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November 13, 2007

Permit Coordinator  
Department of Ecology  
N. 4601 Monroe  
Spokane, Washington 99205

**RE: Comments on Draft Spokane River NPDES Permits**

**SENT VIA EMAIL (stra461@ecy.wa.gov)**

Dear Permit Coordinator:

These comments are submitted on behalf of our client, the Upper Columbia River Group of the Sierra Club (Sierra Club), on the Department of Ecology's four draft Spokane River NPDES permits, in particular the draft NPDES permits for Liberty Lake Sewer and Water District, the City of Spokane, Kaiser Aluminum, and Inland Empire Paper (IEP). Please include these comments as part of the administrative record for all four draft NPDES permits.

As you know, Sierra Club has dedicated significant time and resources to protect and restore the Spokane River, including participation in all aspects of the development of the TMDLs for the Spokane River. These permits are important steps toward implementing these TMDLs. Accordingly, we would like to continue work closely with Ecology toward the finalization of these permits.

The Spokane River is listed on Washington's §303(d) list for a number of parameters, including dissolved oxygen, total dissolved gas, PCBs, temperature, and dioxin. Designation of a waterbody pursuant to § 303(d) means that current wastewater technologies and other pollution control activities, such as Best Management Practices (BMPs) for non-point sources, are insufficient to protect the health of the River and that more stringent measures must be applied to meet water quality standards. 33 U.S.C. §§ 1313(d), 1329; 40 C.F.R. § 130.7. As a result, Ecology must ensure that these permits include effluent limits for PCBs, ammonia, phosphorus, temperature, dioxin, CBOD, and other parameters that will be protective of Washington's and the Spokane Tribe's water quality standards.

Before proceeding with the comments, it must be noted that Sierra Club has substantial concern with the draft dissolved oxygen TMDL, which these permits reference. Sierra Club has submitted substantial comments on that draft. Because the permits must be based upon the wasteload allocations in the TMDL, it is unusual to have drafts of a

TMDL and related NPDES permits out for public review simultaneously. Accordingly, to the extent that these four permits reference the draft TMDL, Sierra Club specifically incorporates by reference the comments and objections contained in our November 13, 2007 comments on the draft TMDL. If significant alterations are made on the TMDL, Sierra Club specifically requests that Ecology resubmit the permits for public review and comment. This would allow the public to review the permits in light of the most up-to-date information and TMDL.

In addition to the comments below, Sierra Club retained independent experts to review the permits. This review is included as Attachment A to these comments. Specifically, Attachment A is a review produced by Evan Hansen of Downstream Strategies focusing on compliance of the permits with requirements of the Clean Water Act.

### **Comments on All Four Permits**

#### **1. Permit Limits must be Water Quality-Based not Technology or Performance Based.**

Section 303(d) of the Clean Water Act, 33 U.S.C. § 1313(d), requires the imposition of a TMDL where technology-based effluent limitations are not stringent enough to implement any applicable water quality standard. 33 U.S.C. § 1313(d)(1)(A). Moreover, the Act prohibits permits for discharges that cause or contribute to an exceedance of water quality standards. 33 U.S.C. § 1311(b)(1)(c); 40 C.F.R. §122.44(d); 40 C.F.R. §122.4; *see also*, RCW 90.48.520; WAC 173-226-070.

The four draft permits lack final water quality-based limits for PCBs, ammonia, CBOD, and phosphorus, despite data in draft TMDLs indicating that these four facilities cause and contribute to water quality violations and specific wasteload allocations for these facilities. Instead, the permits indicate that the final phosphorus limit will be technology-based:

Final limits applicable during the remaining term of the MIP will be set based on the actual performance of the technology installed and operated at optimum reliable efficiency.

Spokane Factsheet at 28. Moreover, as explained below, there are no water quality-based limits for the other parameters. To be lawful, there permits must contain a date certain for achievement of the final water quality-based effluent limit of 10 µg/L for phosphorus and the appropriate limits for CBOD, ammonia, and PCBs must be included in all the permits.

