
5.1 Public Health Considerations .....	28
5.2 Restoration Projects.....	28
5.3 Widespread Socio-economic Benefit .....	28
<b>6.0 Variance Evaluation Report .....</b>	<b>29</b>
<b>7.0 Permit Conditions and Enforcement .....</b>	<b>30</b>
<b>8.0 Public Notification Requirements .....</b>	<b>31</b>
<b>9.0 Renewals.....</b>	<b>31</b>
<b>10.0 Multiple Discharger Variances .....</b>	<b>32</b>
<b>11.0 DEQ and EPA Roles and Responsibilities.....</b>	<b>32</b>
Appendix A: Variance Rule Language.....	35
Appendix B: Suggested Model Permit Language .....	39
Schedule A: Waste Discharge Limitations not to be Exceeded.....	39
Schedule B: Minimum Monitoring and Reporting Requirements.....	39
Schedule D: Special Conditions .....	40
Appendix C: Variance Application Form.....	41
Appendix D: Checklists of Information Needed for Variance Application .....	53
Appendix E: Variance Renewal Application.....	54
Appendix F: Draft Variance Evaluation Report Template .....	55
Appendix G: Memorandum of Understanding Between DEQ and EPA re: Variances .....	60

# 1.0 Introduction

## 1.1 Background

The federal regulations implementing the Clean Water Act (40 CFR 131.13) allow states to adopt variance provisions that govern granting a variance to a permit holder where it is documented that the permit holder cannot control a specific pollutant in its discharge to the extent necessary to meet the applicable water quality standard. Variances are allowed in OAR 340-041-0059(2) and are consistent with 40 CFR 131.10(g). For the complete text of OAR 340-041-0059, please see Appendix A. A variance can be granted for most pollutants; however, the need for variances may increase with the recent adoption of more stringent human health criteria for toxics. NPDES permit holders may also need a variance if dilution is not available, either because the receiving water body is on the 303(d) list for the pollutant, or because upstream conditions already exceed the water quality criterion.

DEQ's variance rule allows a NPDES permitted facility to seek a temporary modification to the designated use and associated water quality criteria. It also requires a Pollutant Reduction Plan to ensure progress towards meeting the water quality standard during the term of the variance. A variance must include interim effluent limits for the pollutant of concern and a variance does not exempt the discharger from compliance with applicable technology-based limits (TBELs) or WQBELs for other pollutants. The variance is granted for a specific pollutant(s) and beneficial use(s) and does not otherwise modify the water quality standards for the water body or other requirements applicable to dischargers in the area.

Dischargers may be eligible for a variance if the discharger is not able to achieve a WQBEL in the foreseeable future 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 levels necessary to achieve the WQBEL. A variance may also be appropriate when a facility has opportunities to improve its water quality (and possibly meet criteria), but the timeframe is uncertain.

DEQ's director approves variance requests from existing permit holders, while the Environmental Quality Commission (EQC) approves variance requests from new permit holders. Proposed variances are subject to public notice and comment. Each variance is granted for the minimum time needed and cannot extend beyond the term of the permit (typically five years), though the variance may be renewed if certain conditions are met. These include a demonstration that all or most of the circumstances justifying the original variance still exist, that the permit holder has made reasonable progress toward meeting the water quality standard by implementing the actions described in its Pollutant Reduction Plan, and that the permit holder has complied with the terms and conditions of the existing variance.

For variance renewals, DEQ will provide a similar review and documentation as for the original variance, although the original variance and supporting materials may be cited if circumstances remain unchanged. Variance development and approval would generally most efficiently occur during the development of a NPDES permit. However, a variance request may be submitted at any time during the term of the permit (for instance, if it becomes apparent that the permit holder cannot meet a WQBEL in the foreseeable future).

## 1.2 Purpose of This IMD

This IMD provides direction to DEQ permit and standards staff on how to review and process variance requests and how to implement OAR 340-041-0059, as follows:

- Applicability of variance provision (i.e., who may apply for a variance) [OAR 340-041-0059(1)]
- Variance submittal requirements [OAR 340-041-0059(4)]
- Facts that would prohibit issuance of a variance [OAR 340-041-0059(1)(b)]
- Facts necessary to justify a variance [OAR 340-041-0059(2)]
- Duration of the variance [OAR 340-041-0059(3)]
- Variance permit conditions required [OAR 340-041-0059(5)]
- Public notification requirements [OAR 340-041-0059(6)]
- Variance renewals [OAR 340-041-0059(7)]

**Table 1: Variances at a Glance**

VARIANCES: AT A GLANCE	
<b>What it is</b>	Allows a NPDES permitted facility to seek a temporary modification to the designated use and associated water quality criteria
<b>Eligibility Requirements</b>	<ul style="list-style-type: none"> <li>• For most pollutants</li> <li>• Dischargers with currently effective NPDES permits <ul style="list-style-type: none"> <li>○ <i>Exceptions:</i> Variances may be considered for new NPDES permits for: (1) public health considerations, (2) restoration projects, (3) widespread socio-economic benefits</li> </ul> </li> </ul>
<b>Justification</b>	<p><i>To justify a variance, at least one of the six conditions below must be met:</i></p> <ul style="list-style-type: none"> <li>• Naturally occurring pollutants prevent attainment of water quality standards</li> <li>• Human-caused pollutants cannot be remedied or would cause more environmental damage to correct</li> <li>• Controls to reduce pollutant would cause substantial and widespread economic and social impact</li> <li>• Natural physical features of a stream prevent attainment of water quality standards</li> <li>• Hydrologic modifications prevent attainment of water quality standards</li> <li>• Flow conditions or water levels prevent attainment of water quality standards</li> </ul>
<b>Considerations</b>	<p><i>A variance cannot:</i></p> <ul style="list-style-type: none"> <li>• Jeopardize an endangered species (ESA consultation required for aquatic life criteria)</li> <li>• Result in an unreasonable risk to human health</li> <li>• Impair an existing water body use</li> </ul>
<b>Submittal Requirements</b>	<ul style="list-style-type: none"> <li>• Justification(s)</li> <li>• Description of current treatment and alternative options and why these options are not feasible</li> </ul>

	<ul style="list-style-type: none"><li>• Water quality data and analysis to support request</li><li>• Description of any best management practices for nonpoint source control</li><li>• A pollutant reduction plan with specific milestones</li><li>• For POTWs, a demonstration of legal authority to regulate the pollutant for which the variance is sought</li><li>• Public notice documentation</li></ul>
<b>Permit Conditions</b>	<ul style="list-style-type: none"><li>• Interim permit limit (no less stringent than the level achieved under the previous permit)</li><li>• Implement approved pollutant reduction plan</li><li>• Monitoring or studies may be required for compliance</li><li>• Submittal of an annual progress report</li></ul>
<b>Duration</b>	<ul style="list-style-type: none"><li>• Term of the permit (5 years) or less</li></ul>
<b>Approval</b>	<ul style="list-style-type: none"><li>• DEQ Director: Currently effective NPDES permits</li><li>• Environmental Quality Commission : New NPDES permits</li><li>• EPA, Region 10: All variances</li></ul>

## 2.0 Purpose of a Variance

The purpose of a variance is to:

Provide a mechanism for a NPDES-permitted facility to seek a short-term exemption from meeting a WQBEL for a specific water quality standard where a discharger demonstrates that meeting a specific water quality standard is not feasible in accordance with the factors listed in OAR 340-041-0059(2) and 40 CFR §131.10(g);

- maintain underlying water quality standards as goals rather than removing designated uses (via a use attainability analysis) and associated criteria that may be ultimately attainable; and
- ensure the highest level of water quality achievable during the term of the variance through interim permit limits and the implementation of a Pollutant Reduction Plan.

The situations DEQ anticipates will occur most often are:

- A discharger cannot meet limits based on a human health water quality criterion for a toxic pollutant because the background concentration of the pollutant is naturally elevated (e.g., arsenic) (see section 3.1.1) 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., dioxin) (see section 3.1.2); or
- Technology has not yet been proven based on wastewater type or quantity of flow to consistently remove contaminants to the level needed, or implementation of controls more stringent than technology-based requirements would result in substantial and widespread economic and social impact (see section 3.1.6).

## 2.1 Situations Where a Variance May be Granted

If eligibility is established, variances may be used where:

- facilities are discharging to waters where TMDLs are yet to be developed for the pollutant of concern;
- A facility has opportunities to improve its water quality (and possibly meet criteria), but the timeframe is uncertain;
- treatment technologies are being investigated or developed;
- no feasible treatment technologies are available;
- facilities are discharging to waters undergoing or proposed to undergo a use attainability analysis for a use associated with the pollutant of concern. Variances that provide time to determine what use is attainable in the long term should include a detailed timeline describing the facility's contribution to data collection for this analysis and/or;
- facilities are discharging to waters where a site-specific standard is being developed or proposed to be developed for the pollutant of concern. Variances that provide time to develop site-specific criteria should include a detailed timeline describing the facility's contribution to data collection for this analysis.

## 2.2 Alternatives to a Variance

All viable alternatives to a variance should be studied before considering a variance. The Reasonable Potential Analysis (RPA) and Compliance Schedule IMDs discuss various approaches, such as collecting better ambient data, using intake credits, modifying or relocating the outfall and/or mixing zone, source reduction, and treatment. Additionally, DEQ staff should explore the possibility of using the site-specific background pollutant criterion provision. Typically, the data and information developed in evaluating the use of intake credits or a site-specific background pollutant criterion can also be used in establishing a variance justification.

Intake credits account for intake water pollutants that are present in a facility's source waters. The Department can use an intake credit when determining reasonable potential to cause or contribute to an exceedance of a water quality criterion or to calculate WQBELs. Through the use of intake credits, a facility is held accountable for any changes to a pollutant (e.g. concentration or mass) while within their distribution, process, collection or treatment systems. Ultimately, the effluent cannot have a higher mass or concentration than the source water. Guidance on how to implement intake credits has been added as an appendix to the RPA IMD<sup>1</sup>.

A site-specific background pollutant provision in the water quality standards allows up to a 3% increase in concentration for human health criteria pollutants categorized as carcinogens into receiving waters under specified circumstances, as long as the risk to human health is not greater than  $10^{-4}$  (one additional cancer per 10,000 people). See the Site-Specific Background Pollutant Provision IMD on how to implement the site-specific background pollutant provision<sup>2</sup>.

Permit writers should consider a compliance schedule<sup>3</sup> for the permit holder if effluent limits cannot be met in the short term, but can be met within a certain timeframe.

---

<sup>1</sup> See the RPA IMD at: <http://www.deq.state.or.us/wq/pubs/pubs.htm#imds>.

<sup>2</sup> The site-specific background pollutant criterion IMD is expected to be final in April 2012.

<sup>3</sup> See the Compliance Schedule IMD at: <http://www.deq.state.or.us/wq/pubs/pubs.htm#imds>



A longer term option such as developing a site-specific criterion or a use attainability analysis for a water body may be appropriate when a water body is not able to achieve water quality standards even after sources of pollutants are controlled to the maximum extent feasible.

The permit writer should evaluate the following compliance options, listed in descending order of preference:

### **Options for Meeting Water Quality-Based Effluent Limits in Descending Order of Preference**

1. Consider availability of an intake credit and/or use of a site-specific background pollutant criterion provision (See discussion above).
2. Consider near-term source reduction opportunities and/or create more assimilative capacity by reducing pollutant sources upstream.
3. If it is reasonably certain that a WQBEL can be achieved with substantial facility modifications (including relocation of the outfall or modification of the mixing zone), but the permit holder needs time to achieve the WQBEL, consider a compliance schedule.
4. If it is not reasonably certain when or if a WQBEL will be achieved even after implementing pollutant control programs and a discharger is eligible, use a variance.
5. If a TMDL is completed during the term of the variance that assigns an achievable waste load allocation (WLA) for the pollutant of concern, do not renew the variance upon permit renewal unless a new evaluation reflecting the WLA is conducted.
6. If it becomes apparent over time that the beneficial uses currently assigned to the water body may not be achievable, or that the scientific information will support development of site-specific criteria protective of the use, use the data collected during the term of the variance to support a use attainability analysis or to develop site-specific criteria.

## **2.3 Timing of a Variance Request**

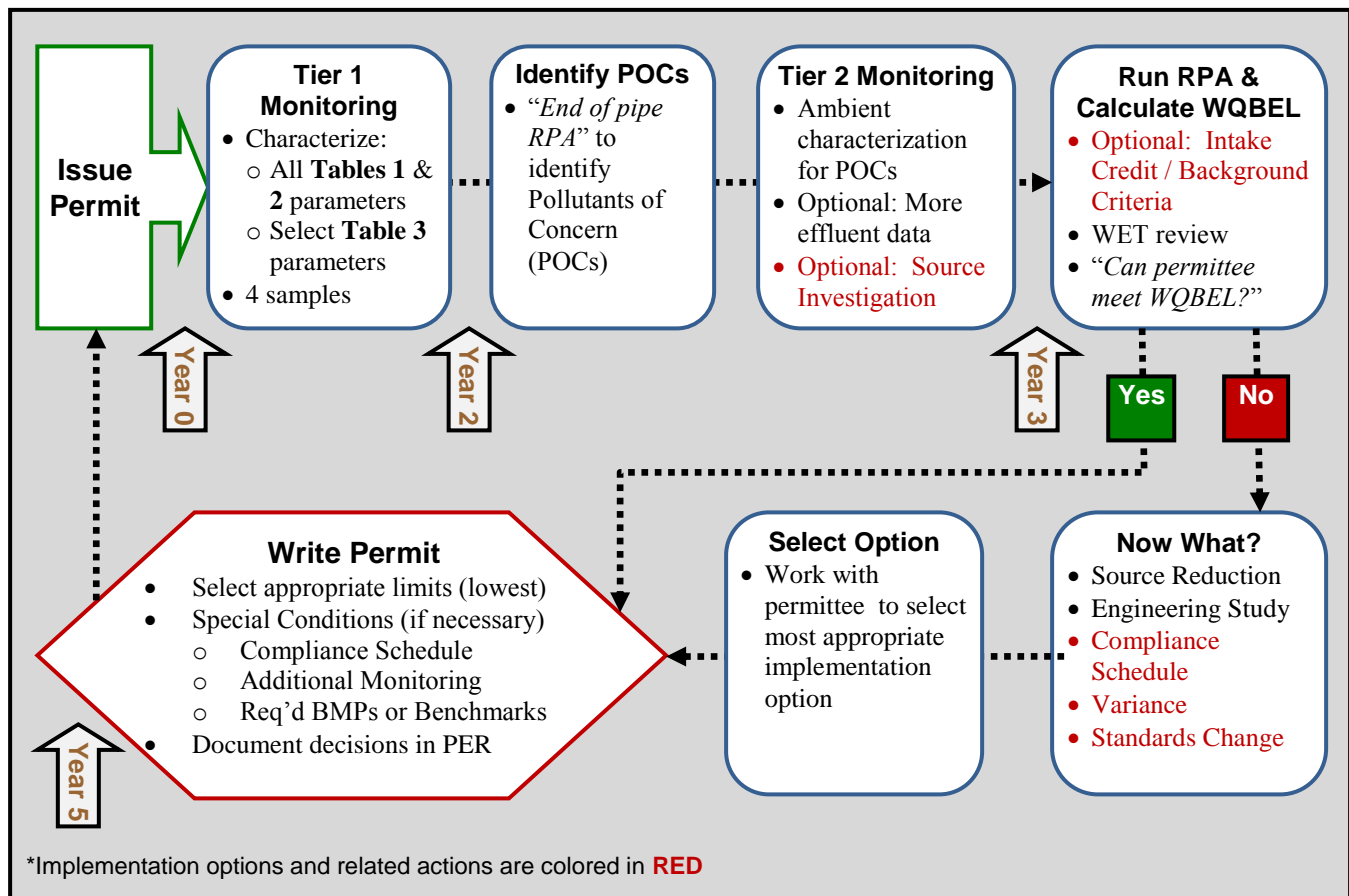
Under DEQ's current permit renewal process, the need for a variance will become apparent when the permit writer reviews the alternatives to a variance discussed above. At that point, the permit holder has the option to request a variance, and should be prepared to provide additional documentation, including treatment engineering studies and additional effluent and ambient data. This data is in addition to the data submitted in the initial permit application or developed by the permit writer, so the permit holder should plan accordingly to sufficiently gather this information.

