Preliminary Draft Environmental Impact Statement for PCB Variances on the Spokane River

Washington State's Proposed Changes to Chapter 173-201A WAC, Water Quality Standards for Surface Waters of the State of Washington

June 10, 2020

Preliminary draft for public comment

ADA Accessibility

The Department of Ecology is committed to providing people with disabilities access to information and services by meeting or exceeding the requirements of the Americans with Disabilities Act (ADA), Section 504 and 508 of the Rehabilitation Act, and Washington State Policy #188.

To request an ADA accommodation, contact Ecology by phone at 360-407-6600 or email at swqs@ecy.wa.gov. For Washington Relay Service or TTY call 711 or 877-833-6341. Visit Ecology's website for more information.

Table of Contents

Purpose of the Preliminary Draft Environmental Impact Statement

This document contains preliminary conclusions of the draft Environmental Impact Statement (EIS) that is being conducted as part of a rulemaking to consider issuing PCB variances to the water quality standards for five discharges to the Spokane River.

The Department of Ecology is conducting an informal preliminary review on several rulemaking documents related to the PCB variance rulemaking, including the preliminary conclusions of the draft EIS, for the purpose of receiving informal public feedback prior to conducting a formal public review on the rulemaking. Ecology is requesting informal feedback on the sections of the draft EIS included in this document. While Ecology intends to use the feedback to better inform the development of the draft rule and supporting documents, including the draft EIS, we will not formally respond to comments received.

To assist the reader in focusing on the preliminary conclusions in the draft EIS, this document does not contain background information on PCBs and the affected environment. You can view background information, as well as additional information on the PCB variance process, in the State Technical Support Document that is also a part of this preliminary public review.

Ecology is requesting feedback on the preliminary draft rule and supporting documents, including the preliminary draft EIS, 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]

Mail: Marla Koberstein
Department of Ecology
Preliminary Draft Variance Comments
PO Box 47696
Olympia, WA 98504-7696

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

List of Acronyms

Abbreviation	Full Name
CR	Code Reviser
CFR	Code of Federal Regulations
EPA	Environmental Protection Agency
HAC	Highest Attainable Condition
Method 1668	Refers to most recent Clean Water Act-approved version of method
mgd	Millions of gallons per day
MTCA	Model Toxics Control Act
NPDES	National Pollutant Discharge Elimination System
PCB	Polychlorinated Biphenyl
ppm	Parts per million
ppq	Parts per quadrillion
RCW	Revised Code of Washington
SEPA	State Environmental Policy Act
TMDL	Total Maximum Daily Load
TSCA	Toxic Substances Control Act
WAC	Washington Administrative Code
WDOH	Washington Department of Health

Preliminary Draft EIS Summary Section

Proposal

Address the five PCB variance applications that Washington Department of Ecology (Ecology) received in April 2019.

Proposal Objective

The primary objective of this effort is to respond to the five variance applications that Ecology received in 2019 in the form of a rule or denial. If approved, Ecology will use the variances to issue updated Clean Water Act National Pollutant Discharge Elimination System (NPDES) permits by 2021 to the five dischargers in the Spokane River that meet federal and state regulations and address PCB reductions in the Spokane River.

Purpose and Need

Ecology received five PCB variance applications from five NPDES individual dischargers on 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 (IEP)
- Spokane County Regional Water Reclamation Facility (Spokane County)
- City of Spokane – Riverside Park Water Reclamation Facility (City of Spokane)

On June 12, 2019, Ecology responded to each of the applicants letting them know we would proceed with rulemaking for the five variance applications. This preliminary draft EIS is in response to those applications.

Environmental Impacts

This preliminary draft EIS is a non-project EIS and includes information that will be part of the analysis needed to support a variance rule. Any final variances adopted into rule will be used for issuing subsequent NPDES permits. The intent of this preliminary draft is to identify legally defensible alternatives that will address state and federal regulations and will reduce PCB discharges to the Spokane River.