#### **2. The Permits Lack PCB Limits.**

As stated above, the four draft permits lack PCB limits. Washington law requires Ecology to address PCBs in these permits. RCW 90.48.520 sets a standard for permits:

“In no event shall the discharge of toxicants be allowed that would violate any water quality standard, including toxicant standards, sediment criteria, and dilution zone criteria.” State NPDES and general permit regulations require permits, “whenever applicable,” to include “limitations or requirements” necessary to “meet water quality standards.” WAC 173-226-070(3) (a); WAC 173-220-130(1) (b) (i).

Moreover, under the federal regulations implementing the NPDES program, permit issuers must determine whether a given point source discharge “causes, has the reasonable potential to cause, or contributes to” an exceedance of water quality standards. 40 C.F.R. § 122.44(d)(1)(ii). If a discharge is found to cause, have the reasonable potential to cause, or contribute to such an exceedance, the permit writer must calculate WQBELs for the relevant pollutants. 40 C.F.R. § 122.44(d)(1)(i), (iii)-(vi).

The Washington Supreme Court, in *Port of Seattle v. Pollution Control Hearings Bd.* 151 Wash.2d 568, 603 (Wa. 2004), described these requirement:

NPDES permits may be issued only where the discharge in question will comply with state water quality standards. 33 U.S.C. § 1342(b)(1)(A) requires state-issued NPDES permits to comply with 33 U.S.C. § 1311. In turn, 33 U.S.C. § 1311(b)(1)(C) requires effluent limitations to comply with state water quality standards. In addition, 40 C.F.R. § 122.44 requires state-issued NPDES permits to contain conditions requiring compliance with state water quality standards. 40 C.F.R. § 122.44(d)(1)

Ecology’s draft PCB TMDL<sup>1</sup> indicate that standards are not being met, that these four permittees contribute to the problem, and that drastic reductions in PCBs are required to meet these standards. The draft PCB TMDL states:

A PCB loading scenario was proposed based on meeting the Spokane Tribe water criterion for PCBs (3.37 pg/l). The scenario requires a 95% PCB load reduction at the Idaho border, a 97% load reduction in the Little Spokane River, and  $\geq 99\%$  reductions in municipal, industrial, and stormwater discharges.

Draft PCB TMDL at 9. The chart on the next page contains the recommended wasteload allocations to meet water quality standards.

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<sup>1</sup> Available at <http://www.ecy.wa.gov/pubs/0603024.pdf>.

## Recommended PCB Load Allocations from the Draft PCB TMDL.

Source	Load Allocation and [Wasteload Allocations] (mg/d)
Spokane River @ Idaho Border	23.96
Liberty Lake WWTP	[0.01]
Kaiser	[0.32]
Inland Empire	[0.09]
Spokane Stormwater	0.13
Spokane WWTP	[0.76]
Little Spokane River	2.58

Moreover, information in the draft PCB TMDL (included in the chart below) makes it is clear that the four permittees are far from achieving these wasteload allocations.

## Estimated PCB Loads in Industrial and Municipal Effluents Discharged to the Spokane River from the Draft PCB TMDL.

Station	RM	t-PCB Conc. (pg/l)	Discharge (ML/d)	t-PCB Load (mg/d)
LIBLAKE	92.7	1,121	2.5	2.9
KaiserEff	86.0	1,080	60	65
Inland Emp	82.5	2,544	18	45
SPOKWWTP	67.4	1,364	143	194
			Total =	307

Rather than actually including a specific effluent limitation for PCBs, Ecology “punts” on the issues stating, “Since the TMDL is still draft, and has not been approved by the EPA, this WLA will not be included in the proposed permit.” *See, e.g., Kaiser Factsheet at 18.* First, it is clear that the lack of a PCB TMDL is a problem of Ecology’s own making and cannot be used as an excuse to delay addressing this critical human health and water quality concern. The TMDL for PCBs has been delayed by Ecology and is past due.

