Spokane River Stewardship Partners

Working every day for a healthy river

Spokane County • City of Spokane • Liberty Lake Sewer & Water District • City of Coeur d'Alene • City of Post Falls • Hayden Area Regional Sewer Board
Avista • Inland Empire Paper Company • Kaiser Aluminum

October 29, 2013

Diana Washington
Washington Department of Ecology, Eastern Regional Office
4601 N. Monroe St.
Spokane, WA 99205

RE: Spokane River and Lake Spokane Dissolved Oxygen (DO) TMDL Toolbox Development

Dear Diana;

The NPDES Permittees of the Spokane River Stewardship Partners (SRSP) are writing this letter as a follow up to the August 21, 2013 DO TMDL Toolbox Workgroup meeting. We are concerned that what attendees heard at that meeting is different from what has been understood in the past in regards to delta elimination opportunities and toolbox development. We want to express our concerns in writing so that they can be addressed directly, and to ensure a common understanding regarding toolbox tools and how they relate to Delta Elimination Plans and achievement of NPDES permit conditions.

We welcome the opportunity to discuss with you and other Ecology staff the DO TMDL toolbox tools and how to efficiently and effectively develop the tools both for purposes of implementing the DO TMDL as well as to provide certainty for delta elimination planning as we move forward in the design and construction of our treatment facility upgrades. Our key concerns are outlined below.

In the August 21, 2013 Toolbox Workgroup meeting, we heard Ecology state the following:

1. ***Delta elimination actions should occur between the 2nd and 3rd permit cycles and are only applicable after implementation of technology improvements.***
2. ***Delta elimination should only include actual actions that reduce nutrient loads, dischargers should look outside of their facilities on the mainstem to achieve these actions, and delta elimination should not include credits/equivalency.***
3. ***The Alternate/Extended Season(s) Limits, will likely constitute a "re-opening" of the DO TMDL.***

These statements are not consistent with the final DO TMDL (February 2010), the findings of the Dispute Resolution (May 5, 2010)[1], and language within the final WA State NPDES permits, as well as prior agreements from Ecology. This letter provides our assessment of the above statements along with applicable documentation and references below.

We are also very concerned that the process wherein tools are defined and confirmed and made accessible for delta elimination planning is moving very slowly. As you are aware, dischargers are

[1] Wa State Department of Ecology, Spokane TMDL Dispute Resolution Panel, May 5, 2010, "*Spokane TMDL Dispute Resolution Panel – Summary of Recommendations."* Zehm, Polly; Fitzpatrick, Kevin; Kendra, Will; Kolesseus, Andrew; and Megan White.

required to develop a Delta Elimination Plan as a condition of their NPDES permits before the end of the first permit cycle. Based on progress to date, we are very concerned that the tools will not be developed and approved prior to this time. We would like to discuss how to best move forward with Ecology staff and ensure meeting our permit requirements. Our concerns about Toolbox Workgroup progress are addressed at the end of this letter.

Statement 1. Delta elimination actions should occur between the 2nd and 3rd permit cycles and are only applicable after implementation of technology improvements:

The DO TMDL discusses and defines the '*Delta Elimination Plan*' in several locations. Page 53, under Reasonable Assurance, states: "As agreed to in the Foundational Concepts[2], Washington point source dischargers will develop a Delta Elimination Plan detailing the process by which the updated effluent limitations will be met. The plan may include treatment technology selection, engineering reports, construction timetables, a list of actions to reduce influent phosphorus levels, and a list of off-site phosphorus reduction practices (including water conservation reuse projects) which may be used as a water quality offset pending Ecology approval. *The dischargers agreed that delta-eliminating actions will begin as quickly as possible and will not be deferred until technology improvements are selected and installed.*" (Emphasis added).