If DEQ receives sufficient sampling information during the term of the permit, the permit writer can start gathering the data necessary to justify a variance before the renewal process and reduce delay in permit renewal. DEQ is beginning to institute the practice of doing a mid-permit term "mini-RPA"<sup>4</sup> to identify pollutants that have a reasonable potential to exceed water quality criteria at end of pipe (i.e. without mixing with the receiving stream) so that data needs can be determined for a permit renewal application, including permits with variances. Figure 1 illustrates this permit development process.

---

<sup>4</sup> See the RPA IMD at: <http://www.deq.state.or.us/wq/pubs/pubs.htm#imds>

Figure 1: Flowchart of Permit Development Process and Compliance Options



## 2.4 Variance Permit Conditions

OAR 340-041-0059(5) states that DEQ must incorporate into the discharger's NPDES permit all conditions necessary to implement and enforce an approved variance and associated Pollutant Reduction Plan. The variance must include each of the conditions listed in that rule (See Appendix B for suggested permit language for each of these conditions). DEQ staff should document all the rationale used to make decisions relative to this variance in the Variance Evaluation Report (discussed later in section 6.0 ) and included in the materials made available during public notice. The permit conditions are discussed below and in other sections of this IMD.

### 2.4.1 Interim permit limit (best achievable level):

In general, interim permit limits should represent the best achievable effluent quality based on discharge monitoring data and cannot be less stringent than that achieved under the previous permit.

The development of interim permit limits will involve best professional judgment. Permit writers charged with developing interim permit limits are directed to take into consideration the following:

- Discharge monitoring data
- Facility treatment capabilities
- Engineering studies
- Performance of similar facilities
- Input from plan review engineer

Under a variance renewal, the interim permit limit for the pollutant of concern should reflect any improvements to water quality that were made under the previous Pollution Reduction Plan (i.e. interim permit limits could become more stringent under a variance renewal than under the preceding variance).

#### **2.4.2 Pollutant Reduction Plan requirement:**

The variance application must include a proposed Pollutant Reduction Plan that includes actions to be taken by the permit holder that would result in reasonable progress toward meeting the underlying water quality standard. Plans will be tailored to address the specific circumstances of each facility and the extent to which pollutant reduction can be achieved (See discussion of Pollutant Reduction Plans in Section 3.5).

#### **2.4.3 Any studies or monitoring necessary to ensure compliance with the conditions of the variance:**

Depending on the nature of the variance and the surrounding circumstances, examples of such requirements are effluent monitoring to assess the effectiveness of any treatment and/or reduction requirements; ambient downstream monitoring to determine whether water quality is improving; studies assessing whether the designated uses are attainable; and/or studies supporting the development of site-specific water quality standards revisions.

#### **2.4.4 Annual progress report:**

The DEQ permit writer will review annual progress reports submitted by the permit holder to assess progress and identify impediments in reaching specific milestones, as well as affirm that conditions on which the variance was based have not changed (See discussion in section 3.5.3) .

#### **2.4.5 Term/Duration of variance:**

The term or duration of the variance must be stated in the permit and may not extend beyond the term of the permit (typically 5 years). If the permit is administratively extended, the permit effluent limits and any other requirements based on the variance associated pollutant reduction plan will continue to be in effect during the period of the administrative extension.

The variance does not become effective until EPA has approved the variance. Therefore, a permit with a variance will not be issued by DEQ until EPA approves the proposed variance.

Variances will be granted for the minimum amount of time needed, but cannot exceed the term of the permit. Factors to consider in determining the "minimum amount of time needed" include:

- Time needed to modify or install treatment facilities or operations, including the time reasonably required to obtain necessary financing;
- Time needed to undertake programs to prevent or reduce pollution; and
- Industry experience with the time typically required to construct similar facilities or implement similar programs (recognizing that some improvements made in the past may not have been in the minimum amount of time needed).

Similar to variances, compliance schedules are designed to be completed in the minimum amount of time needed, so the Compliance Schedule IMD may contain some useful reference materials for developing a variance. Appendix B of the Compliance Schedule IMD<sup>5</sup> provides typical timeframes

---

<sup>5</sup> See the Compliance Schedule IMD at: <http://www.deq.state.or.us/wq/pubs/pubs.htm#imds>

associated with POTW upgrades in Oregon. Appendix C of the Compliance Schedule IMD lists possible treatment technologies available for different pollutant categories. The type of treatment technology will greatly influence the amount of time necessary for the variance. As experience with various types of treatment technologies grows, this chart will be updated to provide more reference materials.

If the variance term is less than the term of the permit, the permit holder must meet water quality-based limits for the applicable water quality standard(s) upon the expiration of this time period or renew its variance (per OAR 340-041-0059(3)(b)). In most cases, if the variance term is anticipated to be less than the permit term, a compliance schedule may be the more appropriate mechanism.

To continue the applicability of the variance, a permit holder must renew their variance as described in OAR 340-041-0059(7) and in Section 9 of this IMD. The variance renewal does not become effective until it is approved by EPA.

## 3.0 Variance Submittal Requirements

An applicant for a water quality standards variance must submit the variance application in Appendix C to the permit writer. Checklists of the submittal requirements for both permit holders and to the EPA are in Appendix D.

Note that information submitted by an industrial source may be exempt from public disclosure under Oregon's Public Records Act if the information qualifies as protected "trade secrets." For a detailed discussion of the "trade secrets" disclosure exemption, see the Attorney-General's Public Records and Meetings Manual<sup>6</sup>.

The permit writer should consult with the Oregon Department of Justice before disclosing to a requestor any information the submitter has requested be kept confidential as a "trade secret." While it is likely that in many cases a company's financial information submitted with a variance application will be exempt from public disclosure, DEQ can only assure the company that DEQ will protect the information to the extent permitted by the Public Records Law<sup>7</sup>.

The sections below provide information on each variance submittal requirement.

### 3.1 Demonstration of Why a Variance is Needed

The use of variances is limited to those situations where it is not feasible to require a discharger to meet more stringent water quality-based effluent limits. The variance rule specifies under what circumstances DEQ may reach this conclusion.

---

<sup>6</sup> January 2011 version, pp. 33-35, at [http://www.doj.state.or.us/pdf/public\\_records\\_and\\_meetings\\_manual.pdf](http://www.doj.state.or.us/pdf/public_records_and_meetings_manual.pdf)).

<sup>7</sup>Note, also, that EPA will also have many of the same records as DEQ because EPA must approve a variance before it becomes effective. Should someone request EPA to disclose documents the industrial source considers to be confidential commercial information, EPA will consider whether Exemption No. 4 in the Freedom of Information Act protects the information from disclosure. (For a detailed discussion of how the trade secret exemption has been applied by the courts, see [http://www.justice.gov/oip/foia\\_guide09.htm](http://www.justice.gov/oip/foia_guide09.htm)).

An applicant will need to provide adequate justification showing that at least one of the six variance conditions listed in OAR 340-041-0059(2)(b) prevents attainment of the designated use for the requested term of the variance. The six variance conditions reflect federal 40 CFR 131.10(g) factors, which are used to justify a use attainability analysis. States use these factors in absence of explicit federal variance regulations. At the time of this IMD, EPA is preparing proposed targeted changes to the water quality standards regulations at 40 CFR Part 131 (which are expected to include proposed changes to the variance provision) and intends to publish a notice of proposed rulemaking in the *Federal Register*. Therefore, states are presently limited to variance justifications based on these specific six conditions.

A description of each variance condition is given below, including the types of situations DEQ is currently aware of that may be appropriate for consideration under the different factors. The permit writer should encourage the permit holder to determine which of the situations described in sections 3.1.1 through 3.1.6 applies to the discharge in question before completing the variance application. The application should then be completed so as to support this determination. The permit writer may want to consult with water quality standards staff if they are unclear about the suitability of any particular variance condition.

### **3.1.1 Naturally occurring pollutant concentrations prevent attainment of a WQBEL:**

#### **OAR 340-041-0059(2)(A): Naturally occurring pollutant concentrations prevent attainment of the use.**

This variance condition describes a situation where natural background concentrations of a pollutant, such as a naturally occurring earth metal (e.g. arsenic, iron, etc.), already exceeds or contributes to an exceedance of a water quality criterion. One way of making a determination that the pollutant is naturally occurring is to compare it with a reference natural condition. Because it is difficult to find a completely “natural” water body that is free from influence from any human activity, the natural condition can be determined using conditions least affected by human activities as the point of reference, as long as those least affected conditions are believed to be a reasonable approximation of the natural condition and are of a similar geology to the water body in question. If the presence of the pollutant is partly human-caused, an estimate of the relative portion of the total load that is natural should be provided.

*Examples of information to support this rationale:*

- Upstream ambient data sufficient to adequately characterize pollutant concentrations.
- Effluent data
- Information demonstrating that the pollutant is naturally occurring, including the source or sources of the pollutant and how the pollutant enters the facility discharge. There should be some analysis of how much of the pollutant in the stream occurs naturally, how much is a result of NPDES-permitted sources, and how much is from other sources. DEQ staff will review the pollutant source investigation report (see the variance evaluation report in section 6.0 for more details) submitted with the variance application to evaluate whether the facility has provided a sound rationale in determining the source of the pollutant.
- Such information could include, but is not limited to, soil composition data, groundwater data, USGS analyses/reports, comparison to data collected from headwater streams, and analyses done by other states and an explanation of why they are relevant in this case.

- If it is demonstrated that the pollutant preventing attainment of the use is naturally occurring, then the permit holder must explain why the facility cannot meet the criteria at the end of the pipe. If the water the facility is discharging also has high concentrations of this pollutant because it is of natural origin, this could be a short analysis. If the data indicates the pollutant is also being contributed through its processes (i.e., human-caused), the permit holder must provide information showing how it is removing or will remove or reduce the pollutant caused by the facility to the maximum extent feasible, either through existing methods or as part of its proposed Pollutant Reduction Plan.

### 3.1.2 Natural flow conditions prevent attainment of a WQBEL

**OAR 340-041-0059(2)(B): Natural, ephemeral, intermittent, or low- flow conditions or water level 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.**

This factor is most suitable for use attainability analysis situations 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 in situations where water body conditions are considered unsafe for swimming (e.g. low flow/shallow depth or high flows). At this time, DEQ is not aware of any specific situation where this condition would be applicable and does not foresee variances being requested 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 a course of action.

*Examples of information to support this rationale:*

- Volume and velocity of flow, depth, range of flow conditions, presence of pools within the water body channel, presence of riparian vegetation (as an indicator of pattern of flow and water levels), recreational use safety and access.

### 3.1.3 Human-caused conditions prevent attainment of a WQBEL

**OAR 340-041-0059(2)(C): Human-caused conditions or sources of pollution prevent attainment of the use and cannot be remedied or would cause more environmental damage to correct than to leave in place:**

Similar to naturally occurring pollutant concentrations, this factor is applicable in circumstances where pollutant concentrations already exceed the applicable water quality criteria within the water body or the limits associated with available dilution are not feasible for the permit holder. However, in this instance, the source of the pollutant is anthropogenic, as opposed to naturally occurring. An example of this type of human-caused condition are “legacy” pollutants, some of which are ubiquitous in the environment and result from past use of toxic chemicals such as DDT or PCBs. Although many of these products have since been banned, some will persist in the environment for many more years and may continue to be cycled through the environment and released into water bodies. Oregon water bodies currently have impairments for some of these human-caused pollutants.

A facility may justify a variance for a human-caused pollutant by demonstrating that it is not able to reduce the presence of the pollutant in its effluent, or that to do so would cause more environmental damage than to leave the pollutant in place. The permit writer should request the permit holder to submit the following types of information if the permit holder is basing the request for a variance on this factor.

*Examples of information showing the sources of pollutant cannot be remedied*

- Data characterizing receiving water concentrations.
- For legacy pollutants, data, information and analyses describing the "life history" of the pollutant (e.g., how pollutant has entered into the environment and continues to cycle through and will not be removed from the environment in the near future because its sources are diffuse and not within the control of the discharger to address).
- Information showing that the treatment needed to reduce the pollutants of concern to necessary effluent concentrations is cost prohibitive, not proven, or doesn't exist.
- If assimilative capacity is not available, information showing why the discharger cannot meet the criteria end-of-pipe, including:
  - An evaluation of how much the pollutant is or can be removed by the permit holder's current treatment processes
  - Whether other technologies or alternatives are available that can partially or fully remove the pollutant to meet WQBELs (particularly if they are adding the pollutant through their processes)

*Examples of information showing that environmental costs of treatment or reduction outweigh the benefits:*

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"). One potential scenario could be a facility that uses river water for non-contact cooling and circulates the water multiple times prior to discharge. This uses less water than single pass cooling, thereby conserving in-stream water flow. The facility could reduce 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 stream flow in the reach between the withdrawal and the discharge. Also note that the facility would need to evaluate other ways to achieve cooling, such as using closed loop cooling with cooling towers or chillers. 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 groundwater), or high energy use.

### 3.1.4 Hydrologic modifications prevent attainment of a WQBEL

**OAR 340-041-0059(2)(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:**

This factor has been used to examine dam operation in consideration of potential use modifications 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 for variances. As a result, DEQ does not foresee variances being requested 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.

*Examples of information to support this rationale:*

- Biological assessment, appropriate reference condition for comparison (if available), characterization of hydrologic modification and its relationship to water quality and/or the use in question, etc.

### **3.1.5 Natural features of a water body prevent attainment of a WQBEL**

**OAR 340-041-0059(2)(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:**

This factor would be relevant for situations where the natural features of the water body (e.g. substrate quality, width to depth ratios, lack of cover) is not conducive to certain aquatic life uses. For example, where a high “percent fines” in the sediment and lack of gravel preclude salmonid spawning. At this time, DEQ is not aware of any specific situation where this condition would be applicable for variances and does not foresee variances being requested based on this factor. However, if a situation developed where a variance could be considered under this condition, the permit writer should work with standards staff and contact EPA to determine the best course forward.

*Examples of information to support this rationale:*

- Physical habitat characterization of the water body, natural hydrologic patterns, sediment grain size, bathymetry, biological assessment, etc.