Second, the lack of a completed TMDL cannot legally be used as an excuse to delay the establishment of a WQBEL. EPA noted that a state’s failure to complete TMDLs cannot be used as an excuse to defer the inclusion of WQBELs in permits as required by Clean Water Act section 301(b)(1)(C). *See 54 Fed. Reg. 23868, 23879.* This requirement was recognized by the California Water Resources Control Board in *In the Matter of Las Virgenes Municipal Water District*, Order No. WQ 98-11 at 11.<sup>2</sup>

Third, it is critical that a PCB effluent limit be included now when major upgrades to wastewater plants are being installed to address phosphorus to ensure that the wise investment of public and private dollars. Ecology Director Jay Manning recognized the importance of being up front with the PCB requirements, stating, “I shudder to think of

<sup>2</sup> Available at [http://www.swrcb.ca.gov/resdec/wqorders/1998/wq1998\\_11.pdf](http://www.swrcb.ca.gov/resdec/wqorders/1998/wq1998_11.pdf).

how they will react when we tell them [the permittees] that they now have to engage in whole suite of new activities and expenditures to reduce pcb concentrations.”<sup>3</sup> The need to address PCB limits now, rather than defer, was similarly recognized by Ecology’s own consultants. In a April 6, 2006 email, Mike Sharar, an Ecology consultant on the Spokane River TMDL, shared his view that phosphorus and PCB upgrades need to be addressed together: “PCB removal from treatment plant influent . . . must nor be added to phosphorus in pilot testing/technology selection effort that is part of the DO TMDL.”<sup>4</sup> Unfortunately, the permits do not heed this advice.

Lastly, Ecology must require more aggressive PCB monitoring. The PCB monitoring component of the four permits is simply inadequate. Any facility discharging PCBs should be monitoring its effluent more regularly than once a quarter. Four samples a year hardly provides enough data to adequately characterize the nature and extent of PCBs in wastewater effluent. Effluent from these permittees needs to be monitored at least once a month and preferably more often than that.

### **3. The Permits Lack Lawful Compliance Schedules.**

The compliance schedule in these four permits does not comply with federal and state requirements for compliance schedules. Federal regulations require that any appropriate schedules of compliance “shall require compliance as soon as possible.” 40 C.F.R. § 122.47(a)(1).

The Clean Water Act and EPA’s regulations mandate that NPDES permits must be for fixed terms not exceeding five years. 33 U.S.C. § 1342(b)(1)(B); 40 C.F.R. § 122.46(a); *Citizens for a Better Environment v. Union Oil Co. of Cal.*, 83 F.3d 1111, 1120 (9<sup>th</sup> Cir. 1996); *NRDC v. EPA*, 915 F.2d 1314, 1319 (9<sup>th</sup> Cir. 1990). In *CBE v. Unocal*, the Ninth Circuit warned against extending the terms of permit’s beyond their five-year life span. The Court upheld a district court decision finding that a cease and desist order (“CDO”) that provided for a compliance schedule longer than the five year life of the applicable NPDES permit could not be included in the permit because it purported to extend a compliance schedule beyond the term of the permit. The Court held that, “there is a five year duration on the life of an NPDES permit that the ‘effective modification’ asserted here would violate.” 83 F.3d at 1120. Likewise, the compliance schedule set forth in these permits extends the substantive requirements of a permit beyond the five-year limit established by the Act.

A compliance schedule longer than a five-year permit term is inconsistent with the compliance schedules defined by the Clean Water Act. “Schedule of compliance” is defined by the Act as “a schedule of remedial measures including an enforceable sequence of actions or operations leading to compliance with an effluent limitation, other limitation, prohibition or standard.” 33 U.S.C. § 1362(17); 40 C.F.R. § 122.2 (“Schedule

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<sup>3</sup> See Email included as Attachment B at 2.

<sup>4</sup> Attachment B at 1.

of compliance means a schedule of remedial measures included in a ‘permit’ . . .). Ecology’s attempt to “issue” schedules that extend compliance beyond the duration of the permits are unenforceable schedules. Statements in a permits’ findings regarding future permits’ implementation of a currently open-ended compliance schedule are not effluent limitations and are not enforceable by Ecology. At best, such statements amount to mere speculation as to the intent and possible decisions in the future.