The above paragraph requires dischargers to develop delta elimination plans to provide reasonable assurance that effluent limitations will be met; including activities beyond the implementation of technology alone. The last sentence in the above paragraph clearly obligates dischargers to immediately implement delta-eliminating activities. However, as of this date, there are no approved delta elimination tools to implement. We are nearly four years into the ten year process and are very concerned about meeting our obligations. This requirement in the DO TMDL is inconsistent with the statement made during the meeting that these "delta elimination actions" should occur between the 2nd and 3rd permit cycles, and that delta elimination considerations are only applicable after implementation of technology improvements.

Page 63 of the DO TMDL states: "***Expeditious decision:*** Ecology will expeditiously review and decide on the proposed technology selection protocol, preliminary construction schedule and *delta elimination actions*." (Emphasis added.) This documents Ecology's obligation and commitment to provide expeditious decisions to key elements such as delta elimination that are necessary for the success of the DO TMDL. The SRSP asks Ecology to honor their commitment and provide the dischargers with approved delta elimination tools, so that we may begin planning and implementing delta elimination activities where applicable and to provide certainty as we move closer to our permit obligations.

Statement 2. Delta elimination should only include actual actions that reduce nutrient loads, dischargers should look outside of their facilities on the mainstem to achieve these actions, and delta elimination should not include credits/equivalency:

The subject delta elimination tools were put into place to assist in meeting discharge limits, or in other words, to close the gap between point source discharge and TMDL wasteload allocations after implementation of AKART technology. Permittees have developed or are developing Delta Elimination Plans to specify how those tools will assist in meeting discharge limits.

---

[2] *Memorandum of Agreement Regarding Foundational Concepts, Managed Implementation Plan, and Dissolved Oxygen TMDL for the Spokane River* (Foundational Concepts), Appendix D-1of Spokane River and Lake Spokane DO TMDL Water Quality Improvement Report, February 2010.

There are numerous tools available to the dischargers that are not defined as "actual actions that reduce nutrient loads" or "actual removal of nutrients on the mainstem" rather than credits/equivalency. Other tools allow for a demonstration of equivalency in the results of the TMDL. This "equivalency" was memorialized in an EPA guidance document entitled "*Evaluation of Alternative Effluent Limits for Consistency with the Spokane River TMDL and Compliance with Washington Water Quality Standards"* [3], and was utilized and incorporated into the Spokane County and Inland Empire Paper Company (IEP) final permits issued in 2011. Spokane County's permit includes the use of "Static Equivalency" and IEP's permit includes the use of the "Alternate/Extended Season(s) Limits." In addition, EPA used the "Alternate/Extended Season(s) Limits" for all three of the Idaho permits. There are numerous other examples of tools specified in the WA State NPDES permits that are not defined as "actual actions that reduce nutrient loads." A few examples are provided below:

- Section S15 of the City of Spokane Permit requires an Engineering Report update (including Delta Elimination elements) by January 2013[4]. The Engineering Report is required to address *"pollutant equivalency considerations, potential for offset creation and management including trading, etc".* A number of offset options are mentioned. Item 15 of this section states, *"The plan update, in combination with the pollutant reduction from technology, shall provide reasonable assurance of meeting the Permittee's Waste Load Allocations in ten (10) years."*
- Section S11 of the Liberty Lake Sewer and Water District Permit has similar language and requires that the Engineering Report address a number of topics based on rule requirements, pollutant equivalency consideration, potential for offset creation and management including trading. Items 10-15 of this section involve adjustment of effluent limitations based on non bio-available phosphorus in the effluent.
- IEPs Permit Condition S5 defines Delta Elimination as follows: *"The delta elimination plan, in combination with the pollutant reduction from technology, shall provide reasonable assurance of meeting the Permittee's final WQBELs by June 1, 2021" and "Compliance with these limitations will be determined by the mass of pollutant measured in the effluent combined with any credits from the Delta Elimination Plan following Ecology approval and public review and comment."*
- Section S5 of IEP's and Kaiser's Permits state that a Delta Elimination Plan may also include:
    - *"A demonstration that a certain stable fraction of the phosphorus discharged from the facility is not bio-available in the River environment and is not a nutrient source. This demonstration must consider findings and recommendations from the University of Washington/WERF bioavailability lab study and the DO TMDL Implementation Advisory Committee. The demonstration may also include results from subsequent monitoring and modeling of bioavailable phosphorus. Ecology will recognize the demonstration, that a certain stable fraction of the phosphorus discharged from the facility is not bioavailable in the River environment and is not a nutrient source through a modification to the Spokane River DO TMDL. Ecology will incorporate any revised Water Quality Based Effluent Limits (WQBELs) based on the modified DO TMDL by the second permit cycle, or earlier."*
    - *"Any approved trades between Permittees and/or nonpoint sources to reduce nutrients (total phosphorus, CBOD, and ammonia) to the Spokane River and Lake Spokane*