### **3.1.6 Controls more stringent than technology-based standards would result in substantial and widespread economic and social impact:**

**OAR 340-041-0059(2)(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.**

This justification can be used in a situation where treatment technology may be available to meet revised effluent limits, but the technology is prohibitively expensive, has not been proven at the scale needed for treatment, or does not exist. The type of analysis done to assess financial capability will depend on whether the permit holder belongs to the public or private sector. The analyses that may be done are described in more detail below.

*EPA's 1995 Interim Economic Guidance for Water Quality Standards<sup>8</sup> 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. This guidance describes steps in determining substantial and widespread economic impact for both private and public entities. Although EPA's guidance is not an exclusive description of all appropriate economic analyses, an analysis submitted consistent with this guidance would likely help justify an approval by EPA. Permit writers can reference additional information contained in EPA's guidance in DEQ's *Antidegradation Policy Implementation for NPDES Permits and Section 401 Water Quality Certification*<sup>9</sup>.*

---

<sup>8</sup> See <http://water.epa.gov/scitech/swguidance/standards/economics/>, EPA's 1995 Interim Economic Guidance for Water Quality Standards (EPA-823-B-95-002), updated 3/17/11.

<sup>9</sup> See the Antidegradation IMD (pgs. 33-40) at: <http://www.deq.state.or.us/wq/pubs/pubs.htm#imds>.



EPA's economic guidance can also be used to evaluate the financial impact of a proposed project on industrial permit holders, specifically Chapter 3 entitled "Evaluating Substantial Impacts: Private-Sector Entities." This evaluation takes into account such factors as profitability, liquidity, solvency and leverage (the ability to raise capital). The permit writer should also evaluate whether technology has been proven that would achieve the calculated limits (i.e., technology exists but hasn't been used for the flows present in the discharge, or the technology could be used but the waste it produces would be either expensive to dispose of or has other significant environmental costs). Note that a business may request financial information not be disclosed to the public under the "trade secret" exemption in the Public Records Act. Please see the discussion at the beginning of Section 3.0 regarding trade secrets.

While the reference described above for industrial permit holders provide some direction for determining the degree of financial impact of a proposed project on an industrial permit holder, they do not specify guidance when a variance is appropriate. This determination will have to be made by DEQ (and approved by EPA). One approach to a justification for this factor would be for an industrial permit holder to show that the financial impact of a proposed project would be severe enough to cause the business to close and subsequently cause widespread economic harm to the community for little to no improvement in water quality.

Another reference for how to assess widespread economic and social impact for public sector entities is the EPA document entitled *Combined Sewer Overflows – Guidance for Financial Capability Assessment and Schedule Development*<sup>10</sup>. Though developed for communities that need to reduce, eliminate or control combined sewer overflows, it has application for permit holders that must undertake other types of major investments as well. An overview of the methodology is as follows:

1. Calculate the Residential Indicator. This is basically the permittee's average cost per household for wastewater treatment. If the resulting cost is in the low range, the next step is probably not necessary.
2. Determine the Permittee's Financial Capability Indicators. These indicators take into account information such as bond rating, debt level, unemployment rate, median household income, property tax income and tax collection rates that could affect a permittee's financial capability to implement the proposed project.

## **3.2 Description of treatment or alternative options considered and why these options are not technically or financially feasible**

As part of the variance evaluation, the permit holder should evaluate treatment technologies, wastewater disposal options and possible pollutant reduction strategies in order to meet effluent limits. The facility can meet this requirement by indicating in the evaluation that treatment technology for that type of facility is either not proven for the given pollutant or the technology is unaffordable, or that various pollution reduction strategies would not meet effluent limits. If the permit holder cannot find any data on available technologies or treatment methods, the facility should list what sources of information it explored. This evaluation of alternative options may provide information the permit holder can include in its proposed Pollutant Reduction Plan, because some of

---

<sup>10</sup> See: <http://www.epa.gov/npdes/pubs/csofc.pdf>. EPA Document No. 832-B-97-004, February 1997.

the options considered may achieve some reduction of the pollutant, even if not enough to meet the WQBEL.

DEQ anticipates that facilities seeking variances will be aware of resources to research available and feasible treatment technologies or other pollution reduction alternatives. Table 2 below provides several of these resources. DEQ recognizes that it does not have readily accessible information on emerging technologies for various contaminants, and will therefore need to work closely with facilities to gain a common understanding of what emerging technologies could be relevant for any given pollutant.

**Table 2: Treatment Technology Resources**

Resources	Website
EPA Technical Document Search	<a href="http://www.epa.gov/research/npd/waterqualityresearch-pubs.htm">http://www.epa.gov/research/npd/waterqualityresearch-pubs.htm</a>
Water Environment Research Federation	<a href="http://www.werf.org">http://www.werf.org</a>
National Association of Clean Water Agencies	<a href="http://www.nacwa.org">http://www.nacwa.org</a>
National Council for Air and Stream Improvement	<a href="http://www.ncasi.org">http://www.ncasi.org</a>

### 3.3 Water quality data characterizing ambient and discharge water pollutant concentrations

DEQ's RPA IMD provides details on data the permit holder must submit to accurately characterize the ambient and discharge water pollutant concentration. The permit holder should provide a tabular summary of the water quality data that was used to develop the permit that the permit holder is requesting a variance for.

This data, however, may not be sufficient to fully support a variance application. The permit holder may need to collect data beyond that needed to perform the RPA. These data requirements are described under each of the six conditions to justify a variance (see section 3.1), as well as data collection commitments under the Pollutant Reduction Plan (see section 3.5). Further, the permit writer may ask for additional information from the permit holder in order to verify conditions related to human health risk, jeopardy to threatened and endangered species, existing water body uses, and data supporting a variance evaluation report. As with any data collection, it is important to ensure that data is reliable and accurate<sup>11</sup>.

### 3.4 Nonpoint Source Controls

A variance cannot be granted if the effluent limit sufficient to meet the underlying water quality standard can be attained by implementing cost-effective and reasonable best management practices for nonpoint sources under the control of the discharger<sup>12</sup>. Where a POTW also has a nonpoint source discharge of a pollutant of concern under its control, the POTW should explain what actions it has

---

<sup>11</sup> For example, it is especially important for phthalates to avoid laboratory contamination of the samples. Some pollutants, such as mercury, require the use of ultra-clean sampling and analytical methods. The RPA IMD provides direction on appropriate sampling methodologies.

<sup>12</sup> See OAR 340-041-0059(1)(b)(A) and under the designation of use authorities in 40 CFR 131.10(d).

taken to control those sources, what improvements in water quality those controls are expected to achieve, and that all cost-effective and reasonable BMPs are being implemented. Data may be available from modeling conducted by the permit holder or DEQ in connection with development of a MS4 permit, TMDL or TMDL Implementation Plan. An industrial facility should demonstrate it has implemented BMPs to control any nonpoint sources of the pollutant (e.g., stormwater) on its property or otherwise within its control (e.g., through an easement).

## 3.5 Pollutant Reduction Plan

The variance application must include a proposed Pollutant Reduction Plan (hereafter referred to as “Plan”) that includes actions to be taken by the permit holder that would result in reasonable progress toward meeting the underlying water quality standard. Plans will be tailored to address the specific circumstances of each facility and the extent to which pollutant reduction can be achieved. Possibilities range from upgrading treatment technologies to source reduction activities that will improve water quality even though such changes alone are not likely to enable the permit holder to meet a WQBEL. Other Plan actions may include proposed pollutant offsets or trading, which involves reducing loading from an upstream source or other sources within the watershed through measures that are more cost-effective than reducing the load at the facility. If through the implementation of pollutant reduction measures upstream of the discharger (i.e. offset) such that sufficient assimilative capacity is created and a water quality criterion is met, the facility’s need for a variance may no longer exist.

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 will work with the facility to develop a more robust Plan to reduce the pollutant of concern. There may not be sufficient data to establish the source of the pollutant in the facility’s discharge, so the Plan may require source investigation and include alternative time frames and requirements that will depend on the source of the pollutant and available methods of control. Note that much of the information needed to develop the Plan may be based on the permit holder’s evaluation of treatment and control options, discussed in Section 3.2 above.

The intent of the Plan is to reduce pollutant contributions to the maximum extent practicable. In some circumstances, implementing any of these activities could result in meeting the WQBEL for the pollutant, thus negating a need for a variance. Most likely, however, the end results may not be certain or the timeline to achieve these results may not be certain enough to include a compliance schedule with a final WQBEL. In the latter situations, a variance is the appropriate compliance tool.

The objective of the Plan is to implement actions to reduce the pollutant for which there is a variance. Where there are opportunities to reduce other pollutants of concern, the permit holder has the option of including these other pollutant reduction activities in the Plan. This is not mandatory.

### 3.5.1 Minimum Elements of a Pollutant Reduction Plan

DEQ expects, at a minimum, that the elements listed below be included as part of the Plan<sup>13</sup>. There is no specific template for a Plan.

---

<sup>13</sup> Many of these elements are similar to the Persistent Pollutant Reduction Plan (PPRP) minimum elements municipalities must develop under Senate Bill 737 for pollutants detected above certain levels in wastewater effluent. DEQ’s intention is to fold common required elements from the PPRP into the variance Plan to streamline and align processes as much as possible. There are differences, however, given the specific statutory requirements of Senate Bill 737 and expectations for a Plan developed under a variance request.

## **Minimum Pollutant Reduction Plan Elements**

### **1. Contact Information**

This section of the Plan should include the following basic contact information from the permit holder:

- Facility (*Legal name and address*)
- Legal Contact (*Name, position, email address, phone number*)
- Program Contact (*Name, position, email address, phone number*)

### **2. Pollutant Addressed in Plan**

This section of the plan should include the following information about the pollutant for which the variance is sought:

- Pollutant
- Effluent concentration of pollutant
- Applicable water quality criterion

### **3. Actions to Reduce Pollutant, Goals, and Associated Milestones**

This section of the Plan describes actions the permit holder intends to implement to reduce the pollutant of concern, and associated goals and milestones. These actions may range from various pollution reduction efforts (such as switching to less toxic source materials or community education efforts to reduce pollutants from entering a waste water treatment facility) to installing more effective, yet feasible treatment technologies.

Types of pollutant reduction activities can be generalized into two categories—pollution prevention and pollution control or management. Table 3 describes pollutant reduction options grouped according to facility type. These options are by no means exclusive. For additional strategies in pollution prevention, refer to the discussion in Chapter 5 of the Senate Bill 737 Legislative Report<sup>14</sup>. Note that the focus of this report was reducing persistent toxic pollutants, some of which overlap with pollutants included in the water quality standards, while variances may apply to pollutants other than toxics.

**Table 3: A Summary of Pollutant Reduction Options**

<b>Pollution Reduction Options</b>	<b>Description</b>
<b>Municipal Sources</b>	
<b>Reduce infiltration and inflow (I/I) into the sewage collection system</b>	If the pollutant in question is associated with stormwater runoff or groundwater, then reducing I/I will reduce the amount of the pollutant that is delivered to the treatment plant.

---

<sup>14</sup> [Reducing Persistent Pollutants in Oregon's Waters: SB 737 Legislative Report](#). June 2010. Oregon Department of Environmental Quality.

Pollution Reduction Options	Description
<b>Implement or expand pretreatment program</b>	Federal law requires some cities to have a pretreatment program that regulates dischargers to the POTW. Such programs can be expanded as needed to include industrial and commercial users that do not fall into the federal definition of Significant Industrial User.
<b>Public Education</b>	The permit holder may fund or initiate outreach and education efforts to reduce the pollutant source entering the POTW (e.g. to raise awareness of household chemical use and alternatives)
<b>Industrial Sources</b>	
<b>Explore alternate sources for intake water</b>	There may be an alternate ground water or surface water source available to the facility. If a facility knows that an alternate source is available which would enable the facility to meet water quality criteria, the permit writer should assess if a compliance schedule to allow time needed to implement the change in process as appropriate. If the outcome is uncertain, then a variance may still be the appropriate tool.
<b>Consider alternative processes or treatment technologies</b>	For industrial processes that involve cooling, permit holders should evaluate the feasibility of installing closed loop cooling systems using cooling towers and chillers.
<b>Material substitution</b>	Some pollutants “hitchhike” onto raw materials used in industrial processes. The permit holder should evaluate whether it is feasible to substitute less toxic materials for those containing pollutants. 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 the industrial process for less toxic ones, it may request 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.
<b>Both Municipal and Industrial</b>	
<b>Optimize current treatment technology</b>	Optimization strategies may include, but are not limited to: <ul style="list-style-type: none"> <li>✓ Operator training</li> <li>✓ Maintenance activities</li> <li>✓ Adjusting coagulant doses</li> <li>✓ Increasing filter maintenance and backwash cycles</li> <li>✓ Installation of automation equipment</li> </ul>
<b>Consider contributions from drinking water treatment and distribution system</b>	Treatment of drinking water with chlorine is known to produce chlorinated organic pollutants such as chloroform. Also, lead, copper and phthalates can leach from the distribution system. Changes to the drinking water treatment system can have the added benefit of reducing the pollutant in municipal and industrial source water.
<b>Pollution prevention via toxics take-back events</b>	Some communities/organizations have organized “pesticide round-up” or “take-back” events which allow the public to safely dispose of unwanted pesticides and other chemicals.
<b>Pollution prevention via enhanced stormwater treatment</b>	If pollutant is associated with stormwater, treat stormwater to remove. Specifically, this could include treatment required under MS4 or other permits. Measures that reduce the discharge of stormwater to surface water may also be options.

The Plan must identify goals for reduction of the pollutant, as a way of assessing reasonable progress. Goals are established by the permit holder, and should be specific statements detailing desired accomplishments or outcomes. Milestones should be measurable and time-limited. Quantitative measures of desired pollutant reduction should be used when feasible.

To show progress in meeting underlying standards, the permit holder should specify the associated milestones for implementing pollutant reduction activity measures, including the timeframe by which the activity will be accomplished and quantitative metrics, where possible. Other types of actions indicating reasonable progress toward meeting the underlying water quality standard include contributing data for TMDL development or developing appropriate site-specific water body criteria, and/or showing overall pollutant reduction in the receiving water body. Table 4 provides examples of setting milestones for pollutant reduction options.

**NOTE:** The permit writer must track compliance with variance milestones using the compliance schedule tracking system.

Variances intended to provide time to complete studies to determine what use is attainable in the longer term or to develop a site-specific water body criterion should include a detailed timeline describing the facility's contribution to data collection for this analysis.

The department will prioritize permits containing variances to avoid administrative extensions (per OAR 340-04100059(3)(a)). In the event that the permit is administratively extended, DEQ recommends developing activities in the Plan that extend beyond the five year variance term. For example, if a municipality plans yearly mercury take back events, these events should not discontinue if the permit is administratively extended.

