Preliminary Draft Rule Implementation Plan for PCB Variances on the Spokane River

Chapter 173-201A WAC, Water Quality Standards for Surface Waters of the State of Washington

June 10, 2020
Preliminary draft for public comment

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List of Acronyms

Abbreviation	Full Name
CFR	Code of Federal Regulations
CWA	Clean Water Act
EPA	Environmental Protection Agency
HAC	Highest Attainable Condition
HHC	Human Health Criteria
NPDES	National Pollutant Discharge Elimination System
PCB	Polychlorinated Biphenyl
PMP	Pollutant Minimization Plan *or Program*
RCW	Revised Code of Washington
TMDL	Total Maximum Daily Load
WAC	Washington Administrative Code
WQS	Water Quality Standards

Purpose of the preliminary draft

The department of Ecology is conducting an informal preliminary review on several rulemaking documents related to the PCB variance rulemaking, including the preliminary draft Implementation Plan, for the purpose of receiving informal public feedback prior to conducting a formal public review on the rulemaking. While Ecology intends to use the feedback to better inform the development of the draft rule and supporting documents, we will not formally respond to comments received.

Ecology is required to provide an Implementation Plan prior to the rule adoption phase (also known as the CR-103). However, to provide context and clarity to those reviewing the rule documents during this preliminary draft comment period, Ecology is providing this preliminary draft Rule Implementation Plan (draft Plan). Although providing a preliminary draft Plan before the rule adoption phase is beyond the rulemaking requirements, this document will help answer question the public may have and result in an improved final Plan for the anticipated rule adoption.

Ecology is requesting feedback on the preliminary draft rule and supporting documents, from June 10 through July 25, 2020. You may submit comments through our online eComment system and through the mail.

Online: Submit online comments[1]

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Purpose of the Implementation Plan

In accordance with the rulemaking requirements of the Administrative Procedures Act (RCW 34.05.328) Washington State Department of Ecology (Ecology) has developed this preliminary draft Rule Implementation Plan. The purpose of an implementation plan is to describe how the agency intends to:

a) Implement and enforce the rule, including a description of the resources the agency intends to use
b) Inform and educate affected persons about the rule
c) Promote and assist voluntary compliance

[1] http://wq.ecology.commentinput.com/?id=3VtZr

d) Evaluate whether the rule achieves the purpose for which it was adopted, including, to the maximum extent practicable, the use of interim milestones to assess progress and the use of objectively measurable outcomes

Introduction

Ecology is considering amendments to Chapter 173-201A WAC Water Quality Standards for Surface Waters of the State of Washington (AO # 19-01). These amendments include the following:

- Amending WAC 173-201A-420 (Variances)
- Creating a new variance section in the water quality standards (WAC 173-201A-620 and WAC 173-201A-622)
- Adding five individual discharger variances to the State Surface Water Quality Standards in WAC 173-201A-622.

Ecology is considering adopting five individual discharger variances to the water quality standards that meet the requirements of WAC 173-201A-420 (Variance section), for polychlorinated biphenyls (PCBs) for the Spokane River, in water resource inventory areas (WRIA) 54 and 57.

We are considering this rulemaking in response to receiving completed variance applications from five National Pollutant Discharge Elimination System (NPDES) permitted dischargers to the Spokane River in April 2019:

- Liberty Lake Sewer and Water District - Water Reclamation Facility (Liberty Lake)
- Kaiser Aluminum Washington LLC – Trentwood (Kaiser)
- Inland Empire Paper Company (Inland Empire Paper)
- Spokane County Regional Water Reclamation Facility (Spokane County)
- City of Spokane – Riverside Park Water Reclamation Facility (City of Spokane)

This draft Plan informs those who must comply with Chapter 173-201A WAC about how Ecology intends to:

- Implement and enforce the rule.
- Inform and educate persons affected by the rule.
- Promote and assist voluntary compliance for the rule.
- Evaluate the rule.
- Train and inform Ecology staff about the new or amended rule.

Also included in this preliminary draft Plan is information about:

- Preliminary supporting documents that may need to be written or revised because of the new rule or amended rule.
- Other resources where more information about the rule is available.
- Contact information for Ecology employees who can answer questions about the rule implementation.