Likewise, a schedule of compliance that extends beyond the five-year term of a permit does not lead to compliance with an effluent limitation that actually exists. At best, such a schedule leads to a draft permit, the terms of which cannot be determined five years in advance.

A compliance schedule extending beyond the life of a permit also frustrates public participation and is inconsistent with the Act’s permit issuance process. Applications for the reissuance of existing permits must be received within 180 days of the expiration of the existing permit (*see* 40 C.F.R. § 122.21(d)), and the public is guaranteed by law notice of each application for a permit and an opportunity for public hearing before a ruling on each such application. 33 U.S.C. § 1342(b)(3). If a five-year permit includes a longer compliance schedule, the public’s opportunity to comment on that schedule when Ecology attempts to carry it forward in the subsequent five-year permits will have been eviscerated because, to have any meaning at all, the compliance schedule issue already would have been decided in promulgating these proposed permits.

Additionally, for municipal plants in which construction was necessary to meet the effluent limitations based on secondary treatment or any more stringent limitation, compliance schedules were authorized if construction could not be completed by the deadline in Section 1311(b)(1)(C) or if the United States had failed to make financial assistance available by that time.<sup>5</sup> In no event, however could these compliance schedules extend beyond July 1, 1988.<sup>6</sup> An exception of two years was, however, granted to plants installing innovative technology with the possibility for industry-wide application.<sup>7</sup> The federal implementing regulations mirror these deadlines. “Any schedules of compliance under this section shall require compliance as soon as possible, but not later than the applicable statutory deadline under the CWA.”<sup>8</sup> There is simply nothing in the federal regulations allowing compliance with water quality standards past the Act’s statutory deadlines.

Moreover, Washington’s own regulations, while not consistent with federal law, contemplate that compliance schedules shall “be developed to ensure final compliance with all water quality-based effluent limits in the shortest practicable time,” but shall not exceed. not to exceed 10 years. WAC 173-201A-510(4). The regulation also provides,

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<sup>5</sup> 33 U.S.C. § 1311(i).

<sup>6</sup> *Id.*

<sup>7</sup> 33 U.S.C. § 1311(k).

<sup>8</sup> 40 C.F.R. § 122.47.(a)(1).

“Decisions regarding whether to issue schedules of compliance will be made on a case-by-case basis by the department.” *Id.*

Moreover, this section specifically provides:

Prior to establishing a schedule of compliance, the department shall require the discharger to evaluate the possibility of achieving water quality criteria via nonconstruction changes (e.g., facility operation, pollution prevention). Schedules of compliance may in no case exceed ten years, and shall generally not exceed the term of any permit.

WAC 173-201A-510(4)(c).

Neither Ecology nor the permittees have made an adequate showing that the proposed compliance schedules satisfy the “shortest practicable time” test. There is no “case-by-case” analysis of the individual permittees to determine whether and how long a compliance schedule should be allocated (as discussed below, it appears that Kaiser may not need any compliance schedule). There is no discussion or analysis of the “nonconstruction changes” that may be implemented to reduce phosphorus, ammonia, and CBOD discharges within the term of the permit. There is no reference or meaningful discussion of current technologies in place around the Nation that are already achieving better than 50 µg/L.<sup>9</sup> In addition, there is no discussion of the recent pilot testing of exemplary phosphorus removing technologies already completed in the region by Hayden, Coeur d’Alene, the City of Spokane, and Inland Empire, testing which indicated that these low levels are achievable.

A review of the compliance schedules that are provided in these four permits illustrates a significant amount of wiggle room, in that the permits:

- Have phased effluent limitations that do not match the TMDL interim and final wasteload allocations;
- Include a delta elimination plan that is not well defined; and
- Implicitly recognize that a trading program will be implemented, without specifying how permittees are to engage in such a program and how trades might or might not impact compliance with numeric permit limits.

The compliance schedules themselves are written in such a way as to contemplate that they may not ultimately be achieved. For example, the City of Spokane compliance schedule includes the following language:

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<sup>9</sup> EPA, *Advanced Wastewater Treatment to Achieve Low Concentration of Phosphorus* (2007), available at [http://yosemite.epa.gov/r10/water.nsf/Water+Quality+Standards/AWT-Phosphorus/\\$FILE/AWT+Report.pdf](http://yosemite.epa.gov/r10/water.nsf/Water+Quality+Standards/AWT-Phosphorus/$FILE/AWT+Report.pdf). This report lists several facilities achieving phosphorus concentrations near or below 10 µg/L and others achieving near 50 µg/L.