**Table 4: Examples of Pollutant Reduction Activity Milestones**

For the purchase and installation of new equipment:	For the modification of existing facilities:	For the development of a new program:
<b>EXAMPLES</b>		
<ul style="list-style-type: none"> <li>• Date by which plans for the purchase and installation of new equipment will be submitted to DEQ for review and approval.</li> <li>• Date by which a purchase order will be issued for the purchase of new equipment.</li> <li>• Date(s) by which the installation of new equipment will be initiated and completed. If there are numerous integral equipment installations, the permit writer should consider separate individualized deadlines for major equipment units.</li> <li>• Date by which equipment will be fully operational.</li> </ul>	<ul style="list-style-type: none"> <li>• Date by which plans for modification of existing facilities or the construction of new facilities will be submitted to DEQ for review and approval.</li> <li>• Date by which a contract will be issued for construction of required modifications or facilities.</li> <li>• Date by which construction will begin.</li> <li>• Date by which construction will be halfway complete.</li> <li>• Date by which construction will be complete.</li> <li>• Date by which newly constructed facilities will be fully operational.</li> </ul>	<ul style="list-style-type: none"> <li>• Date by which the program will be designed and a plan submitted to DEQ. The plan should contain a critical path schedule for the program's initiation and implementation.</li> <li>• Date by which staff will be hired.</li> <li>• Date for completion of program evaluation.</li> </ul>

Tables 3 and 4 above describe general information and examples related to the Plan's third minimum element, *Actions to Reduce Pollutant, Goals, and Associated Milestones*, while Table 5 below offers a more detailed sample pollutant reduction actions chart specific to a municipality with a cyanide variance. Although there is no set format or template for tracking pollutant reduction activities as part

**Table 5: Sample Pollutant Reduction Actions Chart: *Municipality with a Cyanide Variance***

#### 4. Supporting Narrative

## ➤ Reduction Actions

➤ **Rationale**



The permit holder should include the rationale for selecting each reduction strategy in the supporting narrative. Listed below are a few suggestions for selecting rationales.

DEQ Suggested Principles for Selecting Reduction Strategies:

- **Effective in achieving reduction.** Strategy will reduce discharge of the pollutant into Oregon's waters, either directly or indirectly.
- **Implementable.** Reduction strategies are capable of reasonably being implemented.
- **Build on existing efforts.** Reduction strategies build on successful programs and efforts currently implemented by government or non-governmental entities.

➤ **Performance Metrics**

Performance metrics are measures of a facility's success in achieving its goals. The supporting narrative should identify how the permit holder will track and assess progress towards the goals established for each pollutant as well as the accomplishments of specific activities. Permit holders should use performance metrics to make informed decisions in updating or adapting reduction plan strategies. The performance metrics can then be used to communicate successes in the annual progress report.

DEQ expects permit holders to consider both quantitative (numeric) and qualitative performance measures for both plan activities and goals.

***Example Performance Metrics:***

- *Number of source identification sampling events held by December 2014.*
- *Number of business and manufacturing partners contacted regarding material process change by March 2015.*
- *Percentage of facility upgrade completed by January 2013.*
- *Concentration of pollutant x in effluent in relation to a baseline measurement. Concentration will be measured during two sampling events no later than December 2013.*

### **3.5.2 DEQ Approval of Pollutant Reduction Plan**

The permit holder must include a draft of the Plan as part of the variance application submittal to the permit writer. The water quality standards staff will coordinate with permitting staff in reviewing the Plan. The permit holder has an opportunity to make any needed revisions before the Plan and other variance submission documents go out for public review. Based on public comment, further revisions may be necessary before a final Plan is approved by DEQ. EPA does not review pollutant reduction plans as part of their approval process.

### **3.5.3 Annual Progress Reports**

The permit holder must complete an annual progress report as a variance permit condition (per OAR 340-041-0059(5)(d)). These reports are due a year following the date of permit approval. The reports will assess progress and identify impediments to reaching specific milestones, describe results of required studies or monitoring during that year, and affirm that conditions on which the variance was based on have not changed. The progress reports can also serve as a source of information in assessing whether or not a renewal of the variance, if requested, is warranted.



As part of the review, the permit writer will review the actions and milestones identified in the Plan, the success of the performance metrics and goals developed, and determine whether the permit holder has complied with the variance permit conditions. If the permit holder has not complied with all the terms of the variance, the permit writer should refer to DEQ's Enforcement Guidance on what the appropriate agency response should be. DEQ acknowledges that, in some cases, reasons outside of the permit holder's control may prevent meeting all requirements. For example, construction work related to I&I issues may be delayed due to weather or other unrelated work in the area.

**NOTE: The Plan must state that the permit holder will submit annual progress reports**

Where pollutant reduction activities will be delayed or modified, DEQ strongly encourages prior communication between the permit writer and the permit holder to alleviate any surprises that may be discovered during the annual review. In addition, the permit writer and permit holder should use the annual progress report as an opportunity to review activities, discuss what worked and didn't work, and to modify the Plan if adjustments are recommended. Modifications to the Plan require public notice.

### 3.6 POTW's legal authority to regulate the pollutant at issue

A POTW must demonstrate its legal authority (per OAR 340-041-0059(4)(f)) to control potential sources of the relevant pollutant that discharge into the jurisdiction's sewer collection system. This requirement will most often be met by the POTW's adoption of or reliance on an existing sewer use ordinance. Permit holders must take all feasible steps to reduce the pollutant for which a variance is sought. For POTWs, that includes adopting any new ordinances or implementing existing ordinances to reduce the source of the pollutant and to implement a Pollutant Reduction Plan. MS4 staff at DEQ or DEQ's pretreatment coordinator may be resources for information on how to address this requirement.

## 4.0 DEQ's Review of Variances

DEQ (or EQC if a new discharger) cannot approve a variance request unless information shows *all* of the statements listed in the subsections below are true. In addition, DEQ cannot approve a request for a variance if the information submitted is incomplete or is otherwise inadequate to demonstrate that a variance is necessary. Permit writers may want to briefly review data and information the permit holder has related to the conditions below before conducting a full variance review. For example, if a permit holder has not installed relevant technology-based controls for the pollutant of concern, a variance cannot be given. However, some of the conditions below cannot be pre-determined until a full review is completed (e.g. no jeopardy to threatened and endangered species for variances with aquatic life criteria).

**Clear and open communication will facilitate the variance process**

## 4.1 Technology-based controls are insufficient to meet WQBELs

The permit holder must provide information to enable DEQ to make the finding that the effluent limit sufficient to meet the underlying water quality standard cannot be attained by implementing Technology-Based Effluent Limits (TBELs) required by the CWA (per OAR 340-041-0059(1)(b)(A)). TBELs are developed for industrial facilities using either the national effluent limitations guidelines (40 CFR Parts 405-499) or best professional judgment. Industrial TBELs are based on specific industrial categories. TBELs for municipal facilities are derived from secondary treatment standards. The permit holder can meet this requirement by:

- stating what TBELs are applicable to the facility;
- describing the technology required to treat that pollutant; and
- stating whether the permit holder has installed this technology; and if so, what the current level of that pollutant has been achieved, as shown by Discharge Monitoring Reports (DMRs) from the most recent permit term.

## 4.2 No jeopardy to endangered species

If the unattainable water quality standard is an *aquatic life criterion*, DEQ and EPA must ensure that granting the variance is not likely to jeopardize the continued existence of any threatened or endangered species listed under the Endangered Species Act (ESA), or result in the destruction or adverse modification of such species' critical habitat (per OAR-340-041-0059(1)(b)(B)). If the pollutant exceeds a human health criterion only, this determination is not necessary.

As an initial step in this determination, the permit writer must describe if the receiving water body provides habitat or feeds into a water body identified as critical habitat for any threatened or endangered species. The Permit Writers' Corner has an extensive list of links to help with this determination<sup>15</sup>.

The water quality standards staff should notify EPA as soon as a variance is requested for an aquatic life criterion in a water body designated as critical habitat for an endangered or listed species. EPA leads the ESA consultation process<sup>16</sup> once the variance is submitted to the EPA for approval. When possible, EPA will coordinate with the Services prior to a formal submission, therefore, advance notice to EPA may help expedite the consultation process.

If there are no listed species present in the area of the variance, ESA consultation may not be necessary. However, in Oregon, listed salmon species are present in most receiving waters and EPA is required to complete actions necessary to comply with the requirements of Section 7(a)(2) of the ESA. Since any impact to listed species is likely to be limited in geographic scope, EPA may be able to complete consultation in a time frame consistent with the permit issuance schedule.

---

<sup>15</sup> See [http://deq05/wq/wqpermits/PCTools\\_Databases.htm](http://deq05/wq/wqpermits/PCTools_Databases.htm). Scroll down to the heading "Fish".

<sup>16</sup> In these cases, EPA will likely refer to the U.S. Fish & Wildlife's website at [http://ecos.fws.gov/tess\\_public/pub/stateListingAndOccurrenceIndividual.jsp?state=OR](http://ecos.fws.gov/tess_public/pub/stateListingAndOccurrenceIndividual.jsp?state=OR).

## 4.3 No unreasonable risk to human health

In order to approve a variance, DEQ must find that the variance will not result in an unreasonable risk to human health (per OAR 340-041-0059(1)(b)(C)). Current knowledge suggests that this analysis is primarily needed for variances based on human health toxics criteria. This analysis will focus on the potential impact from the pollutant levels that would be allowed by the variance compared with the otherwise applicable WQBEL. The factors to consider include, but are not limited to:

- The degree to which the proposed interim effluent limit exceeds the otherwise applicable water quality criterion;
- The facility's relative contribution to the pollution load of the water body;
- Proximity of drinking water intakes to the point of discharge;
- Whether tributaries or streams near the point of discharge help to dilute the effects of the discharge prior to reaching a drinking water intake;
- Size of the local instream effect relative to the criterion;
- Existence of frequently used fishing sites near the discharge; and,
- Anticipated water quality improvement resulting from implementation of the Pollutant Reduction Plan.

It should be noted that human health criteria are based on the extent to which the fish accumulate the pollutant over time and people's long term exposure to the pollutant (70 years for cancer; typically 90 days or more for noncarcinogens). DEQ will take this consideration into account in addition to where these elevated concentrations are located when evaluating the potential impact to fish consumption and drinking water exposure routes.

## 4.4 No impairment of existing uses

Before DEQ may grant a variance, DEQ must find that an existing use will not be impaired or removed as a result of granting the variance (per OAR 340-041-0059(2)(a)). According to a letter dated September 5, 2008 from EPA to the Oklahoma Water Resources Board<sup>17</sup>, an “existing use” is defined as “the use and water quality necessary to support the use that have been achieved in the water body on or after November 28, 1975.” To make this determination, DEQ will evaluate available information to characterize the existing use, and information on what impact the incremental increase in pollutant load would have on maintaining that existing use (i.e., difference between what the discharge level or concentration would be with a WQBEL and what level or concentration would be allowed by the variance).

Existing use determinations should be made on a site-specific basis. The permit writer should use any data available regarding the use(s) that have been achieved on the receiving water body, and the water quality supporting the specific use(s) that has been achieved. The permit writer may ask for additional information from the permit holder in order to conduct this analysis. For variances to aquatic life criteria, the permit writers should use available biological data as an indicator of both water quality and the actual use, in conjunction with any available chemical water quality data. Other data sources include:

- proximity of the discharge to drinking water intakes;
- public access points such as boat launches, fishing piers, and known swimming areas and beaches;

---

<sup>17</sup> See <http://water.epa.gov/scitech/swguidance/standards/upload/Smithee-existing-uses-2008-09-23.pdf>.

- known commercial or recreational shellfish harvesting areas; and/or
- any other information that provides insight into existing uses of the water body.

Where data regarding actual uses or water quality are limited or inconclusive, DEQ will determine existing uses based on the quantity, quality and reliability of the different types of available data. DEQ will describe the existing use as accurately and completely as possible and will resolve any apparent discrepancies based upon that evaluation. Where a permit holder does not increase its load of the pollutant, and implementation of the Pollutant Reduction Plan will likely improve water quality in the receiving water body, DEQ may be able to make the finding that granting the variance will not impair an existing use. Permit writers may also reference additional information on existing uses in DEQ's *Use Attainability Analysis and Site-Specific Criteria Internal Management Directive*.<sup>18</sup>

## 5.0 New Permit Holders

Permit holders without existing NPDES permits are generally prohibited from receiving variances. This rationale is based on the assumption that these facilities should be able to consider and implement compliance strategies before discharging to a water body, in keeping with the overall objectives of the CWA. Therefore, in addition to meeting all the variance requirements applicable to existing permit holders (including meeting at least one of the six justification factors), a facility that does not have a NPDES permit must go through additional steps and meet additional requirements to receive a variance.

The variance rule states that the EQC (rather than the director) must approve a variance requested by any permit holder without a currently effective permit that needs a NPDES permit to discharge. The variance rule lists the exceptions to the general rule that a new permit holder will not be granted a variance. As a practical matter, due to the separate requirements and conditions governing the department's approval for any new discharger to obtain a NPDES permit (i.e., where the water body is listed, whether a TMDL has been developed; the requirement to conduct an antidegradation review<sup>19</sup>), DEQ doesn't expect many facilities without a currently effective NPDES permit to seek a variance.

A variance may be approved by the EQC for a new permit holder if the variance is sought to allow an activity that will prevent or mitigate a threat to public health or welfare. Another exception is where a water quality or habitat restoration project may cause short term water quality exceedances, but will result in long term water quality or habitat improvement benefits. When issuing permits to new permit holders that cannot immediately meet a WQBEL, DEQ prefers to issue permits with compliance schedules<sup>20</sup> instead of variances.

---

<sup>18</sup> See the Use Attainability Analysis and Site-Specific Criteria IMD at: <http://www.deq.state.or.us/wq/pubs/pubs.htm#imds>

<sup>19</sup> *Friends of Pinto Creek* court decision<sup>19</sup> limits the ability of new dischargers to discharge into a waterbody that was already impaired for that pollutant. Similarly, 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 water body identified as a high quality water is subject to an antidegradation review.

<sup>20</sup> See the Compliance Schedules IMD at: <http://www.deq.state.or.us/wq/pubs/pubs.htm#imds>. 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: (1) This is the first NPDES permit to be issued for the source; (2) 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 (3) The new, revised or newly

Note that a facility wishing to expand and increase its discharge or pollutant load will face many of the limitations facing a new permit holder. The variance requirements for new permit holders would not apply, but existing rules require that the EQC approve such an expansion and require the permit holder to meet anti-degradation requirements<sup>21</sup>.

Specifically, the EQC may approve a variance for a new permit holder if the variance is necessary for any one of the reasons described in sections 5.1 through 5.3 and the permit holder justifies the variance for one of the six factors described in section 3.

## 5.1 Public Health Considerations

A variance for a new permit holder may be allowed where such a variance is necessary to prevent or mitigate a threat to public health or welfare. An example of this situation may be where a POTW is proposed for a small community which relies on individual septic systems. Although the POTW can meet the applicable effluent limits for most of the pollutants, there may be challenges in meeting another pollutant which originates from toxins found in consumer products, for example. The EQC would consider whether the public health benefits of providing waste treatment for a community would outweigh the environmental impact of allowing a variance for that particular pollutant.

## 5.2 Restoration Projects

A variance may be allowed for a new permit holder where a water quality or habitat restoration project may cause short term water quality standards exceedances, but will result in long term water quality or habitat improvement that enhances the support of aquatic life uses. For example, stream restoration work may involve removal of a culvert to enhance fish migration upstream. However, because of the significant construction work involved and the high potential for sediment production at the site, an individual NPDES permit is needed to discharge partially treated wastewater to the water body. A significant amount of sediment is removed, but heavy metals in the sediment do not meet effluent limits, thereby needing a variance.