Implementation and Enforcement

National Pollution Discharge Elimination System Permits

A National Pollutant Discharge Elimination System (NPDES) permit is required for a discharge of wastewater to waters of the U.S (surface waters). NPDES permits are issued by Ecology. Ecology has been granted delegated authority under of the Clean Water Act to administer the NPDES program in Washington State. NPDES permits are issued for term of five years.

Individual Discharger Variances

A variance is a tool, applied in accordance with state and federal regulations[2], to modify a water quality standard for a limited time, in situations where the current water quality standard is not attainable for one or more specific reasons described under the federal regulations. A variance requires a demonstration that attaining the underlying designated use is not feasible throughout the term of the water quality standard variance because of at least one of the factors listed in 40 CFR 131.10(g) or because of the restoration-related factor listed in 40 CFR 131.14(b)(2)(i)(A)(2).

If adopted by the State and approved by EPA, the variance is the applicable standard for purposes of issuing NPDES permits. An approved variance applies for the purposes of developing the NPDES permit limits. An individual discharger variance does not change the underlying designated use and water quality criteria for a particular water body. The underlying standards will continue to be used for the purposes of §303(d) of the Clean Water Act (CWA) including Washington's Water Quality Assessment[3] and the development of total maximum daily loads (TMDLs).

An individual discharger variance applies to a specific discharger and to the condition of that discharger's effluent at the point that it enters the receiving water body. The variance must be developed to achieve the highest attainable condition and include a quantifiable expression of the effluent condition that reflects the greatest pollutant reduction that is achievable.

Each individual discharge variance also requires a pollutant minimization plan[4] (PMP) including a description and schedule of actions that the discharger will implement to ensure progress towards the underlying water quality standard throughout the term of the variance. All actions and programs that may achieve a reduction of the pollutant in the waste stream or from other sources in the watershed must be included in the PMP.

[2] Federal regulation regarding variances are in CFR 131.14, and the preamble the EPA 2015 rule "Water Quality Standards Regulatory Revision." Federal Register 80:162 (Aug. 21, 2015) p. 51035; Part E. WQS Variances.

[3] Washington State's Water Quality Assessment meet EPA requirement to submit a Clean Water Act Sections 303(d)/305(b) Integrated Report

[4] Washington State Surface Water Quality Standards require a PMP for all individual discharger variances. Note that EPA rules (40 CFR 131.14) refer to the PMP requirement as a Pollution Minimization *Program*.

Highest Attainable Condition

Each individual discharger variance includes a highest attainable condition or HAC. For discharger-specific variances based on effluent conditions, federal regulations [40 CFR 131.14(b)(ii)(A))] require that a HAC be either the highest attainable interim criterion or an interim effluent condition that reflects the greatest pollutant reduction achievable. The calculation of the interim effluent condition is detailed in the section below on reissuing permits. In addition, the interim effluent condition must be quantifiable, and the PMP must justify the term of the variance by describing the pollution control activities that the facility and the state will do to attain the best effluent condition achievable. Table 1 illustrates the components included in the HAC.

Table 1. Federal required components of a highest attainable condition (HAC)

QUANTIFIABLE EFFLUENT QUALITY	POLLUTION MINIMIZATION PLAN
The highest attainable effluent condition which is expressed as a measurement of the pollutant at the point of discharge into the receiving waterbody.	1. Planned actions that the discharger must take to continue pollutant reduction. 2. Planned actions that the state must take to continues pollutant reductions.[5]

These federal requirements align with state requirements in WAC 173-201A-420. The variance rule provision in WAC 173-201A-420 requires a schedule for development of an implementation PMP for the pollutant. The intent of the federal and state PMP is the same; a description and schedule of proposed actions to ensure the HAC is attained and that effluent conditions improve throughout the term of the variance.

The PMPs developed for the five dischargers each have a schedule of actions to be taken for the duration of the variance. Implementation of PMP actions are evaluated at least every 5 years and dischargers must demonstrate progress and effort towards PCB reductions. PMP actions may be adaptively modified based on readily available information during the mandatory interim review (interim review) which is required to occur at least every five years.