Alternatives

- Alternative 1: No Action Alternative - Do not move forward with individual discharger variances and issue permits that include the current criteria at the end of pipe.
- Alternative 2: Move forward with issuing one or more individual discharger variances and use those variances to issue permits.

TMDL Consideration

An additional alternative that was highlighted in the scoping period was to develop a Total Maximum Daily Load (TMDL) for PCBs on the Spokane River. While this alternative does not meet the rulemaking objective of issuing permits by 2021, it is discussed in the alternative section because of the number of scoping comments submitted that suggested a TMDL as an alternative to variances.

Mitigation Measures:

Mitigation measures that are identified in Chapter 3, under Summary of Mitigation Measures, include the following:

- The duration of the variances
- The scope of pollution minimization actions required by the variance
- The mandatory variance interim review
- The use of highly sensitive monitoring methods to do source identification and monitor progress

Significant impacts that have no mitigation

PCBs are a group of manmade chemicals that are in the environment from past and ongoing uses. While this variance rule is specifically designed to address PCBs that get into the waste water system, the prevalence of these chemicals already in the environment and recycling through the environment will not be completely mitigated by this proposed rule.

Remaining uncertainties

The Environmental Protection Agency has taken action to change Washington's Human Health Criteria. That action is being challenged by the State of Washington. Depending on the outcome of that action, this variance rule could be suspended until there is final legal resolution.

Summary of Alternatives and Mitigation Measures

Summary of Alternatives that Meet the Objective

The primary objective of this effort is to respond to the five variance applications that Ecology received in 2019 in the form of a rule or denial. If approved, Ecology will use the variances to issue in the next 2 years, updated Clean Water Act NPDES permits to the five dischargers in the Spokane River that meet federal and state regulations and address PCB reductions in the Spokane River.

One of the approaches Ecology considered to meet this objective is to adopt one or more individual discharger variances into the standards for dischargers to the Spokane River. The other alternative considered was for Ecology to issue new permits based on current water quality standards, and not based on a variance.

- Alternative 1: No Action Alternative. Do not move forward with individual discharger variances and issue permits that include the current PCB criteria at the end of pipe.
- Alternative 2: Issue individual discharger variances.

During the scoping process, we received a number of comments suggesting that conducting a TMDL should be one of the alternatives. In addition, there were a number of comments suggesting that we rely on compliance schedules. Those alternatives do not meet our objectives of issuing permits by the fall of 2021 because:

- The compliance schedules will not be available for all permittees.
- The development of a TMDL will take at least four more years to develop and then the waste load allocations would need to be incorporated into permits.

TMDL Discussion

During the EIS scoping period, we received a number of comments that suggested Ecology should move forward with the development of a TMDL and not issue a variance. This was not an alternative that met the objective of meeting the schedule of issuing updated NPDES permits by fall 2021.

TMDLs are cleanup plans that identify the reductions needed in a water body in order for a water body to get back into compliance with the water quality standards. A TMDL is not self-implementing and therefore would not meet the objective of issuing the NPDES permits by fall 2021. A TMDL would help to determine the waste load allocations that would be placed in each individual permit and it would identify the nonpoint load reductions needed. While the waste load allocations would be placed in the NPDES permits, the nonpoint load is more difficult to address.

The technology limitations for reducing PCBs to a level that would meet the water quality standards would remain an issue for each discharger once a TMDL was developed. A TMDL

might provide more detail and analysis on the percentages of reduction needed between point sources and nonpoint sources, but NPDES permittees would still not be able to implement technology to meet the waste load allocations and a variance would still be necessary. Accordingly, Ecology will defer development of a PCBs TMDL at this time in order to pursue more immediate reductions of PCBs loading to the Spokane River.

Compliance schedule discussion

Many of the scoping comments suggested that Ecology rely on the compliance schedule tool as a way to move forward with the NPDES permits instead of using the variance tool. A compliance schedule can only be used when it is shown that a discharger can meet effluent limits at the end of the compliance schedule period. Based on the applications that were submitted for variances, it was clear that all dischargers could not meet the final end of pipe effluent limit of 7 ppq within the timeframe of a compliance schedule due to technology limitations described above. Therefore, a compliance schedule is not a viable alternative.