## 5.3 Widespread Socio-economic Benefit

A variance for a new permit holder may be granted where the applicant demonstrates that its activity provides a widespread socioeconomic benefit that is demonstrated to outweigh the environmental cost of lowering water quality. This analysis is comparable to that required under the antidegradation regulation contained in OAR-041-0004(6)(b) and is described more fully in pages 33 – 40 of the Antidegradation IMD<sup>22</sup>. This requirement evaluates whether there are any other options that could have less of an impact on water quality, and whether the increase in pollutant load provides important social and economic benefits as a result. Examples of socio-economic benefits (per Antidegradation IMD) include; providing necessary social services; providing an innovative pollution control and management approach that would result in significant improvement in current practices; or prevention

---

interpreted standard was issued or revised after commencement of construction. If the source used to have a NPDES permit and is seeking to re-commence a discharge, the source may be able to get a compliance schedule as long as the WQS at issue was adopted less than three years prior to recommencement of discharge.

<sup>21</sup> See the Antidegradation IMD at: <http://www.deq.state.or.us/wq/pubs/pubs.htm#imds>

<sup>22</sup> See the Antidegradation IMD at <http://www.deq.state.or.us/wq/pubs/pubs.htm#imds>

of a substantial environmental or public health threat. The last example overlaps somewhat with the public health considerations exception.

## 6.0 Variance Evaluation Report

As part of the public notice package, the permit writer will prepare a Variance Evaluation Report (template in Appendix F). The report will describe the reason for the variance and why the permit holder is eligible for the variance, including cross-references to information DEQ relied on (e.g., in the variance application) in making its findings. The evaluation report should include, but is not limited to, the information numbered below.

1. Pollutant source investigation report from permit holder; including but not limited to:
  - a. Intake water source and river mile;
  - b. Receiving water body and river mile; and
  - c. Groundwater studies or other studies showing where the pollutant is coming from and how the pollutant is entering the effluent.
2. Water quality standards at issue; including:
  - a. Designated uses;
  - b. Water quality criterion that cannot be fully attained; and,
  - c. 303(d) listing status and other related information.
3. Water quality data summary, including:
  - a. Intake water concentration (if applicable);
  - b. Determination of ambient background concentration for pollutant at issue; and
  - c. Any other relevant information.
4. Effluent data summary, including but not limited to:
  - a. Effluent concentration
  - b. Determination of downstream ambient concentration after mixing.
5. Reason for variance request per 340-041-0059(2)(b) and a factual description of why the water quality-based effluent limit cannot be achieved.
6. Demonstration that treatment beyond applicable technology based limits is necessary to achieve compliance with effluent limits derived from the water quality standards for which variance are sought.
7. Treatment or alternative options to treatment considered, and explanation of why these options are either not technically, economically, or otherwise feasible. This analysis also includes any facility-controlled nonpoint source actions to reduce the pollutant of concern.
8. Proposed duration and justification for the requested variance term.
9. Proposed interim discharge limits/conditions representing the lowest level of pollutant(s) achievable during the term of the variance.
10. Characterization of risk to human health and aquatic life as a result of the variance.



## 7.0 Permit Conditions and Enforcement

Permit writers must establish and incorporate into a permit holder's NPDES permit all conditions necessary to implement and enforce an approved variance. Table 6 lists each permit condition for a variance, what permit schedule it should reside in, the OAR reference, and the enforcement policy associated with violating any of the conditions. DEQ's enforcement policy for water quality violations is found in the document "Enforcement Guidance for Field Staff - Appendix O". Appendix B of this IMD contains suggested permit language for each of the permit conditions below. Note that some conditions or requirements of the permit may not be met for reasons outside the control of the discharger (per OAR 340-041-0059(7)(a)(C)).

**Table 6: Permit Conditions**

Permit Conditions:	Found in Schedule:	Enforcement Action if Violated:
<b>Interim permit limit</b> <b>OAR 340-041-0059(5)(a)</b>	<b>Schedule A:</b> The language should note that the limit is based on a variance rather than the underlying WQS, and that as a condition of receiving the variance, "the permit holder must comply with the Pollution Reduction Plan, which is incorporated into this permit by reference and attached hereto".	<b>See OAR 340-012-0053(2)(a)</b>  A violation of the interim permit limit is neither a TBEL nor a WQBEL violation, but is instead considered a Class II violation ("any otherwise unclassified requirement").  The enforcement guidance for unclassified WQ violations is located towards the end of the WQ enforcement guidance referred to above.
<b>Requirement to Implement the Pollutant Reduction Plan</b> <b>OAR 340-041-0059(5)(b)</b>	<b>Schedule D:</b> Should state that the permit holder must comply with the attached Pollutant Reduction Plan, and that the permit holder may not amend the Plan without DEQ approval.	<b>See OAR 340-012-0055(2)(d).</b>  Enforcement response depends on the nature of the requirement not implemented. If the violation is not classified in the enforcement regulations, it is a Class II violation by default, and the enforcement guidance applicable to Class II "umbrella violations" applies (usually a warning letter).
<b>Studies or monitoring associated with variance</b> <b>OAR 340-041-0059(5)(c)</b>	<b>Schedule B:</b> Includes monitoring conducted for source investigation and monitoring to ensure reasonable progress is being made to reduce the pollutant.	<b>See OAR 340-012-0055(1)(o)</b>  Failure to conduct required monitoring will be penalized, unless certain specific mitigation circumstances exist. This is a Class I violation.
<b>Requirement to submit annual progress report</b> <b>OAR 340-041-0059(5)(d)</b>	<b>Schedule B:</b> Includes the requirement that an annual progress report be submitted on an annual basis and the details of what that report should include.	<b>See OAR 340-012-0055(2)(b).</b> <b>NOTE: See OAR 340-012-0055(3)(a)</b> regarding submission of an incomplete report.  Failure to timely submit a report or plan as required by the permit will

		receive a warning letter unless it happens again within 36 months of the first violation. This is a Class II violation and would get a smaller penalty than a Class I violation.
--	--	--

## 8.0 Public Notification Requirements

If DEQ proposes to grant a variance, it must provide public notice of the proposal and hold a public hearing (per OAR 340-041-0059(6)(a)). The public notice may be included in the public notification of a draft NPDES permit or, in the circumstance that a variance is not being granted in connection with permit issuance or renewal, notice of a Proposed Order Granting a Variance. The public notice will consist of the Variance Evaluation Report (with the variance application attached as an appendix) and the draft pollutant reduction plan, along with the terms and conditions of the proposed variance.

The department will publish a list online of all variances approved pursuant to this rule (per OAR 340-041-0059(6)(b)). Newly approved variances will be added to this list within 30 days of their effective date. The list will identify: the discharger; the underlying water quality standard the Pollutant Reduction Plan was developed to achieve; the waters of the state to which the variance applies; the effective date and duration of the variance; the allowable pollutant effluent limit granted under the variance; and how to obtain additional information about the variance.

## 9.0 Renewals

A variance may be renewed for subsequent permit terms if a permit holder is unable to meet effluent limits by the expiration of the variance and demonstrates that the conditions upon which the variance was granted continue to exist. To reduce the occurrence of administrative extensions, DEQ will give priority to renewing NPDES permits that contain variances (per OAR 340-041-0059(3)(a)). The process to renew a variance is essentially the same as the initial variance request. See Appendix E for renewal directions.

The renewal request is an opportunity to ascertain progress in meeting the applicable water quality criterion and to determine next steps, including revising variance conditions in response to new information. Renewal of the variance will 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 (See OAR 340-041-0059(8)(a)(B) and (C) and -0059(8)(c)).

**The process to renew a variance is essentially the same as the initial variance request**

In deciding whether the permit holder has made a “renewed demonstration” of eligibility for a variance, the permit writer should review the annual progress reports to see if any of the conditions for eligibility have changed. A permit holder wishing to renew a variance should update the original variance application materials with any new or updated information and analyses, as well as any additional information related to progress in improving water quality and meeting the terms and conditions of the variance that are not evident in the annual reports.

The applicant must submit information demonstrating that reasonable progress has been made toward achieving the underlying water quality standard. Reasonable progress is described under the Pollutant Reduction Plan section and means, at a minimum, carrying out the Pollutant Reduction



Plan. When determining whether all conditions and requirements of the previous variance were met, DEQ acknowledges that, in some cases, reasons outside of the permit holder's control may prevent meeting all requirements. For example, construction work related to I&I issues may be delayed due to weather or other unrelated work in the area.

Since only existing permit holders can seek a renewal, EQC approval is not required for variance renewals. As in the initial variance request, EPA must review and approve a request for a renewal.

If data over time indicates that the water quality standards applicable to the receiving water body cannot be achieved, DEQ will consider whether a change in designated use and/or criteria is appropriate.

## 10.0 Multiple Discharger Variances

A multiple discharger variance (MDV) is a variance that applies to more than one discharger who cannot meet limits for certain standards, rather than issuing one variance per permit holder. 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 (e.g. mercury). Once a MDV has been established (through rule adoption of the MDV into the water quality standards) and approved by EPA, multiple dischargers may be granted coverage under a MDV by submitting an application to DEQ for coverage (individual approval by EPA is therefore, not necessary). States then describe the application requirements in the procedures associated with the MDV provision.

At the time of this IMD, there are no specific MDV provisions in Oregon's OARs. However, as additional data and information are developed through the implementation of the revised human health toxics criteria or other criteria needing variances in NPDES permits, development of a multiple discharger variance may be appropriate. DEQ will evaluate the scope of such a rulemaking to adopt a multiple discharger variance at that time.

## 11.0 DEQ and EPA Roles and Responsibilities

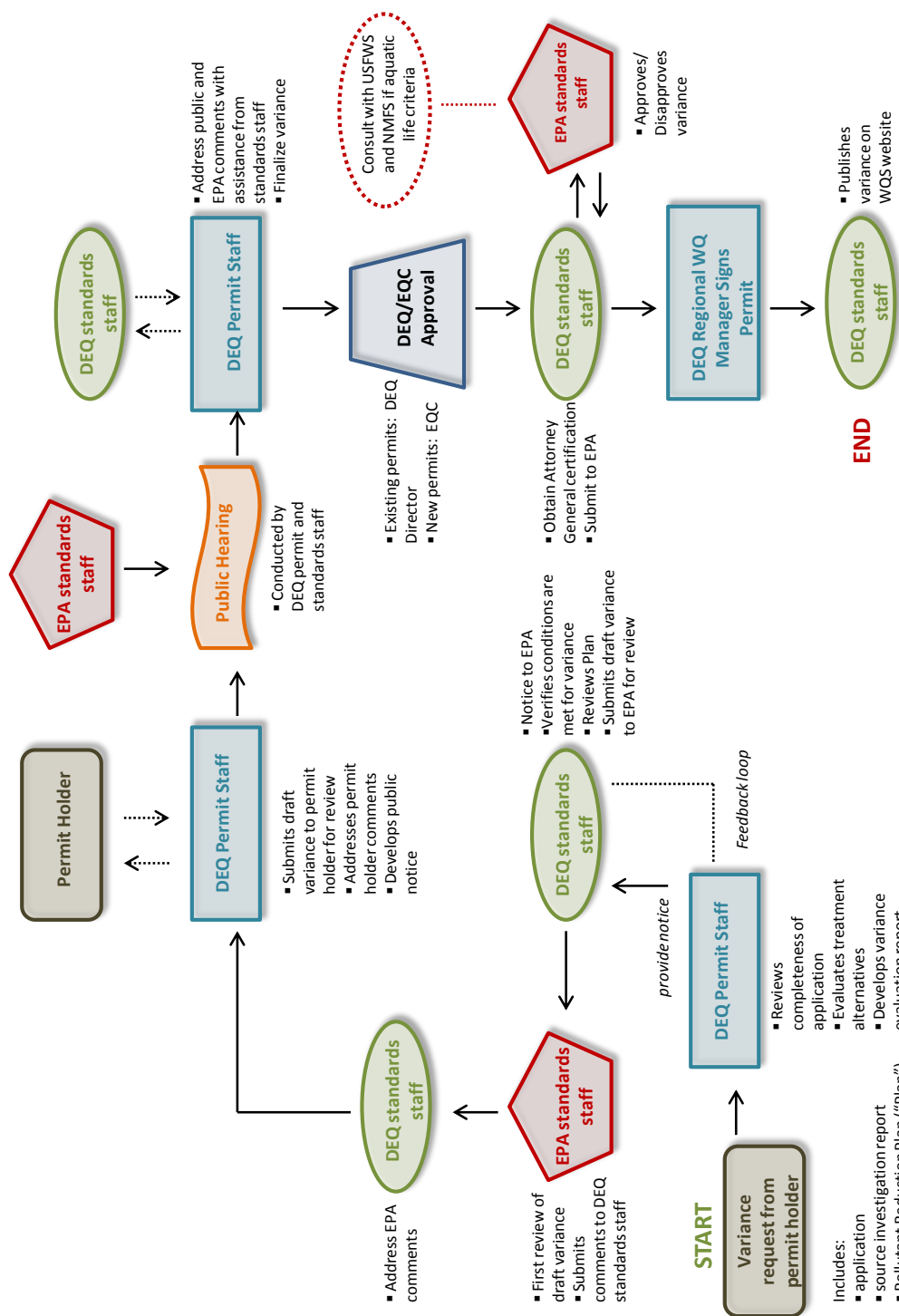
The permit holder should submit the initial variance application to the permit writer. However, the approval process for variance requests requires coordination between not only the permit holder and the permit writer, but between permitting staff and water quality standards staff within DEQ. Table 7 below shows how DEQ staff will coordinate with each other and with EPA in processing variance applications. The permit writer will be the primary contact for the permit holder requesting a variance, while a water quality staff person will be the EPA primary contact during the approval process. See Figure 2 on the following page for a flowchart describing this interaction.

DEQ and EPA have negotiated a Memorandum of Understanding of how they will coordinate the processing of variance applications and approval. This MOU is included as Appendix G.

**Table 7: DEQ and EPA Staff Coordination**

Steps in Variance Process	Responsible Staff
Identify if variance is appropriate approach	NPDES and WQS staff & EPA as needed
Receive variance application	NPDES staff lead; notify WQS staff & EPA
Identify if conditions for granting variance met	WQS lead; input from NPDES staff & EPA
Evaluate treatment alternatives	NPDES staff lead; input from WQS, EPA as needed
Review source investigation report and develop the variance evaluation report	NPDES staff lead; input from WQS
Review Pollutant Reduction Plan ("Plan")	WQS staff lead; NPDES staff have major role if Plan includes capital or treatment technology improvements; NPDES staff have smaller role if Plan focuses on pollution prevention-type activities)
Obtain EPA review of draft variance and draft variance evaluation report	WQS staff and EPA
Address EPA comments in draft variance and evaluation report	WQS staff lead; input from NPDES staff as needed and EPA
Provide draft variance to permit holder for review and address permit holder comments	NPDES staff lead; input from WQS staff & EPA as needed
Put draft permit with proposed variance and variance evaluation report on public notice	NPDES staff
Hold public hearing on proposed variance	NPDES and WQS staff
Address public comments	NPDES staff lead; input from WQS & EPA as needed
Obtain DEQ or EQC approval, as appropriate	WQS Staff
Obtain AG Certification	WQS Staff
Submit proposed approved variance to EPA for approval	WQS staff and EPA
Upon EPA approval, have regional water quality manager sign permit and send permit to permit holder	NPDES staff
Publish variance on website	WQS Staff

Figure 2: Flowchart of Variance Submittal Process



# Appendix A: Variance Rule Language

## OAR 340-041-0059

### Variances

This rule (OAR 340-041-0059) does not become applicable for purposes of ORS chapter 468B or the federal Clean Water Act unless and until EPA approves the provisions it identifies as water quality standards pursuant to 40 CFR 131.21 (4/27/2000).