In each PMP, dischargers are required to collect or facilitate the collection of water samples in the Spokane River to evaluate total PCB levels. The PCB levels analyzed from water samples collected from the river will be summarized in the interim review (also known as the variance reevaluation in federal rules, 40 CFR 131.14(b)(1)(v)).

Summaries of PCB levels in the water column will be used to support state and federal rule requirements. State rule requires that sufficient water quality data be analyzed to characterize the pollutant levels in the receiving water (WAC 173-201A-420(3)(d). The data summaries will evaluate PCB levels in the river throughout the duration of the variance and will also provide information on whether this variance rule continues to be justified based on factor 3 of 40 CFR 131.10(g). Factor 3 applies when the underlying designated uses are not attained due to human caused pollution. During the interim review, the most recent data summary will determine if,

[5] The requirement to include state actions is described in Water Quality Standards Regulatory Revision. Federal Register 80:162 (Aug. 21, 2015) p. 51038, https://www.federalregister.gov/d/2015-19821/p-230.

based on PCB levels, the designated uses of fish harvesting and domestic water supply continue to not be attained and therefore the factor 3 basis for the variance remains justified.

During the interim review (WAC 173-201A-420(8)) of each variance, updates to the individual discharger's PMP may occur, depending on the progress and results of the implementation actions to reduce PCBs. The portion of the HAC expressed in the variance rule as a quantifiable measure of PCB will also be updated during each interim review. The update to the quantifiable measure may be more stringent than was originally placed in the rule but must not be less stringent.

Ecology will conduct a formal public review during the interim review and provide notice in the state register. We will also contact tribes, stakeholders, and subscriber to Ecology listservs related to water quality standards and permits. Ecology will submit the results of the interim review to EPA within 30 days of completion. The updated HAC requirements will be placed into the next issuance of each individual permit. Further description of the interim reviews and coordination with permit reissuance is discussed below.

State Pollutant Minimization Plan

For variances that require a PMP[6], federal regulations require the inclusion of state actions and programs that will also result in pollutant reductions in the waterbody. The State Technical Support Document[7] includes a list of the programs and activities that the state is implementing as part of the PMPs included in this variance rule.

Reissuing NPDES Permits with Individual Discharger Variance requirements

The individual discharger variances in this rulemaking will be incorporated into each of the respective NPDES permits on the Spokane River. Each individual discharge variance will set a highest attainable condition based on PCB percent removal efficiency and a pollutant minimization plan for facility and state actions that will reduce PCBs to the river. The highest attainable condition for each discharger will serve as the basis for establishing permit requirements, including permit limits, PMP actions necessary to further reduce PCBs from entering the Spokane River, and required water quality monitoring for PCBs.

Permit limits

Each variance includes a percent (%) removal efficiency that the installed PCB treatment is required to meet. Permit limits will incorporate the percent removal efficiency and determine the end of pipe effluent permit limit based on the following equation:

Effluent = Influent – [(Influent * % Removal Efficiency)/100]

This effluent limit will serve as the regulatory limit for PCB discharge to the Spokane River. The influent concentration samples will be analyzed using EPA Method 1668C (or as revised) for PCB congeners. Method 1668C is a sensitive analysis method for PCB analysis but is not a

[6] Federal regulations require state actions to be included in the PMPs. EPA regulations only require PMPs for a HAC 3, [40 CFR.131.14 (b)(1)(ii)(A)(3)]. Washington regulations require PMPs for all individual discharge variances

[7] Preliminary Draft State Technical Support Document for PCB Variances on the Spokane River, Ecology.

currently approved analysis method for wastewater regulatory compliance. However, this sensitive analysis may be used for calculating the required PCB removal and subsequent PCB effluent limit. Effluent monitoring required to determine compliance with permit limits for end-of-pipe discharge will be analyzed using EPA Method 608.3. Method 608.3 is the current PCB analysis method approved under the Clean Water Act section 304(h) and is published at 40 CFR Part 136.

