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Rulemaking to amend Chapter 173-201A WAC, Water Quality Standards for Surface Waters of the State of Washington- variance for Spokane River; DEIS

I am responding to the Request for Comments on the above CR-101 proposal for Variance for the Spokane River. As I understand this request it is to address the Draft Environmental Impact Statement rather than the specifics of the Variance process. To that end will attempt to address the larger concerns with variances in general and the Spokane River in specific.

Preamble: I am very familiar with the water body in question from my days at University of Idaho, where in 1971-1972 I conducted preliminary work on my masters in Ecology (biological) on the Coeur D'Alene river in the Silver Valley. In taking biological samples and water quality samples (heavy metals) from the Silver Valley mining district I became acutely aware of the impact of toxic materials on the biological ecosystem. My control bodies in these studies were the St Mary's river in northern Idaho and the Spokane River (where it crosses the Idaho/Washington State boundary). At that time we did not have the ability to monitor for bioaccumulating organics such as PCB. However, it was noted that the discharges from the Silver Valley were thought to impact the Spokane river when compared to expected results from the comparable St. Mary's river. Since that time, I have worked in the water quality field from 28 years and have obtained professional certification as Certified Professional in Industrial Stormwater Management and Certified Professional in Stormwater Quality. I have retired and no longer have a specific association with any organization or cause. I provide these comments as a knowledgeable concerned citizen who has kept an eye on the Spokane River process out of concern for that wonderful river and the known adverse impact of decades of negative anthropomorphic activities.

Comments: Variances are essentially a last ditch stand to find a way to resolve an intractable problem for both the environment and dischargers- in this case the historic discharges of PCBs. The problem has three major components:

- 1) As with many of these bio accumulative organics the impacts are far reaching. As noted recently the southern Orca population is believed to have high levels of PCBs that may reduce survival of calves.
- 2) It is also quite reasonable to associate "cause" to a wide range of contributors from industry, municipalities, military, agriculture and utilities. The specific characteristics of PCBs in electrical field made them very useful in transformers as well as a range of other products such as paints.
- 3) the very long half-life of the PCBs results in a long-lasting reservoir of these materials from past use. This is further complicated with the reported production of these materials, news reports as recent as two years ago, in developing countries for use in many applications.

The overall goal of the proposed variance rule being considered in this rule is; "write a permit meeting legal requirement and are relevant to other waterbodies in the state" (Spokane Permit tools workshop 2). This is truly then a Statewide issue as the resulting permit conditions developed for the Spokane River are intended to be (broadly) applied to the entire State. Since it is well known from the work done on the Human Health Standards that PCBs are expected to be found in nearly every water body in the state this rule has substantial environmental, economic and social impact. Evaluating the proposals discussed in multiple (well thought out and informative) presentations by Ecology staff the conclusion I reach is that this needs to be a state-wide variance program addressing water quality in the waterbodies- not, as promoted by Ecology, a discharge effluent-based variance program.

This conclusion is based on the following considerations:

1) The sources of PCBs are statewide and affect many, if not most, waterbodies in the state. Thus, a common unified approach is needed to provide relief to multiple types of permittees, including, but not limited to, municipal waste treatment plants, industrial process water dischargers, stormwater discharges from both industry and municipalities, and non-municipal government discharges (i.e.: hatcheries). Establishing a statewide unified approach can also have influence on contributors such as military bases, tribal authorities, Federal agencies. Without a unified approach each entity will undergo the same repetitive efforts to establish the necessary criteria for receiving a variance associate with the permit. This is an inefficient use of state, business, municipal and Federal resources.

2) Use Attainability Analysis (UAA) is the logical alternative to the use of variances, except- they will never qualify in a Washington State waterbody. An excellent presentation at the Spokane River Permit Tool workshop (August 8th, 2018) clearly laid out the requirements to obtain a UAA. The first and irrevocable requirement is that a UAA can only be used "To remove uses designated to a waterbody in the state water quality standards that are neither existing nor attainable." A quick review of the relevant WAC's (173-201A-600 and -602) in effect establish an existing designated use for fishery, agriculture, stock watering or human health on every waterbody in the state and thus, since PCBs affect living organisms, it would preclude using a UAA.

3) Measuring PCB concentrations is very difficult to the levels established as the current approved EPA qualitative method does not monitor to these low levels and the method being used to monitor to these levels is not EPA approved and thus is not a legitimate indicator of the concentration. Conversations with knowledgeable persons over the last couple years suggest EPA is not likely to approve the method with lower detection levels. If we can't measure it successfully at the prescribed levels, then there is little opportunity to determine if a discharge has meet these levels. Worse yet, if a permittee has an exceedance that is measurable, then they have no way to demonstrate they are back in compliance as the more sensitive method is not "credible" without EPA approval.

4) The sources of PCBs to the states waterbodies has not been removed, and probably never will be. During the human health rule revision process, it was noted from a study done in Oregon by a reputable source that the body burden of Salmon returning to native streams was far above the allowable water quality standard. As these fish were destined to die in their native spawning areas (or hatcheries) then the PCB they contained would be introduced into the waterbody. Notice, I did not say reintroduced as when salmon leave the native fresh waters, they are a relatively small fish compared to the returning spawning fish and have little total body burden. The majority of the PCB body burden these returning fish have is picked up in the ocean environment where there is a large sink of PCB's that have been contributed over the years by discharges from around the northern Pacific (and may still be occurring from some sources). The practices of some agencies to take hatchery carcass from spawned out fish and reintroduce them to the native streams, while attempting to restore native food balances, also reintroduces PCB's into these waters. Another report discusses how the remains of these, and other, fish are recycled into fish food for use at hatcheries. This of course puts an initial body burden into the released fish and, in the food web, may contribute to the transfer of PCBs to the Southern Orca population.