[3] *Evaluation of Alternative Effluent Limits for Consistency with the Spokane River TMDL and Compliance with Washington Water Quality Standards: Includes EPA 10-27-2010 Draft "Spokane River Idaho Dischargers: Compliance with Washington Water Quality Standards".*

[4] This date has been extended to 2014.

consistent with the Water Quality Trading Framework developed by Ecology the DO TMDL Implementation Advisory Committee. "

- *"An analysis, subject to Ecology approval and public review and comment, that provides a pollutant loading equivalency relating phosphorus, CBOD and ammonia. "*
- *"Implementation of a 'bubble limit' concept for interested Spokane River dischargers where the sum of all wasteload allocations becomes a cap or bubble. Under the bubble limit concept, a discharger is not considered in violation of their individual WQBEL, as long as the collective bubble limit is met during the same reporting period. "*

- Section S5 of IEP's permit also states that "*The Department may adjust the final water quality based effluent limitations on the basis of new information on the ratio of ortho phosphorus to total phosphorus in the effluent. An adjustment to the effluent limitations based on a new ratio of ortho phosphorus to total phosphorus will be consistent with the assumptions and wasteload allocations in the Spokane River DO TMDL and, as such, does not require a modification to the DO TMDL*. "

Statement 3. The Alternate/Extended Season(s) Limits, will likely constitute a "re-opening" of the DO TMDL

At the August 21st meeting, Ecology reported they received feedback from the Attorney General's Office on the first four tools (static and dynamic equivalency, alternate/extended season(s) limits, and Ortho Phosphate). Based on this feedback, Ecology indicated that one of the tools, Alternate/Extended Season(s) Limits, will likely require a "re-opening" of the DO TMDL and would therefore impact the schedule for tool development. There is no basis in law for this conclusion and it is directly contrary to the legal interpretation of the Attorney General at the time the Washington permits were issued and when Ecology and EPA reached a settlement on the limits in the Idaho permits. This interpretation is also contrary to the terms in the IEP permit. For example:

- Inland Empire Paper Company's (IEP) NPDES permit already includes provisions for the alternate season tool and the draft Idaho NPDES permits are also based on the use of this tool. The September 2011 NPDES permit issued to IEP is based on alternative season treatment that resulted in Water Quality Based Effluent Limits that varied from the wasteload allocation to IEP under the Spokane River TMDL. This is specifically described in Condition S5 in the IEP permit. The limits based on alternate season treatment have been accepted by EPA and Ecology and reviewed by the Washington State Attorney General's office.
- Ecology did not require modification of the TMDL to adjust the waste load allocations prior to issuing the IEP permit or the draft permits to the Idaho dischargers. The Washington Attorney General concurred that the TMDL did not have to be amended or modified to accommodate equivalent results in loading using alternative season treatment. The equivalency analysis is documented in a memorandum (May 18, 2011) titled *Documentation of Alternate Spokane River TMDL Scenario – with Alternate Seasonal Limits for Inland Empire Paper Company.* In that memorandum, alternate seasonal limits were also used for Hayden Area Regional Sewer Board and the Cities of Post Falls and Coeur d'Alene.
- On October 3, 2011, Ecology issued a formal comment on the draft Idaho permits and made no reference to the fact that the nutrient limits proposed in the permits are based on alternate season treatment. Likewise, there is no representation that these limits are inconsistent with the DO TMDL or that the TMDL needs to be modified in order to issue the permits in Idaho. The acceptance of the nutrient limits by Ecology without comment is entirely inconsistent with the

representation to the SRSP that the TMDL would in fact have to be modified to allow alternate season based effluent limits.