Alternative 1: No action alternative

Potential positive impacts

Alternative 1 would result in the reissuance of permits and the dischargers would be considered in compliance with the PCB water quality standards using Method 608.3, because Method 608.3 only measures down to 50,000 ppq. The permittees would receive final effluent limits of 7 ppq for PCBs.

Potential negative impacts

The NPDES regulations require the use of Method 608.3 for permit compliance. Method 608.3 can only measure PCBs as low as 50,000 ppq (EPA 1984). Therefore the effluent compliance value for these permits would effectively only need to meet 50,000 ppq unless other methods were approved for compliance monitoring. Reissuance of permits without a variance would mean all permittees would be able to demonstrate compliance with numeric PCBs effluent limits even if their discharge contained PCBs at levels much higher that the PCBs water quality criteria.

Dischargers in the Spokane River have demonstrated they cannot meet end of pipe limits of 7 ppq and feasibility analyses have demonstrated that technology is not available to reduce PCBs to such a low level. The Spokane River is impaired for PCBs for the fish harvest use and this Alternative provides limited opportunities for reductions in PCB levels in the Spokane River. Furthermore, reissuing permits will only address PCBs at the end of the pipe, yet PCB sources in the Spokane River are a combination of point and nonpoint sources.

Alternative 2: Issue individual discharger variances

Potential positive impacts

A variance will put dischargers on a path to reduce PCBs from point and nonpoint sources. The pollutant reduction actions will begin immediately after the issuance of the variance and will continue for the duration of the variance or until the variance is no longer justified.

A variance provides Ecology with a tool that requires the highest achievable technology to be put into place, implemented and monitored. The implementation of the best technology will result in the greatest effluent reduction achievable. Technologies will be reevaluated and optimized throughout the term of the variance. Ecology will track technology availability and feasibility during the mandatory interim reviews of the variances, which will occur at least every five years.

A variance requires implementation of actions designed to address and reduce PCBs beyond point source discharges. The variance requires the implementation of specific actions identified in the pollutant minimization plan that are designed to address upstream waste sources of PCBs as well as reductions of PCBs in effluent.

Variances include an adaptive management approach, which allows updates to pollution minimization plan actions and a review of the greatest pollutant reduction achievable set in the HAC during the mandatory interim review. During the mandatory interim review, the pollution management plan activities can be updated based on additional information or technology.

Potential negative impacts

There is a perception by some stakeholders that a variance gives dischargers leniency on meeting the water quality standards and that the dischargers should no longer be allowed to discharge to the Spokane River if they cannot meet the criteria.

The variance allows a longer period of time to meet the underlying criteria or highest attainable condition. Some stakeholders view this as allowing dischargers the opportunity to continue to pollute.

Some stakeholders believe that a variance is counter to the goals and objectives of the federal Clean Water Act and that if a discharger cannot meet the water quality standards then they should not be provided with a permit. However, the EPA has adopted water quality variances as a water quality implementation tool, which functions to reduce pollutants by achieving the highest attainable condition or underlying water quality standard.

Summary of Variance Mitigation Measures

Ecology considered a number of mitigating measures for each discharger to ensure that the variance process works towards achieving the underlying goal of attaining and complying with the water quality standards. These include the duration of the variance, pollutant minimization plans, and mandatory interim reviews.

Variance Duration

Variances are only allowed for a limited time, and will be granted only for the minimum time estimated to meet the underlying standards. The proposed duration of the individual discharger variances is 20 years for four dischargers (City of Spokane, Spokane County, Inland Empire Paper, and Liberty Lake) using the HAC described in (40 CFR 131.14(b)(1)(ii)(A)(3)) and 10 years for Kaiser Aluminum using the HAC described in (40 CFR 131.14(b)(1)(ii)(A)(2)).

