

Investigating Variances for the Spokane River system

Spokane River Permitting Strategy and Workshop
Department of Ecology, Water Quality Program

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Ecology contact:

Cheryl Niemi

Water Quality Standards

360-307-6440

cheryl.niemi@ecy.wa.gov

Resources on variances:

- Water Quality Standards for Surface Waters of the State of Washington, Chapter 173-201A WAC (2016) - <https://fortress.wa.gov/ecy/publications/documents/0610091.pdf> (see part IV, section 420)
- EPA's water Quality Standards regulation: 40 CFR 131.14
- EPA's Water Quality Standards Variance Building Tool - <https://www.epa.gov/wqs-tech/water-quality-standards-variance-building-tool>
- EPA's Water Quality Standards Variance Building Tool Flow Chart - <https://www.epa.gov/sites/production/files/2017-07/documents/variance-building-tool-chart.pdf>
- EPA's Interim Economic Guidance for Water Quality Standards (1995) – <https://www.epa.gov/wqs-tech/economic-guidance-water-quality-standards> This document provides guidance to understand the economic factors that may be considered, and the types of tests that can be used, to determine if a designated use cannot be attained, if a variance can be granted, or if degradation of high-quality water is warranted.



A WQS variance is a path to improve water quality over time.



Variations - a potential tool to improve water quality on the Spokane River

The requirements for a variance are spelled out in **two separate regulations**:

- Washington's surface water quality standards (WAC 173-201A-420)
- Federal Water Quality Standards regulation (40 CFR 131.14)

Requirements from both must be met for Ecology to successfully adopt an EPA-approvable variance.

The core concept of a variance is that, whether we are addressing effluent quality or river water, the highest attainable condition must be maintained throughout the term of the variance.

The Highest Attainable Condition is called the HAC.

The EPA structure for variations is built on the concept of the HAC, which determines the type of variance that is most appropriate for the situation.

- There are 5 types of HACs (3 for dischargers and 2 for waterbodies). (more information in slides 7-8)

To support a variance the development and determination of the HAC is critical (we just can't get there without it).



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The following conditions apply to all variance options:

The variance must be adopted into state rule following state APA requirements.

That state rule will need to be approved by EPA before it can be used for NPDES purposes.

Dischargers would need to supply information to Ecology to support a variance:

- Specific submittal types are listed on the next slide
- The AOs will contain the information requirements

All variances will have measurable milestones that will be evaluated every 5 years.

- Public review every 5 years is required
- As a result of the review the variance could be left as-is, shortened, terminated, or the requirements modified.



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The following requirements apply to all variances, and provide a large part of the information needed to determine the HAC and demonstrate the need for a variance.

A demonstration that attaining the water quality standard is not feasible for the requested duration of the variance based on 40 C.F.R. 131.14. (discussed in slide 9)

An evaluation of treatment or alternative actions that were considered to meet effluent limits and a description of why these options are not technically, economically, or otherwise feasible.

Sufficient water quality data and analyses to characterize receiving and discharge water pollutant concentrations.

A description and schedule of actions that the discharger(s) proposes to ensure the HAC is attained within the variance period. (see next slide for what might be requested for this specific requirement)

A schedule for development and implementation of a pollutant minimization plan for the problem pollutant(s).



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Example of a possible AO requirement

One of the requirements to grant a variance	Possible type of requirements for AO
<p>A description and schedule of actions that the discharger(s) proposes to ensure the HAC is attained within the variance period.</p>	<p>Schedule of current permit-required plant upgrades (e.g. required for DO TMDL) and what the “baseline” effluent quality is for PCBs.</p> <ul style="list-style-type: none"> • Baseline would be the technology and effluent quality <u>after</u> DO improvements have been made <p>A list, description, and schedule for proposed actions to reduce PCBs. These operational/treatment actions should provide enough certainty that estimated discharge concentrations over the term of the variance can be determined (so we know the best quality of effluent that can be attained for each permit cycle).</p>



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Variations can apply to dischargers or to waterbodies

Discharger variations (individual or multiple)

A time-limited designated use and parameter-specific change to the standard(s) of the receiving water body for a specific discharger. **The temporary standard(s) only apply at the point(s) of compliance for the individual facility.**

Water body variations

A time-limited designated use and parameter-specific change to the standard(s) for **a stretch of waters**. **Any discharger of the specific parameter that is defined within the geographic scope of the water body variance may be covered under the variance** that is granted by the department, provided all requirements of the variance for that discharger are met.