Each interim review will analyze the most recent PCB data collected by the discharger and calculate and update the percent removal efficiency which is to be included in the public review of the variance. This updated percent removal efficiency, and the most recent influent data is to be used to calculate an updated PCB discharge limit to be placed in the next permit. This discharge limit will be included in the public review of the next draft permit for the given facility.

Water Quality Monitoring Permit Requirements

Water quality monitoring for PCBs will be required for both the variance (as part of the pollution minimization plan) and for compliance with NPDES permit limits. This following description and simplified diagram are provided to generally explain the location, purpose, analytical methods, and basis for requiring PCB monitoring.

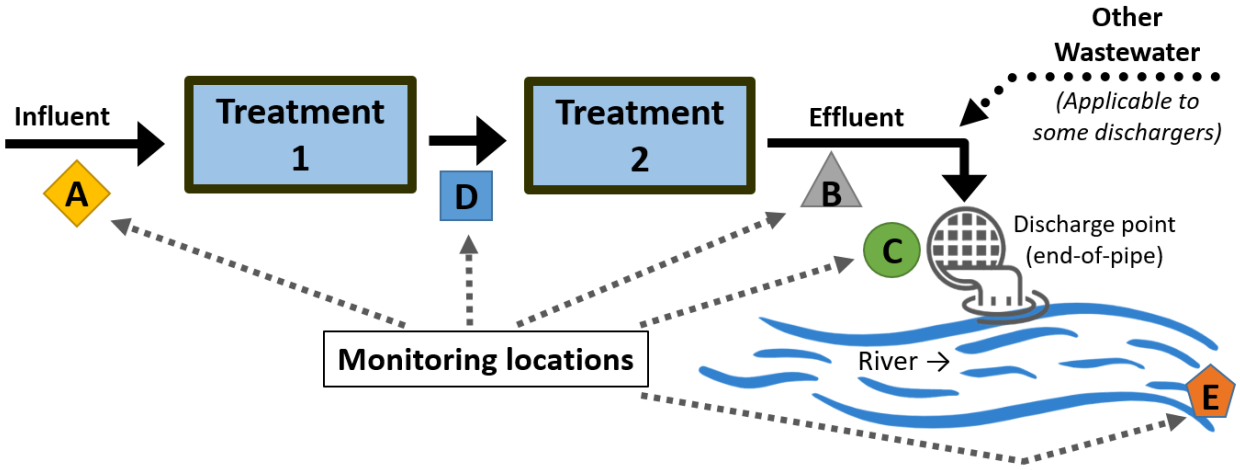

Figure 1 Example diagram of monitoring locations at a facility

Table 2 provides further detail of the example locations shown in figure 1. These example monitoring locations would reside as requirements in the permit based on the need to support the interim review of the variance or for compliance with permit limits at the end-of-pipe. Monitoring locations A (influent) and B (effluent) are necessary to calculate the quantifiable effluent quality improvement part of the HAC, defined in these variances as the percent removal efficiency. The calculation for the percent removal efficiency is the following equation:

$$\text{Percent (\%) Removal Efficiency} = \frac{\text{Influent} - \text{effluent}}{\text{Influent}} * 100$$

This same equation may be applied for some PMP requirements that focus on the optimization of one or more individual treatment technologies and would require monitoring within the waste stream such as monitoring location D.

Monitoring location C is the final effluent monitoring requirement for each of the NPDES permits. The location is described in each permit and acts as the compliance point for the calculated PCB discharge limit. Water quality samples at this location will be analyzed using EPA Method 608.3 in accordance with 40 CFR Part 136. For municipal dischargers monitoring locations B and C may be at the same location. For the industrial dischargers that combine treated effluent with other wastewater, monitoring location B will consist of the treated effluent, and location C is the final combined effluent.

Monitoring location E is the in-river monitoring location that is located within 300 feet of the discharge outfall. The requirement to monitoring in the river is a part of the PMP and is the responsibility of the facility. However, the monitoring may be performed in coordination with a larger river monitoring program rather than directly by the facility. PCB sample concentrations collected at this location will be summarized for each interim review to provide PCB trend information and to determine if the variance is still necessary. Data must demonstrate that the waterbody is not meeting designated uses to justify factor 3 of 40 CFR 131.10(g) and continue the use of the variance.