The following compliance schedule is to implement the “Foundational Concepts.” At the present the “Foundational Concepts for the Spokane River TMDL Managed Implementation Plan” is based on the current DO TMDL technical report model output. The current model output predicts that the final effluent limitations will need to be 10 µg/L TP. These actions also implement an acknowledgement that depending on how the environment responds to these actions the model results evolving out of the “10 year assessment” may yield revised final effluent limitations.

The Department also acknowledges that the following schedule is aggressive and may need to be amendment in the future upon request based on new information including progress made and appropriate justification.

Spokane Permit at 42.

Ecology’s duty here is to condition these permits so as to achieve compliance with the appropriate water quality effluent-based limits for phosphorus and other parameters (PCBs, ammonia, CBOD) as soon as possible and in a manner consistent with both federal and Ecology regulations. The upgrades necessary for these limits are simply that, upgrades for tertiary treatment, not plant expansions. There is no evidence that the extended compliance schedules are reasonable timeframes in which to select, design, and build these upgrades. Further, there is no explanation why these plants require years of additional pilot testing given the number of plants nationwide already achieving 50 µg/L and given the ongoing work at Hayden (Bluewater Technologies). There is no discussion of nonconstruction changes, as required by WAC 173-201A-510(4)(c), which might allow compliance sooner. Without more, it is simply not reasonable to assume that these plants cannot design and build upgrades within the first permit cycle.

Before granting any compliance schedule to these permittees, Ecology must require each permittee to document the need and justification for the duration of any compliance schedule by submitting information including the following:

1. Documentation of source control efforts currently underway or completed, including compliance with any pollution prevention programs that have been established, such as the Spokane River Phosphorus Management Plan;
2. A proposed schedule for additional source control measures or waste treatment;
3. The results of pilot testing conducted by the regional dischargers, an explanation of why more pilot testing is necessary and the costs of such testing;

4. Information regarding similar plants achieving exemplary phosphorus removal;
5. Documentation supporting the highest discharge quality that can be reasonably achieved until final compliance is achieved;
6. Reasonable alternatives to river discharge; and
7. A demonstration that the proposed compliance schedule is as short as possible, taking into account economic, technical and other relevant factors.

**4. The Permits are Unclear and Inconsistent in Specifying the Months that require Phosphorus Treatment.**

The permits are unclear and inconsistent as to when phosphorus control is needed. The draft TMDL provides, "In-stream concentrations for various reaches must be approximately 10 µg/L total phosphorus during the critical period (April 1 – October 31)." TMDL at v.

The City of Spokane draft permit is internally inconsistent. Footnote f states that chemical phosphorus removal must start no later than April 15, and then provides a contradictory start date of June 1. The end date is October 15, and the start and end dates may vary based on certain methodology and guidelines. The draft permit is also inconsistent because a coefficient of variation for phosphorus is to be calculated for the period from April 1 through October 31.

The Liberty Lake concentration limits apply from April 1 to October 30 (not October 31). The flow limits apply year-round.

The Kaiser Aluminum phosphorus load limitation of 1.3 lb/day seems to apply all year, but the more stringent future limitation of 1.28 lb/day only applies April through October.

The Inland Empire Paper draft permit requires treatment April through October.

A consistent time period that covers critical phosphorus flows should be clearly identified in all four NPDES permits.

**5. Two of the Permits allow an Unlawful Increase in Discharge.**

Two of the draft permits allow unlawful increase in discharge flows prior to the implementation of any pollution reduction measures and prior to meeting final effluent limits. This is inconsistent with the TMDL and with the Clean Water Act.