Pollutant Minimization Plan Actions

Each individual variance will have a set of pollutant minimization actions that each discharger is required to implement. Those actions can be updated during each mandatory interim review of the variance. The pollutant minimization plans described in the draft rule and State Technical Support Document provides requirements for these facilities to implement additional actions to reduce PCB levels in effluents and other sources to the Spokane River.

Variance Mandatory Interim Reviews

Each variance that is adopted into rule is required to go through a mandatory interim review at least every five years. During the interim reviews, the highest attainable condition can be updated to reflect new technology and new pollutant minimization plan actions. The variance can also be terminated if the PCB removal efficiency is not being achieved, if pollutant minimization plan actions are not being completed, or if the variance is no longer necessary.

Preliminary Evaluation of Reasonable Alternatives

Summary of alternatives considered

Alternative 1. No action alternative. Do not move forward with individual discharger variances and issue permits that include the current criteria at the end of pipe.

Alternative 2. Issue Individual Discharger Variances

Alternative 1- No action alternative

An alternative to issuing a water quality standard variance is to reissue permits to the five dischargers and require that these five dischargers meet an end of pipe effluent limit of 7 ppq. Permits would be reissued using the water quality criteria for PCBs (currently 7 ppq). Since the Spokane River is identified as impaired according to Water Quality Assessment 303(d) list[2], the NPDES permit for the five dischargers would likely be required to achieve an effluent concentration equal to the water concentration target of 7 ppq before the effluent is discharged to the receiving water.

It is important to note that existing EPA-approved methods for NPDES compliance monitoring currently cannot measure PCBs as low as the 7 ppq human health criterion. EPA method 608.3, approved for NPDES compliance monitoring, can only detect PCBs as low as 50,000 ppq. Permits would be issued and their compliance would be measured based on method 608.3. We would expect all dischargers to not exceed this value so they would be in compliance with their permits.

Alternative 1 is a viable option for moving forward, however, issuing a variance will result in the greatest removal of PCBs from the Spokane River because the variance will address some of the nonpoint sources of PCBs and not just focus on the PCBs from the facility.

Alternative 2: Issue individual discharger variances

Existing treatment technology is not presently available that would reduce PCBs in the Spokane River to levels that achieve the human health criterion necessary to protect for the fish harvest use in the river. Legacy PCB pollution has led to PCB contamination in the Spokane River. In addition, PCB contamination in consumer products (new and legacy) and in waste streams has led to elevated levels in the environment, including aquatic life. Sources of PCBs to the Spokane River include discharge effluent from point sources, as well as unpermitted non-point pollution. Human caused conditions or sources of PCBs prevent the attainment of the fish harvest use (Factor 3 of 40 CFR 131.10(g)). All dischargers (except Kaiser Aluminum) have already installed the most effective available treatment technology for PCBs.

[2] https://apps.ecology.wa.gov/ApprovedWQA/UIApprovedSearch/ApprovedSearch.aspx

Evaluation of technology will be conducted throughout the term of the variance to determine if additional technologies that are more effective at eliminating and/or removing PCBs become available. Although most dischargers have the most effective treatment technology already installed, continued optimization of their systems and periodic evaluations of additional technology that may be available in the future will continue to occur.

In addition, all dischargers will work to reduce PCBs through pollutant minimization plans. The requirements of these plans will be detailed in the variance rule language.

In developing the variances, Ecology would establish a time-limited interim standard specific to each variance that would be used to set discharge effluent limits, providing an avenue for NPDES permitted dischargers to meet their facility-specific numeric permit limits. These facility-specific numeric permit limits will be written into the NPDES permits using the HAC from the variance. Additionally, the variances would require implementation of pollutant minimization plans, the purpose of which are to continually reduce sources of PCB pollution to the Spokane River. The variance also identifies state pollution reduction activities. The variances require regular reviews (at least every 5 years) of progress, and provides opportunities for adaptive management to meet the requirements of the variance.