Table 2 Example monitoring locations for PCBs at a facility

Monitoring location	Location description	Purpose of monitoring	EPA method	Basis for permit monitoring requirement
A	At the beginning of the waste-stream, prior to treatment	To provide a background PCB concentration entering the facility treatment system (part of the percent removal efficiency determination)	1668 (as amended)	Variance PMP
B	After final treatment	To provide a PCB concentration after final treatment (part of the percent reduction efficiency determination)	1668 (as amended)	Variance PMP
C	After final treatment any other added combined discharge to discharge[8]	To measure compliance with permit limits	608.3	NPDES Permit
D	After treatment 1	To provide a PCB concentration after a specific treatment to estimate the efficiency of a single treatment action (may be required by PMP)	1668 (as amended)	Variance PMP
E	In river monitoring at a location downstream of facility discharge location.	To provide PCB concentrations in the river for the interim mandatory review	1668 (as amended)	Variance PMP

Pollution Minimization Plan (PMP) Actions

The PMP includes a list of PCB reduction activities as required with each individual variance. The PMP actions in the variance and the permit should be linked, given that the permit conditions are dependent on the details of the variance. Therefore, PMP actions are to be referenced or incorporated into the permit. These PMP actions will be evaluated at least every 5 years and progress will be needed for the continuance of the variance. Details of each discharger PMP are provided in the State Technical Support Document[9] for this rulemaking.

Variance Mandatory Interim Review and Coordination with NPDES Permits

In accordance with WAC 173-201A-420, the variance mandatory interim review (interim review) must be coordinated with permit reissuance. The review may need to begin up to 2 years prior to development of the next draft permit in order to allow time to assess all available data and information and complete interim review documentation and the public review process.

[8] For industrial dischargers, this is the final effluent after treated effluent combined with any once through non-contact cooling water or excess groundwater.

[9] Preliminary Draft State Technical Support Document for PCB Variances on the Spokane River, Ecology.

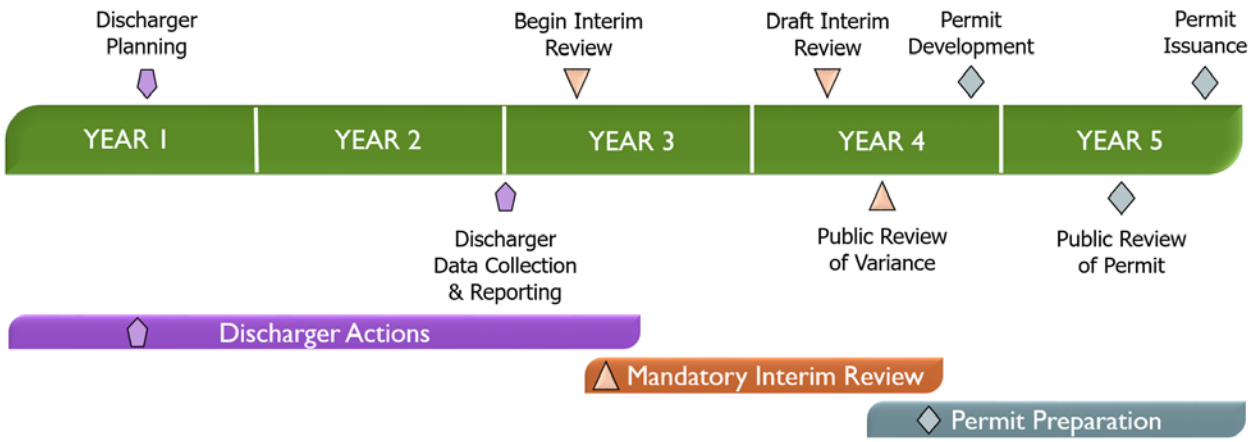

Figure 2 Timeline of the first permit cycle and variance mandatory interim review

The data and information to support an interim review process will come from both Ecology and the discharger. Ecology will provide the information on state programs that support the PMP. The discharger will submit, in accordance with their permit requirements, updates on the PMP activities for which the facility is responsible, as well as updated data to assess the percent PCB removal efficiency.