(1) Applicability. Subject to the requirements and limitations set out in sections (2) through (7) below, a point source may request a water quality standards variance where it is demonstrated that the source cannot feasibly meet effluent limits sufficient to meet water quality standards. The director of the department will determine whether to issue a variance for a source covered by an existing NPDES permit. The commission will determine whether to issue a variance for a discharger that does not have a currently effective NPDES permit.

(a) The variance applies only to the specified point source permit and pollutant(s); the underlying water quality standard(s) otherwise remains in effect.

(b) The department or commission may not grant a variance if:

(A) The effluent limit sufficient to meet the underlying water quality standard can be attained by implementing technology-based effluent limits required under sections 301(b) and 306 of the federal Clean Water Act, and by implementing cost-effective and reasonable best management practices for nonpoint sources under the control of the discharger; or

(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; or

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

(D) A point source does not have a currently effective NPDES permit, unless the variance is necessary to:

- (i) Prevent or mitigate a threat to public health or welfare;
- (ii) Allow a water quality or habitat restoration project that may cause short term water quality standards exceedances, but will result in long term water quality or habitat improvement that enhances the support of aquatic life uses;
- (iii) Provide benefits that outweigh the environmental costs of lowering water quality. This analysis is comparable to that required under the antidegradation regulation contained in OAR-041-0004(6)(b); or

(E) The information and demonstration submitted in accordance with section (4) below does not allow the department or commission to conclude that a condition in section (2) has been met.

(2) Conditions to Grant a Variance. Before the commission or department may grant a variance, it must determine that:

(a) No existing use will be impaired or removed as a result of granting the variance and

(b) Attaining the water quality standard during the term of the variance is not feasible for one or more 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 waterbody 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 waterbody, 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; or

(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 a variance must not exceed the term of the NPDES permit. If the permit is administratively extended, the permit effluent limits and any other requirements based on the variance and associated pollutant reduction plan will continue to be in effect during the period of the administrative extension. The department will give priority to NPDES permit renewals for permits containing variances and where a renewal application has been submitted to the director at least one hundred eighty days prior to the NPDES permit expiration date.

(b) When the duration of the variance is less than the term of a NPDES permit, the permittee must be in compliance with the specified effluent limitation sufficient to meet the underlying water quality standard upon the expiration of the variance.

(c) A variance is effective only after EPA approval. The effective date and duration of the variance will be specified in a NPDES permit or order of the commission or department.

(4) Variance Submittal Requirements. To request a variance, a permittee must submit the following information to the department:

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

(b) A description of treatment or alternative options considered to meet limits based on the applicable underlying water quality standard, and a description of why these options are not technically, economically, or otherwise feasible;

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

(d) Any cost-effective and reasonable best management practices for nonpoint sources under the control of the discharger that addresses the pollutant the variance is based upon;

(e) A proposed pollutant reduction plan that includes any actions to be taken by the permittee that would result in reasonable progress toward meeting the underlying water quality standard. Such actions may include proposed pollutant offsets or trading or other proposed pollutant reduction activities, and associated milestones for implementing these measures. Pollutant reduction plans will be tailored to address the specific circumstances of each facility and to the extent pollutant reduction can be achieved; and

(f) If the discharger is a publicly owned treatment works, a demonstration of the jurisdiction's legal authority (such as a sewer use ordinance) to regulate the pollutant for which the variance is sought. The jurisdiction's legal authority must be sufficient to control potential sources of that pollutant that discharge into the jurisdiction's sewer collection system.

(5) Variance Permit Conditions. Effluent limits in the discharger's permit will be based on the variance and not the underlying water quality standard, so long as the variance remains effective. The department must establish and incorporate into the discharger's NPDES permit all conditions necessary to implement and enforce an approved variance and associated pollutant reduction plan. The permit must include, at a minimum, the following requirements:

(a) An interim concentration based permit limit or requirement representing the best achievable effluent quality based on discharge monitoring data and that is no less stringent than that achieved under the previous permit. For a new discharger, the permit limit will be calculated based on best achievable technology;

(b) A requirement to implement any pollutant reduction actions approved as part of a pollutant reduction plan submitted in accordance with section (4)(e) above and to make reasonable progress toward attaining the underlying water quality standard(s);

(c) Any studies, effluent monitoring, or other monitoring necessary to ensure compliance with the conditions of the variance; and

(d) An annual progress report to the department describing the results of any required studies or monitoring during the reporting year and identifying any impediments to reaching any specific milestones stated in the variance.

(6) Public Notification Requirements.

(a) If the department proposes to grant a variance, it must provide public notice of the proposal and hold a public hearing. The public notice may be included in the public notification of a draft NPDES permit or other draft regulatory decision that would rely on the variance;

(b) The department will publish a list of all variances approved pursuant to this rule. Newly approved variances will be added to this list within 30 days of their effective date. The list will identify: the discharger; the underlying water quality standard addressed by the variance; the waters of the state to which the variance applies; the effective date and duration of the variance; the allowable pollutant effluent limit granted under the variance; and how to obtain additional information about the variance.

(7) Variance Renewals.

(a) A variance may be renewed if:

(A) The permittee makes a renewed demonstration pursuant to section (2) of this rule that attaining the water quality standard continues to be infeasible,

(B) The permittee submits any new or updated information pertaining to any of the requirements of section 4,

(C) The department determines that all conditions and requirements of the previous variance and actions contained in the pollutant reduction plan pursuant to section (5) have been met, unless reasons outside the control of the discharger prevented meeting any condition or requirement, and

(D) All other requirements of this rule have been met.

(b) A variance renewal must be approved by the department director and by EPA.

# Appendix B: Suggested Model Permit Language

## Schedule A: Waste Discharge Limitations not to be Exceeded

Year-round (except as noted)	Limitations
[Pollutant X]	Insert interim effluent limit (See note A1)

A1. The interim effluent limit is based on a variance rather than the underlying WQS, and as a condition of receiving the variance, the permit holder must comply with the Pollution Reduction Plan, which is incorporated into this permit by reference and attached hereto.

### Variance Duration

A. If the term of the variance is to be the same as the permit term:

- a. *Duration of variance:* The variance will become effective on the date this permit becomes effective. The variance will remain effective during the term of the permit. If the permit is administratively extended, the permit effluent limits and any other requirements based on the variance and associated Pollutant Reduction Plan will continue to be in effect during the period of the administrative extension.

B. If the term of the variance is to be less than the permit term:

- b. *Duration of variance:* The variance will expire and will no longer be effective as of [date]. Upon expiration of the variance, the permittee must comply with the WQBEL for [pollutant] set forth in Schedule A, condition XX.

## Schedule B: Minimum Monitoring and Reporting Requirements

If conducting source assessments, include influent, effluent, and receiving water (background) monitoring requirements.

Item or Parameter	Location	Time Period	Minimum Frequency	Type of Sample
Pollutant	XXX	XXX	XXX	XXX



### **Annual Report Submittals**

[NOTE: will vary based on Pollution Reduction Plan contents]

By [date] of each year, the permittee must submit an annual report to the DEQ regional office detailing implementation of its Pollution Reduction Plan for [pollutant] for the previous year. The report must include the following:

- i. Summary descriptions of all activities conducted as part of the Pollution Reduction Plan
- ii. Summary of monitoring results
- iii. Description of progress made towards meeting the underlying water quality standard based on monitoring results and success in meeting goals identified in the Pollutant Reduction Plan.

## **Schedule D: Special Conditions**

### **[X Pollutant] Pollution Reduction Plan**

Upon permit issuance, the permittee must implement the approved [Pollutant] Pollution Reduction Plan, which is attached and incorporated into this permit by reference.

c. Approved Pollution Reduction Plan Changes

The permittee must submit any proposed changes to the approved pollution reduction plan DEQ for approval at least 90 days prior to implementation. DEQ may allow for a shorter timeframe provided public notice can be provided as provided below.

- i. *Public notice.* DEQ will provide an opportunity for a 30-day public review and comment period on significant program amendments prior to approving or denying the proposal.

# Appendix C: Variance Application Form



State of Oregon  
Department of  
Environmental  
Quality

**State of Oregon**  
**Water Quality Division**

811 SW 6th Avenue

Portland, OR 97204

**Department of Environmental Quality**  
**Variance Application Form**

**Note: Applicants should review DEQ's Internal Management Directive entitled "Implementing Water Quality Standards Variances for NPDES Permit Holders" before completing this application. Applicants can attach supplemental pages for further descriptions of specific sections on form.**

## A. Applicant Information

1. Permittee Name		2. Contact Person	
3. NPDES Permit No.		4. Mailing Address for Contact Person	
5. Facility Name	6. City	7. State	8. Zip Code
9. Street Address of Facility	10. Telephone Number		11. Fax Number
12. City	13. State	14. Email Address	
15. Receiving Water & River Mile		16. Sources of Influent (municipal; river mile; groundwater; process)	
17. Is this a first-time application for a variance or is this a renewal? <input type="checkbox"/> First-time <input type="checkbox"/> Renewal			

## B. Effluent Characterization

18. Pollutant for which variance requested	19. Average discharge flow rate
20. Number of effluent samples analyzed and dates samples taken:	
21. Concentration and mass loads (annual, monthly if possible) pollutant in effluent (attach documentation)	
22. Sources of pollutant in effluent and how pollutant is entering effluent (attach Pollutant Source Investigation Report)	

## C. Technology-Based Pollutant Controls

23. If applicable, EPA's effluent limit guidelines for pollutant:
24. If applicable, type of treatment technology required by EPA's effluent guidelines for the pollutant:

---

25. Have you installed the treatment technology referred to in no. 24? ☐ Yes ☐ No ☐ N/A

---

#### D. Controls on Nonpoint Pollutant Sources

26. Do you have control or authority over any nonpoint sources of the pollutant that discharge to the receiving water? Yes ☐ No ☐ If yes, please explain.

27. If you have control or authority over nonpoint sources of pollutant, what actions have you taken to reduce the levels of the pollutant in your effluent and from the receiving water body from these nonpoint sources?

---

28. Are there cost-effective and reasonable best management practices (BMPs) available to reduce pollutants from the permittee or from nonpoint sources under your control or authority (e.g., controlling stormwater)? Yes ☐ No ☐ If yes, please identify:

---

29. What improvements in water quality could be achieved by implementing these BMPs? (May find information in TMDL or TMDL implementation plan; or in MS-4 permit.)

---

#### E. Potential Impact of Variance on Threatened or Endangered Species

30. If an aquatic life criterion is at issue, are you aware if the receiving water provides habitat or feeds into a water body identified as critical habitat for any threatened or endangered species? Yes ☐ No ☐ If yes, please explain:

#### F. Potential Risk to Human Health from Variance

31. Degree to which level of pollutant in effluent exceeds criterion:

---

32. Describe (quantitatively, if possible) facility's relative contribution to the pollution load of water body:

---

33. Proximity of drinking water intakes to point of discharge:

---

34. List any tributaries or streams between point of discharge and drinking water intakes:

---

35. Are there sites known to be used for fishing near the point of discharge? If so, where?

#### G. Potential Impacts on Existing Uses

36. If the variance is being sought for an aquatic life pollutant, please indicate to the best of your knowledge whether the following use has occurred within the waterbody. If it has occurred, please describe the type of information you are relying upon to draw these conclusions (anecdotal, field study, personal observation, other). Cite data source.

- Fish and aquatic life
-

37. If the variance is being sought for a human health pollutant, please indicate to the best of your knowledge whether any of the following uses have occurred within the waterbody. If so, please describe the type of information you are relying upon to draw these conclusions (anecdotal, public records, survey, personal observation, other). Cite data source.

- Private or public domestic water supply
- Fishing
- Water contact recreation

#### H. Reason for Variance

38. Please indicate which of the factors below makes a variance for this pollutant necessary (more than one may apply). For each factor indicated, please fill out the applicable attachment.

- \_\_\_ A. Naturally occurring pollutant concentrations prevent attainment of the criterion. (See Attachment A)
- \_\_\_ B. Flow conditions or water levels prevent attainment of the criterion. (See Attachment B)
- \_\_\_ C. Human-caused conditions or pollutions sources prevent attainment of the criterion and cannot be remedied. (See Attachment C)
- \_\_\_ D. Hydrologic modifications prevent attainment of the criterion. (See Attachment D)
- \_\_\_ E. Natural features of the water body preclude attainment of aquatic life protection uses. (See Attachment E)
- \_\_\_ F. Controls more stringent than technology-based controls will result in substantial and widespread economic and social impact. (See Attachment F)

#### I. Evaluation of Alternatives Considered to Meet Calculated Water Quality-Based Effluent Limit

39. List alternatives considered to meet WQBEL (e.g. substituting process materials; pollutant offsets or trading; various treatment options; addressing inflow/infiltration issues, BMPs):

- a) \_\_\_\_\_
- b) \_\_\_\_\_
- c) \_\_\_\_\_
- d) \_\_\_\_\_

40. For each alternative considered, explain why it is not technically, financially or otherwise feasible to implement that alternative to meet a WQBEL:

- a) \_\_\_\_\_
- b) \_\_\_\_\_
- c) \_\_\_\_\_
- d) \_\_\_\_\_

41. If permittee is a POTW, describe legal authority to control potential sources of the pollutant that discharge into wastewater treatment facility:

#### J. Pollutant Reduction Plan

42. Identify actions you propose to take that will result in reasonable progress toward meeting the underlying water quality, including milestones and schedule. Please refer to Section 3.5 Pollutant Reduction Plan of DEQ's Internal Management Directive entitled "Implementing Water Quality Standards Variances for NPDES Permittees" for minimum required elements and other important information. Attach the Plan to this application.

**K. For renewals only: Actions taken under Pollution Reduction Plans**

43. Describe actions taken under Pollutant Reduction Plan submitted with original variance application. Attach annual progress reports if not already provided to DEQ. If applicable, explain why any annual milestones were not met or why any required actions were not taken.

44. Describe impact(s) of actions with respect to achieving underlying water quality standard. Provide documentation where possible.

**L. Additional Information or Comments**

**M. Certification**

Based on the information provided, I believe that attainment of applicable water quality standard for the pollutant indicated is not attainable for the reasons indicated or would cause widespread adverse social and economic impact. I understand that, as a condition of the variance, the department will include the following in the NPDES permit: an interim effluent limitation, a requirement to implement a Pollution Reduction Plan approved by the department, and a requirement to submit annual reports demonstrating reasonable progress toward meeting a WQBEL. I certify that the information provided in this application, including supporting information, is true, accurate and complete.