5) Washington State has never issued a variance for an individual entity. Thus, in searching for a variance issuance in similar states I have found two. One is for the wastewater treatment plants in the Silver Valley in Idaho in which the plant was dealing with the highly contaminated water from the run-off from the mining slag piles. This would not be a natural background situation as the mining activity was anything but natural. It might qualify as an intake credit under WAC 173-201A-460 a feature that could be incorporated into the variance discussion. The second

variance I found was in Montana for nutrients. This was a statewide variance designed to address increasing pollution from nitrogen and phosphorous. It applies statewide and has a range of provisions that each point source dischargers needs to comply with. As there are so few comparable examples of how to develop a variance in the Pacific Northwest it suggests that the process is open to extensive interpretation and many nuances in policy and practice.

6) In the presentation on Nov 5th 2018 the seven requirements for variance considerations were described. Of these two (3 and 6) were of particular interest in the situation specific to Spokane: One of the following seven conditions from the Federal Regulations must be used for this part of the submittal. I have appended observations to each of these points.

(1) Naturally occurring pollution concentrations prevent the attainment of the use; or | observation, As noted in 4) above there is a naturally occurring source of the pollution in play in the movement of oceanic PCBs into the freshwater system by salmon and some other fish. While this may seem a stretch to the rule consider that even if Washington state was able to totally end discharges of PCB's they would still be renewed annually in those waterbodies hosting salmon populations. As we struggle to provide better access to habitat for salmon by removing barriers (such as culverts) we only increase the spread of PCBs in the state's waters. Another consideration is the possibility of air deposition across the state. NOAA studies in the 2000 demonstrated that extensive amounts of mercury were being deposited in Washington state from airborne discharges from SE Asia resulting in warm water fishery advisories. I have not found any studies on this form of PCB air deposition, however; it does seem feasible and is another (anthropomorphic) natural (air) source of PCBs that would thwart our best efforts to reduce steam levels.

(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 : |no observation

(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 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. |observation As noted in above discussions the possibility of actually meeting the current water quality standards for PCB's is highly unlikely when fighting against the background of redeposition, very long half-life and multiple sources. This is not to say we should give up and do nothing. Rather, it enforces the concept that we need a statewide unified approach to providing everyone a variance for PCB's (and maybe some other bioaccumulatives). The approach should address source control from all sources, such as stormwater, process water, POTWs, agricultural discharges. It should also include actions to promote the end of production and use of PCBs around the North Pacific Ocean to diminish the amount of PCBs that are returned by anadromous fish. The current approach to address the problems for Spokane is inadequate in addressing the state wide PCB issues that endanger our beloved Orcas and human health.

(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 |observation the accumulation of sediments in reservoirs, lakes and ponds may be a source of removable PCB's. The tendency of PCB's to cling to particulates makes this an interesting consideration in removal and sequestration. Yes, it includes the dreaded dredging; yet, what better use of dredging than to remove an intractable pollutant like PCB's? Capping may be an option in some situations.

(5) Physical conditions related to the natural features of the water body, such as lack of proper substrate, cover, flow; depth, pools, riffles, and the like, unrelated to water quality, preclude attainment of aquatic life protection uses; or |no observation

(6) Controls more stringent than those required by § 301 (b) and 306 of the Act would result in substantial and widespread economic and social hardship. [observation an interesting paradox in that the point of a variance is to ensure that a permittee continually seeks out the most effective method to remove PCB's. Yet, there is no criteria for what constitutes "substantial widespread economic and social hardship". For example, what if a POTW for a major municipality discovers that it needs to add yet another level of treatment to address the "improved" methods for removing PCBs. The question then becomes how much additional can they charge the supported community and businesses to make this improvement? \$10, \$50, \$100, \$500 per month or some equally substantial amount per 100 cfs of use? The state needs to come up with a unified way to make this decision under the umbrella of a unified state-wide variance process/ permit.

(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. [observation see 4) above.

7) One additional comment on the need to create a statewide variance for PCB's with uniform standards. Climate Change: As someone who has worked in the field for many years, I am very aware of the energy requirements that are associated with advance treatment systems. The more we press for removal of extremely small amounts of PCBs the more energy it will require. Systems such as stormwater discharges may no longer be able to go to directly to receiving water and will need treatments systems, the construction and operation of which, will require significant amounts of energy. While we can hope it will be renewable energy, but; that may be as much a dream as the ability to remove most of the PCBs from our northwest streams.

Summary: The intention to move forward with the development of a variance system is a good and necessary policy and practice action. The difference between what is proposed and what is needed that the variance program needs to be developed on a statewide basis PRIOR to its being applied to any specific instance. Only in this way can an effective, efficient and enforceable set of rules be developed that give hope of addressing the PCB (and similar pollutant) problem. I urge Ecology to withdraw (or modify) this CR101 to make it a statewide rulemaking. As stated earlier from the Spokane permit tool workshop 2: the goal is to: write a permit meeting legal requirement and are relevant to other waterbodies in the state

Sincerely
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PS: my great appreciation to the Ecology staff who have helped me understand (in part) the complex aspects of the variance rule. The team in Spokane at the workshops and the headquarters staff (especially Ms. Niemi) have be invaluable and very patient.