Toolbox Workgroup Process – Moving Forward

Progress

The tools that are available to permittees need to be identified, defined, and approved by 2014 such that they are available for Delta Plans prior to 2016 in order to allow dischargers to plan and budget accordingly. The dischargers need certainty and data for upgrading treatment facility designs and construction of those upgrades. Some Delta Elimination plans were due to be submitted in 2013 permits. The SRSP have no option, but to assume those tools are available.

The SRSP has provided to Ecology draft descriptions for a total of seven tools in 2012 and 2013. There have been a number of delays in moving forward with the toolbox tools that were initially addressed by the Workgroup in 2012. We now understand there will be further delay in that: (1) the first four tools are being re-evaluated and rewritten; and (2) the process flow chart has been modified several times. Furthermore, Ecology informed the Toolbox Workgroup (at the August 21st meeting) that the alternate season limit tool might re-open the TMDL and the dynamic equivalency tool may be an administrative burden. In each case, Ecology stated that they may not want to continue development of those tools, or they would consider a delay in tool development. Lastly, there have been no recent discussions of Bioavailable Phosphorus (BAP) as a tool. There are significant new research findings about BAP that are relevant to the Toolbox Work Group, and we would like to engage the agency on this topic. Bioavailable Phosphorus as a toolbox tool is discussed below.

Ecology developed a schedule for toolbox manual development (Revised 7/19/12 and included as Attachment A). This document indicates that all of the tools discussed above would be completed in 2012 and 2013. A number of these tools are included in current NPDES permits. At the August 21, 2013 Toolbox Workgroup meeting the workgroup was told that the first tool (Static Equivalency) would be rewritten in a new format and provided to the workgroup in late September 2013. To date, the workgroup has not seen a new version of the Static Equivalency tool. After review and agreement on a new draft in late October, three other tools would be put into the same format. These activities have yet to occur. Some of these tools were reviewed over a year ago by the workgroup. It is unclear why they are being rewritten at this time.

Bioavailable Phosphorus

As discussed on pages 3 and 4 above, several permits contain language that "Ecology will recognize the demonstration, that a certain stable fraction of the phosphorus discharged from the facility is not bioavailable in the River environment and is not a nutrient source through a modification to the Spokane River DO TMDL. Ecology will incorporate any revised WQBELs based on the modified DO TMDL by the second permit cycle, or earlier."

The Summary of Recommendations from the Spokane TMDL Dispute Resolution Panel (May 5, 2010)[1], states that "*Conceptually, not all phosphorus matters. Only that portion that impacts the dissolved oxygen (D.O.) in Lake Spokane will be counted toward each facility's waste load allocation and be put into permits. There is understandable uncertainty about how the study results will be used when they are available in approximately one year. We think the additional clarity below will help the dischargers, particularly Inland Empire Paper (IEP), understand how that information will be used to develop its permit limits. Ecology will issue permits to IEP and the City of Spokane in 2010. Those permits will specify that final limits need to be met in 2020. The following will occur in the interim:*

- *The bioavailability study will be completed in December 2010.*

- *The written report describing the findings of the bioavailability study is due in early 2011.*
- *The report is then available for use in setting permit limits. The WQP should work with IEP and the City of Spokane to determine if a permit modification earlier than 2015 would help provide more certainty.*
- *According to Table 10 of the TMDL Report, final waste load allocations will be re-assessed with each permit cycle. Thus, the permits will be re-issued in 2015 and will incorporate bioavailable phosphorous limits based on the findings of the Phosphorous Bioavailability Report, and waste load allocations will be revised if necessary. As noted in the bullet above, the WQP, IEP and Spokane may choose to do this prior to the 2015 permit cycle. "*