\_\_\_\_\_  
Individual submitting request

\_\_\_\_\_  
Title

\_\_\_\_\_  
Signature of Official

\_\_\_\_\_  
Date Signed

VARIANCE APPLICATION **ATTACHMENT A** – REASON FOR VARIANCE  
NATURALLY OCCURRING POLLUTANTS

*If you indicated in Section H of the Variance Application that you are requesting a variance because naturally occurring pollutant concentrations prevent attainment of the criterion (Reason A), please fill in the information requested below. This variance condition exists where natural background concentrations of a pollutant, such as a naturally occurring earth metal, already exceeds or contributes to exceedance of a water quality criterion.*

1. For what pollutant is the variance requested?

---

2. Please describe upstream ambient data sufficient to adequately characterize pollutant concentrations:

---

---

---

---

3. Please identify the source or sources of the pollutant within the water body. Also describe the data and basis for the conclusion that naturally occurring pollutant concentrations preclude attainment of the criterion. Such information may include, but is not limited to: soil composition data, groundwater data, USGS analyses/reports, comparison to data collected from headwater streams, and analyses done by other states with an explanation of why they are relevant in this case. If possible, there should be some analysis of how much of the pollutant in the stream occurs naturally and how much is a result of NPDES-permitted sources.

---

---

---

---

---

---

---

VARIANCE APPLICATION **ATTACHMENT B** – REASON FOR VARIANCE  
NATURAL FLOW CONDITIONS OR WATER LEVELS

*If you indicated in Section H of the Variance Application that you are requesting a variance because natural, ephemeral, intermittent or low flow conditions or water levels prevent attainment of the criterion (Reason B), please fill in the information below:*

1. Describe in detail the location of the problem and any monitoring data or other analyses to support this conclusion:

---

---

---

---

---

---

---

---

2. Can these conditions be compensated for by the discharge of a sufficient volume of effluent discharges to enable the criterion to be met without violating state water conservation requirements?

Yes \_\_\_\_ No \_\_\_\_

Please describe the basis for your answer.

---

---

---

---

---

---

---

VARIANCE APPLICATION **ATTACHMENT C** – REASON FOR VARIANCE  
HUMAN-CAUSED POLLUTANTS CANNOT BE REMEDIED

*If you indicated in Section H of the Variance Application that you are requesting a variance because human-caused pollutant concentrations prevent attainment of the criterion (Reason C), please fill in the information requested below.*

*This variance condition exists where human-caused concentrations of a pollutant, such as mercury, PCBs, DDT and phthalates, exceeds a criterion or contributes to an exceedance of a water quality criterion; and the human-caused condition or source cannot be remedied or it would cause more environmental damage to correct than to leave in place.*

1. For what pollutant is the variance requested?

---

2. Please describe upstream ambient data sufficient to adequately characterize pollutant concentrations:

---

---

---

---

3. Please identify the source or sources of the pollutant within the water body. Also describe the data and basis for the conclusion that human-caused pollutant concentrations preclude attainment of the criterion. Such information may include, but is not limited to: soil composition data, groundwater data, USGS analyses/reports, comparison to data collected from headwater streams, and analyses done by other states with an explanation of why they are relevant in this case. If possible, there should be some analysis of how much of the pollutant in the stream occurs as a result of legacy pollutants and how much is a result of NPDES-permitted sources.

---

---

---

---

---

---

---

4. Is the receiving water body water quality-limited for the pollutant? Yes \_\_\_\_ No \_\_\_\_

5. Do the facility's processes contribute any of this pollutant to the effluent? Yes \_\_\_\_  
No \_\_\_\_



6. If applicable, please describe the environmental damage that would be caused by reducing or treating the pollutant to criteria levels, and whether that damage would outweigh the damage caused by leaving the pollutant in place. (For example, if multiple passes of non-contact cooling water concentrates the pollutant and other cooling methods such as cooling towers are not feasible, may show that benefits to stream temperature and flow resulting from multiple passes outweigh harm caused by reducing number of passes. In some cases, additional treatment may result in potential disposal issues with waste generated from various treatment technologies such as brines or spent resin. Or, additional treatment may require greatly increased energy usage.)

---

---

---

---

---

---

---

---

---

---

VARIANCE APPLICATION **ATTACHMENT D** – REASON FOR VARIANCE  
HYDROLOGIC MODIFICATIONS PRECLUDE ATTAINMENT OF CRITERION

*If you indicated in Section H of the Variance Application that you are requesting a variance because dams, diversions or other types of hydrologic modifications preclude the attainment of the criterion (Reason D), 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 criterion, please discuss with DEQ whether a use attainability analysis should be conducted in lieu of applying for a variance. If this factor is the basis for the variance request, please provide the information requested below.*

1. For what pollutant is the variance requested?

---

2. Please describe upstream ambient data sufficient to adequately characterize pollutant concentrations:

---

---

---

3. Is the receiving water body water quality-limited for the pollutant? Yes \_\_\_\_\_ No \_\_\_\_\_

4. Identify the dam, diversion or other type of hydrologic modification that precludes the attainment of the criterion, including its location and proximity to the permitted facility.

---

---

5. Please describe how the dam, diversion or other type of hydrologic modification precludes attainment of the criterion, and the data and basis for this conclusion.

---

---

---

---

6. Describe why it is not feasible to restore the water body to its original condition or to operate the modification in such a way that would result in attainment of the criterion.

---

---

---

---

VARIANCE APPLICATION **ATTACHMENT E** – REASON FOR VARIANCE  
NATURAL PHYSICAL FEATURES OF WATER BODY PRECLUDE  
ATTAINMENT OF AQUATIC LIFE PROTECTION USES

*If you indicated in Section H of the Variance Application that you are requesting a variance because 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 (Reason E), please contact your local DEQ representative to discuss whether a use attainability analysis is more appropriate than a variance request. If this factor is the basis for the variance request, please provide the information requested below.*

1. For what pollutant is the variance requested?

---

2. Please describe upstream ambient data sufficient to adequately characterize pollutant concentrations:

---

---

---

---

3. Is the receiving water body water quality-limited for the pollutant? Yes \_\_\_\_ No \_\_\_\_

4. Identify the physical conditions related to the natural features of the water body that precludes attainment of aquatic life protection uses.

---

---

---

5. How do the physical conditions listed above preclude attainment of aquatic life protection uses? Please specify the data on which these conclusions are based.

---

---

---

---

---

---

---

---

VARIANCE APPLICATION **ATTACHMENT F** – REASON FOR VARIANCE  
SUBSTANTIAL AND WIDESPREAD ECONOMIC AND SOCIAL IMPACT

*If you indicated in Section H of the Variance Application that you are requesting a variance because controls more stringent than technology-based standards would result in substantial and widespread economic and social impacts (Reason F), please provide the information requested below.*

1. For what pollutant is the variance requested?

---

2. Please describe upstream ambient data sufficient to adequately characterize pollutant concentrations:

---

---

---

---

3. Is the receiving water body water quality-limited for the pollutant? Yes \_\_\_\_ No \_\_\_\_

4. Please cite and describe the sources of information you used to evaluate available treatment technologies, their ability to achieve water quality-based effluent limits, and associated costs.

---

---

---

---

5. Have you identified non-treatment alternatives to reduce the pollutant in the water body? If so, please describe those alternatives and the reductions that could be expected to be achieved through their implementation:

---

---

---

6. Please cite and describe the sources of information you used to evaluate available non-treatment options for reducing the pollutant.

---

---

---

7. Please provide an estimate of how much it would cost to treat or reduce the pollutant to criterion levels, including social and economic impacts. Please attach your social and economic impact analysis.

---

---

---

---

You may submit a justification based on this factor by conducting the analysis described in detail in EPA's Interim Economic Guidance for Water Quality Standards, updated 3/17/11, at <http://water.epa.gov/scitech/swguidance/standards/economics/>. This guidance applies to both private and public sector dischargers.

Another resource for POTWs on how to assess financial capability is an EPA document entitled "Combined Sewer Overflows – Guidance for Financial Capability Assessment and Schedule Development (Document No. 832-B-97-004), at <http://www.epa.gov/npdes/pubs/csofc.pdf>.

## Appendix D: Checklists of Information Needed for Variance Application

### Checklist for Permit Holder:

- ☐ Variance Application
  - ☐ Attachment A, B, C, D, E, and/or F (depending on which factor justifies variance)
  - ☐ Source investigation report
  - ☐ Pollutant reduction plan

### Checklist for EPA Submittal and Approval:

- ☐ Submittal Letter to EPA
- ☐ Variance Application
  - ☐ Attachment A, B, C, D, E, and/or F (depending on which factor justifies variance)
  - ☐ Source investigation report
  - ☐ Pollutant reduction plan
- ☐ DEQ Variance Evaluation Report
- ☐ Record of Public Notice (i.e. public notice, list of attendees, Presiding Officer Report, response to comments)
- ☐ Certificate from State Attorney General

# Appendix E: Variance Renewal Application

## DIRECTIONS FOR FILLING OUT VARIANCE RENEWAL APPLICATION

**1. In order to renew your variance, you must fill out the variance application form and provide information necessary to show that:**

- A. The circumstances justifying the variance have not materially changed (for example, there is still no feasible technology available to treat the pollutant to the necessary level; or background levels of the pollutant still exceed the criterion, etc.).
  - a. To demonstrate that the circumstances justifying the original variance continue to exist, please provide any updated or new information to supplement the original application for a variance. When filling out the Variance Application, indicate under each question whether there is updated or new information. Even if there is no new or updated information to add to an answer provided in the previous application, it is important to consider whether any circumstances arising in the interim change the relevance of earlier information to a particular factor. For example, improvements in effluent quality may make treatment and reduction options previously evaluated more feasible than previously thought; or an option previously considered infeasible may have become more affordable during the term of the variance. If the information provided in the previous variance application has not changed and remains equally applicable, please indicate by writing “no additions or changes.”
  - b. If there is any information to add to the information submitted in the previous variance application, please answer the question on the Variance Application Form, specifying if and how the new or updated information changes any of the answers provided in the original application. For example, if monitoring conducted during the permit term shows that the best achievable level has changed, write the new number from the discharge monitoring reports.
- B. You have met all the conditions and requirements of the variance in the permit and have taken the actions required in the Pollutant Reduction Plan.
  - a. To demonstrate this, please provide any annual progress reports you have not yet submitted to DEQ. If applicable, please explain why any milestones have not been met or why any required actions were not taken.

**2. Please submit an updated Pollutant Reduction Plan with new milestones and timeframes taking into account actions already taken, and any additional reduction actions, monitoring or studies proposed to ensure reasonable progress toward meeting the underlying water quality standard.**

# Appendix F: Draft Variance Evaluation Report Template



## National Pollutant Discharge Elimination System VARIANCE EVALUATION REPORT

Draft Date

Oregon Department of Environmental Quality

Western Region

750 Front Street NE, Suite 120

Salem, OR 97301

(503) 378-8240

All highlighted language should be deleted or replaced before document is finalized.

Permittee:	Legal/Common Name Mailing Address City, State, ZIP
Existing Permit Information:	File Number: Permit Number: Expiration Date: EPA Reference Number: OR
Source Contact:	Name, Phone Number Title
Source Location:	Facility or Site Address (specify which is provided) City, State County
LLID:	Enter LLID (link below to LLID mapping tool) <a href="http://deggisweb.deq.state.or.us/llid/llid.html">http://deggisweb.deq.state.or.us/llid/llid.html</a>
Receiving Stream/Basin:	[name]
Proposed Action:	Approval of Variance or Renewal of Variance Application Number: (should be on blue folder) Date Received: (should be on blue folder)
Source Category:	NPDES [Major/Minor] – Domestic
Sources Covered:	(e.g., process wastewater/stormwater/etc.)
Permit Writer:	Name Title/Region/Section Date Prepared



## 1.0 Introduction

The Department of Environmental Quality (DEQ) proposes to approve a [VARIANCE/VARIANCE RENEWAL] from meeting a water quality-based effluent limit for [POLLUTANT] that would otherwise be applicable. The proposed variance and Pollutant Reduction Plan will be incorporated into the National Pollutant Discharge Elimination System (NPDES) wastewater permit for [PERMITTEE NAME] located at [ADDRESS]. This permit allows and regulates the discharge of [DESCRIPTION OF EFFLUENT] to [RECEIVING STREAM NAME AND DOWNSTREAM WATERBODY IF RELEVANT] in the [SUBBASIN NAME] of the [BASIN NAME] Basin.

The permittee is requesting a variance as allowed in OAR 340-041-0059. The permittee submitted a variance/variance renewal application on [DATE]. The proposed variance will essentially grant the permittee a temporary exemption from meeting an effluent limit for [POLLUTANT] based on the otherwise applicable water quality criterion of [WQ CRITERION]. If EPA approves the variance as recommended by the DEQ, the permittee will be required to meet an interim effluent limit for [POLLUTANT] of [PROPOSED INTERIM EFFLUENT LIMIT] instead of a water quality-based limit of [WQBEL otherwise applicable].

This variance evaluation report describes the basis for approving the proposed variance/variance renewal and the methodology used in developing the proposed interim effluent limit. For a discussion of all other terms and conditions of the permit, please refer to the Permit Evaluation Report and Fact Sheet. This Variance Evaluation Report is divided into the following sections:

- Section 1 – Introduction
- Section 2 - Water Quality Standards at Issue
- Section 3- Pollutant Source Investigation Report
- Section 4 – Effluent Data Summary
- Section 5 – Reason for Variance and Why WQBEL Cannot be Achieved
- Section 6 – Demonstration that Treatment beyond TBELs is Necessary
- Section 7 - Evaluation of Alternative Options for Treatment or Reduction
- Section 8 - Proposed Duration and Justification for the Requested Variance Term
- Section 9 - Proposed Interim Discharge Limits
- Section 10 – Characterization of Risk to Human Health and Aquatic Life from Variance
- Section 11 - Summary of Pollutant Reduction Plan Actions and Milestones
- Section 12 - EPA Review and Approval

## 2.0 Water Quality Standard(s) at Issue

### 2.1 Designated beneficial uses for receiving water

[see <http://www.deq.state.or.us/wq/rules/div041tblsfigs.htm#t1>]

#### EXAMPLE LANGUAGE:

The City of Salem discharges to the Willamette River. The designated beneficial uses of the Willamette River at this location are as follows: [This list includes all BU's, delete as needed]

- public and private domestic water supply,
- industrial water supply,
- irrigation and livestock watering,
- fish and aquatic life (including salmonid rearing, migration and spawning),
- wildlife and hunting,

- fishing,
- boating,
- water contact recreation,
- aesthetic quality,
- hydro power, and
- commercial navigation and transportation

## 2.2 Water quality criterion that cannot be fully attained [refer to RPA]

List the criterion that cannot be fully attained and list the use or uses the criterion is intended to protect.

## 2.3 303(d) listing status

Refer to the following sources of information to describe 303(d) listing status and TMDL status (if any).