Modifications to the individual discharger variances during the interim review will be coordinated with the ensuing updates to each discharger's NPDES permit. The results of the interim review, updated HAC (PMP and percent removal efficiency) will support the draft permit preparation with revised permit requirements.

The results of the variance interim review process, including any improvements to the HAC will be incorporated into the draft permit. The variance HAC includes information that serves as the basis for developing effluent limits and pollutant reduction actions required by the permit.

The interim review of the variances may result in changes to the discharger's HACs and therefore must coincide with or be performed prior to development of the next draft permit. The public review process for the variance interim review is separate from the permit process and will likely occur prior to the draft permit development. However, if necessary, the public review of both the interim variance review and the permit renewal may coincide.

The public appeal provisions of the permit may address the conditions in the permit that are related to the variance. This successive public process allows for reevaluation of the variances and updated HACs prior to the permit reissuances, including an appeal provision for the updated HAC requirements through the public permit reviews.

The first interim review will have less data available to evaluate the variance and HAC than in later reviews. As shown in figure 2, only two to three years of data may have been collected and reported by the discharger as required in the first permit cycle. Due to the need to begin the interim review 2 years prior to the next 5-year draft permit, fewer data available to begin the interim review process. However, future cycles will be based on five years of data; years four and five of the previous permit cycle, and years one through three of the current permit cycle.

Public Notification during the Mandatory Interim Review

The mandatory interim review will be focused on the discharger's compliance with permit conditions that are required by the variance as well as an evaluation of whether the variance is still necessary. The public notification process will consist of a notification in the state register and a public comment period. After consideration of public comments, Ecology will submit the mandatory interim review to the Environmental Protection Agency within 30 days after completion of the review as required by the 40 CFR 131.14. The public appeal opportunity for the application of the variance will occur through the permit reissuance public review and appeal process.

Informing and Educating Persons Affected by the Rule

Initial Outreach

During the State Code Reviser (CR) 101 phase of this rulemaking, we reached out to entities through email, water quality listservs, websites, and in-person and webinar meetings.

On June 12, 2019, Ecology issued an Environmental Impact Scoping notice for the purpose of gathering feedback on the evaluation of environmental risks associated with issuing individual discharger variances on the Spokane River.

We received 99 submissions during the scoping period that included the following stakeholders:

- Spokane Riverkeepers
- Puget Sound Riverkeepers
- Kalispel Tribe
- Concerned Citizens
- Spokane Falls Trout Unlimited
- The Lands Council
- Kaiser Aluminum
- Spokane Tribe
- Sierra Club
- Friends of Grays Harbor
- Responsible Growth * of Washington

We hosted the following workshops on variances:

- November 14, 2019 – Workshop on Variances for PCBs in the Spokane River
- April 8, 2020 – Workshop on Variances for PCBs in the Spokane River
- April 23, 2020 – Workshop on Variances for PCBs in the Spokane River

Small Business Participation (Business or association names)

Under state Administrative Procedures Act we are required to identify businesses that participated in our outreach activities. The following businesses, associations, and organizations participated in these three events.

- Avista
- Centurywest Engineering
- Dally Environmental
- Environmental Chemical Solutions
- Esvelt Environmental Engineers
- Foster Garvey
- GeoEngineers
- Hart Crowser
- Inland Empire Paper Company
- Jacobs Engineering
- JUB Engineers, Inc.
- Kaiser Aluminum
- KEA
- Lake Spokane Association
- Landau Associates
- Northwest Public Power Association
- Perkins Coie
- Puget Soundkeeper Alliance
- Schnitzer Steel
- Sierra Club
- Spokesman Review
- The Inlander
- The Lands Council
- Tupper Mack Wells Law Firm
- Varelin
- Windward Environmental