Preliminary Conclusions

Environmental impact of alternatives

Alternative 1: No Action Alternative – Issue Permits

Alternative 1 or no action would reissue NPDES permits to Spokane River dischargers and would result in compliance with numeric PCB effluent limits using Method 608.3. Alternative 1 (no action) would not capture some of the nonpoint reduction actions that are identified in the variances.

Alternative 2: Issue Individual Discharger Variances

Alternative 2 or issuance of variances, would result in the greatest environmental benefit. PCB reduction activities would immediately be implemented and progress would need to be demonstrated regularly (at least every five years). Individual discharger variances require evaluation of the best technology and optimization of that technology as well as actions aimed at reducing PCBs from upstream (nonpoint) sources that are entering influent.

Decision on the preferred alternative

Issuance of PCB variances will provide a mechanism for dischargers to reduce PCBs in effluent over time with the goal of achieving the underlying water quality standard. The variances require regular reviews, at least every 5 years, and provide opportunities for adaptive management to meet the requirements of the variance as well as to move forward toward meeting the underlying water quality standard. This alternative meets the goals of setting permit effluent limits based on the highest attainable condition that includes best technology and the added benefit of reducing PCBs in other sources (nonpoint) that discharge to the Spokane River.

Ecology has selected Alternative 2, issue individual discharger variances. This option allows for reductions in discharges of PCBs to the Spokane River, the continued evaluation of new treatment technologies and reductions of PCBs in waste streams.

References

Agency for Toxic Substances and Disease Registry (ATSDR). 2000. Toxicological Profile for Polychlorinated Biphenyls (PCBs). Atlanta, GA: U.S. Department of Health and Human Services, Public Health Service.

City of Spokane. 2015. PCBs in Municipal Products. https://static.spokanecity.org/documents/publicworks/wastewater/pcbs/pcbs-in-municipal-products-report-revised-2015-07-21.pdf

Ecology. 2012. Washington State Water Quality Assessment 303(d)/305(b) List. https://apps.ecology.wa.gov/ApprovedWQA/UIApprovedSearch/ApprovedSearch.aspx

Ecology. 2014. Polychlorinated Biphenyls (PCBs) in General Consumer Products. Publication No. 14-04-035. https://fortress.wa.gov/ecy/publications/publications/1404035.pdf

Ecology. 2016. Polychlorinated Biphenyls in Consumer Products. Publication No. 16-04-014. https://fortress.wa.gov/ecy/publications/documents/1604014.pdf

Ecology. 2018. Evaluation of Fish Hatcheries as Sources of PCBs to the Spokane River. Publication No. 18-03-014. https://fortress.wa.gov/ecy/publications/documents/1803014.pdf

EPA. 1984. Method 608. Organochlorine Pesticides and PCBs. EPA https://www.epa.gov/sites/production/files/2015-09/documents/method_608_1984.pdf

EPA. 2010. Method 1668, Revision C-Chlorinated Biphenyl Congeners in Water, Soil, Sediment, and Tissue by HRGC/HRMS; EPA No. EPA-820-R-10-005; U.S. Environmental Protection Agency, Office of Water, Washington, DC.

EPA. 2016. Method 608.3 Organochlorine Pesticides and PCBs by GC/HSD. EPA 821-R-16-009. U.S. Environmental Protection Agency, Office of Water, Washington, DC. https://www.epa.gov/sites/production/files/2017-08/documents/method_608-3_2016.pdf

Moore D, Ross J. 2010. Spokane River and Lake Spokane Dissolved Oxygen Total Maximum Daily Load: Water Quality Improvement Report. Ecology Publication no. 07-10-073. https://fortress.wa.gov/ecy/publications/summarypages/0710073.html

United Nations Environmental Program (UNEP). 2007. Guidelines on Best Available Techniques and Provisional Guidance on Best Environmental Practices relevant to Article 5 and Annex C of the Stockholm Convention on Persistent Organic Pollutants, 37 pages.