<http://deq.state.or.us/wq/assessment/rpt0406/search.asp>;

<http://www.deq.state.or.us/wq/TMDLs/TMDLs.htm>

# 3.0 Pollutant Source Investigation Report

## 3.1 Intake water source

Describe the intake water source and provide the river mile if relevant. In the case of a municipal permit holder, intake water refers to domestic water supply for the city. For industrial permit holders, the intake water source may be the municipal water supply, a private well or the river itself. In some cases, there may be more than one source of water.

Summarize the available data on the intake water in sufficient detail to establish the extent to which the pollutant in question is present in intake water.

## 3.2 Receiving water body

Describe the receiving stream in sufficient detail to establish whether or not the pollutant in question is already present in the waterbody, and if it is, describe those levels relative to the criterion. The data collected as part of the RPA may be sufficient for this.

## 3.3 Other pollutant sources

Describe the results of ground water studies, analyses of indirect dischargers or other studies showing where the pollutant is coming from and it is entering the effluent.

# 4.0 Effluent Data Summary

## 4.1 Effluent concentration

## 4.2 Determination of downstream ambient concentration after mixing

# 5.0 Reason for variance request and factual description of why the WQBEL cannot be achieved

Refer to the variance application to determine the provision in OAR 340-041-0059(2) under which the permit holder is seeking a variance and cite here. Refer to the relevant attachment to the application for the justification and describe.

## 6.0 Technology-Based Effluent Limits

Insert the discussion of applicable TBELs from the Permit Evaluation Report here and explain why applicable TBELs are not sufficient to meet applicable water quality criterion.

## 7.0 Treatment or Alternative Options Considered

List the various options considered for reducing the discharge of the pollutant that were determined to be technically, financially or otherwise infeasible. Alternatives may include but are not limited to: treatment upgrades, expanded pretreatment and controls on nonpoint sources under the permittee's control. Measures that the permit holder has determined are feasible should be described in the Pollutant Reduction Plan.

## 8.0 Duration of Variance

Describe and justify the duration of the variance.

## 9.0 Proposed Interim Permit Limits

List interim permit limits and provide justification. Interim limits should represent the lowest level of pollutant(s) achievable during the term of the variance.

## 10.0 Risk Characterization

Discuss potential for risk to human health and aquatic life as a result of the variance. This analysis should be based on difference between concentration or level of pollutant allowed by variance vs. how much concentration would be allowed by calculated WQBEL. May refer to the Maximum Contaminant Level (MCL) for the pollutant if there is one, and to results of WET tests. If discharge is to water that provides habitat or feeds into a waterbody identified as critical habitat for any threatened or endangered species, please explain. The following links may be used to make this determination:

[ODFW Timing Guidelines](#) for in-water work. Includes a list, by river, of which species are present/protected by these guidelines. (June 2008)

[ODFW Fish Distribution/Habitat maps](#) showing spawning/rearing/migration in each stream segment, by major salmonid species, by sub-basin. (January 2004)

[Tillamook Bay Commercial Shellfish Management Areas](#) (April 2003) PDF

[ODFW maps](#) showing Oregon Plan core areas, the most productive areas for salmonids, for the Coast and southern Oregon.

[ODFW Data Resources](#) - index and links for available data from ODFW.

[Threatened and endangered fish species](#) - State and federal listed species.

[NOAA Fisheries - National Marine Fisheries Service](#) - Northwest Regional Office Home Page

[U.S. Fish & Wildlife Service](#) - Pacific Region Home Page

[In addition, EPA or the Department of Fish and Wildlife may have data on potential impacts.]

### **11.0 Summary of Pollutant Reduction Plan**

Provide a summary of the Pollutant Reduction Plan including actions, milestones and dates and any studies or monitoring required to show reasonable progress in meeting the underlying water quality standard.

### **12.0 (For renewal of variance) Variance Renewal Evaluation**

Describe circumstances relative to those present when the original variance application was submitted. Summarize progress reports submitted as part of the original variance application and show how conditions and requirements of the original variance have been met. If applicable, explain why any milestones have not been met or why any required actions were not taken.

### **13.0 EPA Review and Approval**

EPA must approve the proposed variance before it is effective and before the permit can be issued. Consistent with 303(c) CWA and 40 C.F.R. Part 131.21(1), EPA has 60 days to notify DEQ that the variance submittal is approved and 90 days to notify DEQ that the variance is disapproved, but EPA intends to provide such notification as soon as practicable. ESA consultation may slow down the approval process. Once EPA approves the variance, DEQ will mail the finalized, signed permit with the proposed variance to the permittee. The permit is effective 20 days from the mailing date.

# **Appendix G: Memorandum of Understanding Between DEQ and EPA re: Variances**

See following page.



## State of Oregon Department of Environmental Quality

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY, REGION 10

OFFICE OF WATER AND WATERSHEDS



# Memorandum of Understanding

## Between the Oregon Department of Environmental Quality and the U.S. Environmental Protection Agency Region 10, Regarding Water Quality Standards Variances

### 1. Purpose

The purpose of this Memorandum of Understanding (MOU) is to establish a cooperative effort between the Oregon Department of Environmental Quality, Water Quality Division (DEQ) and the U.S. Environmental Protection, Region 10, Office of Water and Watersheds (EPA), (the Parties) for processing water quality standards (WQS) variance applications. Through the understandings established by this MOU, DEQ and EPA agree to work together in all stages of the variance process to facilitate efficient review and processing of variance applications.

### 2. Background

DEQ and EPA believe that guidelines developed in this MOU will assist in effective processing of WQS variance applications. Both agencies have spent considerable time working together on Oregon's revisions to the State's human health criteria. DEQ has worked extensively to ensure that these criteria are based on the best available science and are protective of all populations in the State that consume fish from the waters in Oregon. As a result of the increased stringency in the human health criteria, DEQ has worked with EPA to develop implementation provisions, including a detailed revision of DEQ's variance rule.

The federal water quality standards regulations at 40 CFR 131.13 provide that States may include general policies in their State water quality standards affecting their application and implementation, including variances. Such policies are required to be submitted to EPA for review and approval.<sup>1</sup>

Several EPA regions approve variances on a regular basis and do so with little or no delay to the state's processes. As NPDES permits continue to be written to attain more stringent criteria, DEQ and EPA have seen, and expect to continue to see, an increased need for variances. DEQ and EPA remain committed to work closely together to develop a more fluid and efficient process in Oregon.

### 3. Authority

Each party to this MOU is authorized to enter into this MOU pursuant to the following authorities:

---

<sup>1</sup> In 1983, EPA amended the Water Quality Standards Regulation to explicitly address certain requirements in State standards and other legal and programmatic issues (48 FR 51400, November 8, 1983). The WQS Handbook at 5-12 further explains the 1983 Preamble in stating that EPA has approved State and Tribal use of variances when the individual variance is included in State or Tribal water quality standards. Each variance is subject to the same public review as other changes in water quality standards.



DEQ: ORS 468.035(1)(c) authorizes DEQ to cooperate with other agencies, including the federal government, with respect to matters pertaining to the control of water pollution.  
EPA: Delegation 1-11 (authority to sign agreements with, inter alia, state, local and tribal governments).

#### 4. Roles and Responsibilities

Oregon's variance procedures and individual variances, as part of state water quality standards, must be consistent with the substantive requirements of section 303(c) of the Clean Water Act, 33 USCA 1251 et seq. and 40 C.F.R 131.

Oregon's variance regulation at OAR 340-041-0059 provides that individual variances must meet the following requirements (among others):

- Oregon must submit all proposed variances to EPA for approval.
- Public notice, opportunity for comment, and public hearing are all provided by Oregon.
- Existing State water quality criteria remain in effect for implementation in National Pollutant Discharge Elimination System (NPDES) permits, as appropriate, for those sources and pollutants not included in the variance.
- Variance duration is not to exceed the term of the NPDES permit.
- Oregon gives priority to NPDES permit renewals for permits containing variances.

EPA's review of individual variances adopted by DEQ, consistent with the requirements of the CWA, will include the justification for the following items:<sup>2</sup>

- Meeting the standard (for which the variance applies) is unattainable based on one or more of the 40 CFR 131.10(g) factors.
- Treatment more advanced than required by CWA sections 303(c)(2)(A) and (B) has been carefully considered, and alternative effluent control strategies have been evaluated.
- Justification for the term of the variance.
- The variance is as close to the underlying numeric criteria as is achievable.
- Reasonable progress will be made toward meeting the WQS during the term of the variance. For variance renewals, verify that terms and conditions of previous variance have been met.
- Variances may be renewed only when the discharger makes a renewed demonstration of "unattainability."

To ensure that variance applications are reviewed and processed in a timely and efficient manner, DEQ and EPA agree to the following:

A. Upon receipt of a complete variance application in accordance with OAR 340-041-0059, DEQ intends to provide a copy of the request to EPA. If DEQ is aware of an upcoming application, both agencies expect to communicate and share information regarding the upcoming request in advance. Upon receipt of a copy of any such variance application, EPA intends to conduct a preliminary review of the application and identify any potential issues of concern. For variances regarding aquatic life criteria, EPA intends to give DEQ a preliminary assessment of actions that may be necessary to comply with the Endangered Species Act (ESA), 16 USCA 1531 et seq.

---

<sup>2</sup> USEPA 1994. *Water Quality Standards Handbook: Second Edition*. EPA 823-B-94-005a; and USEPA 1998. *Water Quality Standards Regulation: Proposed Rule*. Federal Register. July 6, 1998. Volume 63: 36742- 36805.

B. If DEQ determines that the variance request should be granted, DEQ intends to submit a draft proposed variance, along with a justification of how the proposed variance meets the requirements of OAR 340-041-0059, to EPA before DEQ provides public notice of the variance according to Oregon's public comment procedures. Where feasible, DEQ intends to put the proposed variance out for public comment at the same time as the draft permit.

C. EPA expects to review and provide comments on the draft variance and variance justification within 30 days of the date DEQ sends the draft proposed variance to EPA. During this preliminary review, EPA will evaluate the draft proposed variance and justification for consistency with 40 C.F.R. 131 and OAR 340-041-0059.

D. After considering any comments made by EPA regarding the draft proposed variance, DEQ will initiate public review and comment as required by OAR 340-045-0027.

E. During the public comment period, EPA may provide written comments and those comments may include any potential issues with the draft variance.

F. After the public comment period ends, DEQ will consider all comments and prepare a written response as soon as practicable.

G. Following granting of the variance, DEQ must submit the variance to EPA in compliance with the requirements for water quality standards submissions at 40 C.F.R. 131, including appropriate supporting justification and certification by the State Attorney General that the variance has been adopted in compliance with State law.

H. For variances involving aquatic life criteria, EPA intends to complete any actions necessary to comply with the requirements of the ESA as soon as practicable.

I. If EPA determines that DEQ's supporting justification and submittal demonstrate that the granting of the variance meets the requirements of section 303(c) of the CWA and 40 C.F.R. section 131, EPA intends to approve the variance in accordance with section 303(c) of the Clean Water Act, subject to the completion of any requirements for compliance with the ESA. Consistent with 40 C.F.R. 131.21(a)(1), EPA intends to provide notification that the variance submittal is approved within 60 days of its submittal or as soon as practicable after completion of any requirement for ESA compliance.

J. If EPA determines that DEQ's supporting justification and submittal do not demonstrate that the granting of a variance would be consistent with the requirements of 40 C.F.R. Part 131 and CWA Section 303(c), it may disapprove the variance in accordance with Section 303(c) of the Clean Water Act. Consistent with 40 C.F.R. 131.21(a)(2), EPA has 90 days to notify DEQ that the variance submittal is disapproved but intends to provide notice of any such disapproval as soon as practicable. A disapproved variance may not be used in an NPDES permit and, if it is included, EPA may object to the issuance of the NPDES permit.

## 5. Limitations

A. No statements made in the course of negotiations among the Parties or in this MOU may be construed to represent an admission, determination, settlement, or adjudication of any legal or factual dispute relating to any Party's rights, privileges or interests.



B. This MOU shall not be construed as waiving any rights, powers, or remedies the parties have under any applicable Act of Congress, Executive Order, treaty, regulation, State Constitution, State law, court decision, equity, or other authority.

C. Nothing in this MOU shall change the jurisdictional authorities of the United States or any of its agencies, the Tribes or any of its agencies, the State or any of its agencies, or any other entity. This MOU is solely for the purpose of facilitating intergovernmental cooperation between the parties. This MOU is not and shall not be used as a precedent for resolution of any dispute regarding the jurisdictional authority of the parties to the agreement. This MOU creates no rights in third parties or the right of judicial review.

D. All agreements made in this MOU are subject to the availability of appropriated funds and each Party's budget priorities. Nothing in this MOU, in and of itself, obligates any Party to expend appropriations or to enter into any contract, assistance agreement, interagency agreement, or incur other financial obligations. The parties agree not to submit a claim for compensation for services rendered to any of the other parties for activities they undertake in carrying out this MOU.

E. This MOU is neither a fiscal nor a funds obligation document. This MOU does not exempt the Parties from policies requiring competition for financial assistance and contracts. Any endeavor involving reimbursement or contribution of funds between the Parties will be handled in accordance with applicable laws, regulations, policies, and procedures, and will be subject to separate agreements that will be effected in writing.

F. This MOU does not create any right or benefit, substantive or procedural, enforceable by law or equity, by persons who are not party to this agreement, against the Parties to the MOU, their officers or employees, or any other person. This MOU does not direct the actions of, or apply to, any person outside the Parties to this MOU.

## **6. Commencement, Modification and Termination**

This MOU is to take effect when signed by both DEQ and EPA and shall be in effect until terminated by either one or both of the parties. This MOU may be amended or modified at any time by the mutual written consent of the Parties. A Party's participation in the MOU may be terminated at any time upon written notification to the other Party at least 90 days in advance of the termination date. This MOU may otherwise be terminated by written agreement of the Parties.

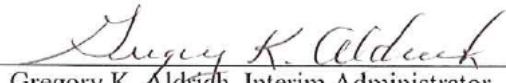
## **7. Points of Contact**

**Oregon Department of Environmental Quality**  
811 SW Sixth Avenue  
Water Quality Division  
Portland, OR 97204  
Jennifer Wigal, (503) 229-5323, [wigal.jennifer@deq.state.or.us](mailto:wigal.jennifer@deq.state.or.us)  
Jane Hickman, (503) 229-5555, [hickman.jane@deq.state.or.us](mailto:hickman.jane@deq.state.or.us)

**U.S. Environmental Protection Agency, Region 10**  
1200 Sixth Avenue, Suite 900  
OWW -131  
Seattle, WA 98101  
Jannine Jennings, (206) 553-2724, [jennings.jannine@epa.gov](mailto:jennings.jannine@epa.gov)  
Matthew Szelag, (206) 553-5171, [szelag.matthew@epa.gov](mailto:szelag.matthew@epa.gov)

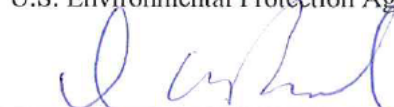
## 8. Approval/Signatures

Oregon Department of Environmental Quality, Water Quality Division

  
\_\_\_\_\_  
Gregory K. Aldrich, Interim Administrator

1-30-2012  
\_\_\_\_\_  
Date

U.S. Environmental Protection Agency, Region 10, Office of Water and Watersheds

  
\_\_\_\_\_  
Michael A. Bussell, Director

1-23-12  
\_\_\_\_\_  
Date