Local, State, and Federal Government and Tribal Participation

- Washington Department of Health
- City of Vancouver
- King County
- Washington Department of Natural Resources
- Alaska Department of Environmental Conservation
- Idaho Department of Environmental Quality
- City of Spokane
- Seattle Attorney's Office
- Hayden Area Regional Sewer Board
- Spokane County
- City of Seattle
- Spokane Tribe of Indians
- Liberty Lake Water Reclamation Facility
- Environmental Protection Agency, Region 10
- City of Palouse

- City of Post Falls
- Liberty Lake Sewer and Water District
- Kalispel Tribe

Future Outreach

If Ecology moves forward with a rule proposal (CR-102), we anticipate holding multiple public hearings as online webinars or in-person meetings. However, as of the finalization of this preliminary draft state guidance on the COVID-19 pandemic does not provide for in-person hearings. Public hearings would consist of a presentation of the rulemaking information, including a summary of each proposed variance. We would then accept formal testimony on the proposed variance rule. Ecology formally responds to all comments received during the CR-102 phase and those are included in a concise Explanatory Statement required for rule adoption.

If a rule is adopted, we intend to inform and educate those affected by the rule by continuing to meet with interested stakeholders, tribes, and individual dischargers on the Spokane River. The PMPs would require regular reporting of activities and progress throughout the duration of the variance. Ecology will continue to answer questions regarding these activities and progress with PCB reductions to the river.

Mandatory Interim Reviews of the individual variances would occur at least every 5 years where public input and comment will be received (see Mandatory Interim Review discussion above).

Promoting and Assisting Voluntary Compliance

The individual discharger variances for the Spokane River were requested through applications by the dischargers. In response to receiving the applications, Ecology initiated the rulemaking process. The dischargers requesting variances will be required to comply with the requirements of the variance rule, this includes implementing their individual pollutant minimization plan and technology evaluation requirements. Failure to follow the requirements of a variance could lead to the termination of the variance for the individual discharger. Progress will be evaluated at least every 5 years consistent with the mandatory interim review.

Evaluating the Rule

Ecology would conduct a mandatory interim review for each individual discharger variance no longer than five years after adoption of the variance, and within every five years thereafter. The interim review will be aligned with the reissuance or modification of the permits. The results from the interim review of the variance rule would be sent to EPA with 30 days after completion of the review. The review would follow WAC 173-201A-420(8)(a) and CFR 131.14.

Training and Informing Ecology Staff

Outreach to Ecology permit writers, staff, and management involved with water quality regulation would be achieved through meetings, email communication, written guidance, and one-to-one communication. Permit writers that would be implementing the individual discharger variances into future NPDES permit have been an integral part of this rule development, including reviewing the rule language and implementation considerations.

EPA is required to review and approve new rule language before use for CWA actions. Ecology would also notify Ecology staff after EPA has finished its Clean Water Act (CWA) review of the adopted standards.

Ecology water quality standards staff would be responsible for completing the mandatory interim review. They would do this work in close coordination with individual facility permit managers. Individual facility permit managers would be responsible for incorporating initial and updated variance requirements into individual permits at the time of reissuance or as part of a permit modification.

Additional training on implementation of the revised water quality standards would be provided to Ecology staff upon request.

List of Supporting Documents that May Need to be Written or Revised

The final adoption of individual discharger variances would require NPDES permits to be updated for each discharger included in the rulemaking. Furthermore, the permits listed below would be subject to change depending on the results from the mandatory interim reviews. The discharger permits included in this rule are:

- Kaiser Aluminum (Permit No. WA0000892)
- Liberty Lake Sewer & Water District (Permit No. WA0045144)
- Inland Empire Paper Co (Permit No. WA0000825)
- City of Spokane Riverside Park Water Reclamation Facility and Combined Sewer Overflows (Permit No. WA0024473)
- Spokane County Regional Water Reclamation Facility (Permit No. WA0093317)

More Information

- Draft State Technical Support Document
- Draft Environmental Impact Statement
- Draft rule language
- Water Quality Standards webpage[10]
- Variance Rulemaking webpage[11]

Contact Information

For more information about this rule implementation plan, please contact:

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[10] https://ecology.wa.gov/Water-Shorelines/Water-quality/Water-quality-standards

[11] https://ecology.wa.gov/variancerule