The IEP and Kaiser permits require Ecology to consider and apply the findings and recommendations from the University of Washington/WERF (Water Environment Research Foundation) bioavailability lab study as part of the required demonstration that a certain stable fraction of the phosphorus discharged from a facility is not bioavailable in the River environment and is not a nutrient source. A number of other NPDES permits (e.g., City of Spokane, Liberty Lake) include Engineering Reports that address potential adjustments to effluent limitations needed for compliance with the DO TMDL because of non bioavailable phosphorus in the effluent.

WERF is currently commissioning Phase II of the University of Washington Bioavailability Study and preliminary results will be available in the coming months. In addition, University of Washington Researchers recently published a paper addressing the subject.[5] We would like to address bioavailable phosphorus as a toolbox tool as part of this process and look forward to continuing discussions.

Closing

The members of the DO TMDL Toolbox Workgroup recognize this to be a large task. We are happy to provide assistance to move tool development forward. Further, the SRSP requests the opportunity to discuss how to efficiently move tool development forward, and generate a reasonable, revised schedule for tool development in concert with Ecology.

Very truly yours,

City of Spokane
Spokane County
Liberty Lake Sewer and Water District
Hayden Area Regional Sewer Board
City of Post Falls
City of Coeur d'Alene
Inland Empire Paper Company
Kaiser Aluminum

CC: Grant Pfeiffer, Director, Eastern Regional Office, Wa Dept of Ecology
Jim Bellatty, Eastern Regional Water Quality Program Manager, Wa Dept of Ecology
Kelly Susewind, Water Quality Program Manager, Wa State Dept. of Ecology
Dave Knight, Watershed Unit Supervisor, Eastern Regional Office, Wa Dept of Ecology

[5] B Li, M.T. Brett , 2013, The influence of dissolved phosphorus molecular form on recalcitrance and bioavailability. Environmental Pollution: 182 (2013) 37-44.

Ellie Key, Permit Writer, Water Quality Program, Wa Dept of Ecology
Pat Hallinan, Permit Writer, Water Quality Program, Wa Dept of Ecology

Attachment A

DO TMDL TOOLBOX MANUAL DEVELOPMENT

Revised 7-19-12

Year [i]	2012	2012	2012	2013	2013	2013	2014	2015 [iv]	2015
Dischargers	**Equivalency Exchange, Static**	**Alternate Season Limits**	**OrthoP**	**Equivalency Exchange, Dynamic** [ii]	**Bubble Permit**	**Stormwater Reduction Credit** [iii]	**Septic Credit**	**Bioavailable Phosphorus**	**Mainstem Trading** [v]
Spokane County	In use [vi]			Yes [vii]			Yes	Yes	Yes
Inland Empire Paper	Yes	In use	Yes	Yes	Yes			Yes	
Kaiser Aluminum	Yes			Yes	Yes				
City of Spokane	Yes			Yes		Yes			
Liberty Lake S&WD	Yes			Yes					
HARSB	Yes			Yes	Yes				Yes
Post Falls WWTP	Yes			Yes					
Coeur d'Alene WWTP	Yes			Yes					

[i] Year refers to when development begins. Months or years to complete development of a tool are variable.

[ii] This tool is needed prior to development of bubble permit.

[iii] Location ratio rules need to be established as part of establishing stormwater or septic credit and mainstem trading.

[iv] Ecology will continue to monitor the state of the science on BAP and re-evaluate the development schedule for this tool if warranted.

[v] NPS trading opportunities, if approved, would only exist only in the mainstem until the tributaries meet their TMDL allocations. This includes the possible subcategories: Septic Credits (county and Suncrest)

[vi] "In use" means this tool was incorporated into the current NPDES permit.

[vii] "Yes" means discharger is interested in developing tool for potential use in future permit cycle.