How to choose??

Discharger or waterbody variance? Some important differences.

Discharger variances

The HAC for these variances can be based on:

- the **HA interim criterion (best ambient water quality)**
- the **HA interim effluent condition (best effluent quality)**

There are **3** different paths to a HAC in the CFR based on these factors.

Waterbody variances

The HAC for these variances is based on:

- the **HA interim criterion (best ambient water quality) and the HA interim use (best fish harvest quality)**

Although effluent quality cannot define the HAC for a waterbody variance, maintaining the best quality effluent would be part of a waterbody variance and subsequent permit conditions.

There are **2** different paths in the CFR based on the HA interim criterion and HA interim use

Also: NPS BMPs are required with a waterbody variance.

Note that the HAC for a discharger variance can be based largely on effluent quality, while the HAC for a waterbody variance will always be defined by the highest attainable water quality *and* harvest use.

The bolded red, blue, and green text on this slide corresponds to the bolded red, blue, and green text on the next more complex slide

Choosing a variance pathway – discharger or waterbody variances?

Federal regulations provide 5 paths to define the HAC

Discharger variance – 3 paths to the HAC	Waterbody variance - 2 paths to the HAC	
<p><u>Path 1:</u> The highest attainable interim criterion = HAC.</p> <p><u>Path 2:</u> The interim effluent condition that reflects the <u>greatest pollutant reduction achievable</u> = HAC.</p> <p><u>Path 3:</u> If no additional feasible pollutant control technology can be identified, the interim criterion <u>or</u> interim effluent condition that reflects the <u>greatest pollutant reduction achievable with the pollutant control technologies installed at the time the State adopts the WQS variance, and the adoption and implementation of a Pollutant Minimization Program.</u></p>	<p><u>Path 1</u></p> <p>HAC = highest attainable interim criterion and interim use.</p>	<p><u>Path 2</u></p> <p>HAC = If no additional feasible pollutant control technology can be identified, interim criterion and interim use that reflect the <u>greatest pollutant reduction achievable with the pollutant control technologies installed at the time the state adopts the WQS variance, and the adoption and implementation of a Pollutant Minimization Program.</u></p>
	<p>NPS BMPs</p> <p>Additionally, for a waterbody variance, identification and documentation of any cost-effective and reasonable best management practices that could be implemented to make progress towards attaining the underlying designated use and criterion.</p>	

In addition to determining the HAC, we also must demonstrate the need for the variance.

The 7 factors that can be used to demonstrate the need for a variance (see 40 CFR 131.14):

1. Naturally occurring pollutant concentrations prevent the attainment of the use; or
2. Natural, ephemeral, intermittent or low flow conditions or water levels prevent the attainment of the use, unless these conditions may be compensated for by the discharge of sufficient volume of effluent discharges without violating State water conservation requirements to enable uses to be met; or
- **3. Human caused conditions or sources of pollution prevent the attainment of the use and cannot be remedied or would cause more environmental damage to correct than to leave in place; or**
4. 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 that would result in the attainment of the use; or
5. Physical conditions related to the natural features of the water body, such as the lack of a proper substrate, cover, flow, depth, pools, riffles, and the like, unrelated to water quality, preclude attainment of aquatic life protection uses; or
- *6. Controls more stringent than those required by sections 301(b) and 306 of the Act would result in substantial and widespread economic and social impact.**
7. Actions necessary to facilitate lake, wetland, or stream restoration through dam removal or other significant reconfiguration activities preclude attainment of the designated use and criterion while the actions are being implemented.

What is Ecology doing now to assess variances as a tool for the Spokane River and prepare for the AOs?

We are working with EPA (Reg. 10 and HQ) to evaluate the different paths to variances.

We are developing the information needs that will support a variance.

- We want to be as certain as we can that, when we require information submitted under the AOs, the information can be used to support successful variances. (this is not a “fishing expedition”)
- We want to structure a path that makes as much use as possible of existing information, and minimizes the need for development of new information

What should you expect to see as we get close to the AOs?

If variances look like they could be successful, then expect:

- Specific information requirements contained in the AOs
- The rationale for those requirements – why the information is needed and how it will be used by Ecology and EPA to support a variance

A continued focus on adaptive management to reduce PCBs and improve the quality of the Spokane River over time.



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