The draft permit for City of Spokane provides a maximum monthly flow limit of 55.9 mgd in the dry season, and a larger flow limit during the wet season. This flow of 59.6 mgd in the draft permit is much higher than the current limit of 44 mgd, shown below. It is also inconsistent with the TMDL, which requires flows of 41.76 and 50.77 mgd in 2017 and 2027, respectively. Finally, it greatly exceeds the flow laid out in the Foundational Concepts document (43 mgd).

For Liberty Lake, the permit also includes a “maximum month” flow limitation of 2 mgd. The existing Liberty Lake permit includes a flow limitation of 1 mgd average flow for the maximum month. The new draft permit, therefore, allows an increase in flow. The draft TMDL requires flows of 1.41 and 1.51 mgd in 2017 and 2027, respectively.

**Current Permitted Flows (mgd)**

Discharger	Current limit
City of Spokane	44 (average dry weather flow for the maximum month)
Liberty Lake	1 (average flow for the maximum month)
Kaiser Aluminum	None
Inland Empire Paper	None

Source: Current NPDES Permits

**Recent average flows (mgd)<sup>10</sup>**

Discharger	Annual	Apr-Oct
City of Spokane	38.98	38.39
Liberty Lake	0.69	0.68
Kaiser Aluminum		
Outfall 002	0.06	0.06
Outfall 003	0.06	0.06
Inland Empire Paper	4.44	4.43

Not only are these expanded flows inconsistent with the draft TMDL, they are inconsistent with federal regulations regarding NPDES permits, which prohibit increased discharges into non-compliant water quality segments unless certain strict controls are in place. *See* 40 C.F.R. §§ 122.4(i), 122.44(d).

Increased discharge flows which do not comply with appropriate final limits will further degrade water quality. This increased loading to the river should not be allowed without first installing appropriate treatment to control the pollutants that cause and contribute to violations of water quality standards. Pollutant loading associated with the discharge should be capped at the existing permitted treatment capacity until treatment is installed to remove these pollutants. Accordingly, during the term of this permit and until the final

<sup>10</sup> Source: Annual averages are year-round averages of average monthly data from January 2005 through August 2007 from DMRs. April through October averages use average monthly data from April through October in 2005 and 2006, and from April through August in 2007. City of Spokane is for Outfall 005A. Liberty Lake is for Outfall 001. Kaiser Aluminum is for Outfalls 002 and 003. Inland Empire Paper is for Outfall 001. A copy of this data is included as Attachment C.

limit of 10 µg/L is attained, the maximum flow during the critical period should be limited to existing discharge levels.

## **6. Increased Discharges and Antidegradation.**

Federal regulations require that Ecology's "antidegradation policy and implementation methods shall, at a minimum, be consistent with the following: (1) Existing instream water uses and the level of water quality necessary to protect the existing uses shall be maintained and protected." 40 C.F.R. § 131.12(a)(1). Only where the quality of waters exceed levels necessary to support the most sensitive biological beneficial uses is the State allowed to degrade water quality in order to accommodate important socioeconomic development. 40 C.F.R. § 131.12(a)(2). Even where these high quality waters exist, a situation present in this case for some pollutants and parameters, the regulations require that Ecology assures water quality adequate to protect existing uses fully. 40 C.F.R. § 131.12(a)(2).

Although providing a very limited exception allowing some degradation in waters "[w]here the quality of waters exceed levels necessary to support" its beneficial uses, those exceptions do not apply to already degraded waters, such as the waters of the Spokane River because of excessive discharges of phosphorus, CBOD, and ammonia. 40 C.F.R. § 131.12(a)(2). In degraded waters, only the first mandate applies – to maintain and protect all existing uses, especially, for example, trout habitat. Accordingly, the regulations prohibit additional pollutant loads of phosphorus, ammonia, CBOD, and PCBs into the Spokane River.

Of the four draft permits, two would allow increased discharges: City of Spokane and Liberty Lake. These are potential expanded discharges and antidegradation requirements apply.

Washington's Antidegradation Tier II is to be applied parameter-by-parameter:

Whenever a water quality constituent is of a higher quality than a criterion designated for that water under this chapter, new or expanded actions within the categories identified in subsection (2) of this section that are expected to cause a measurable change in the quality of the water (see subsection (3) of this section) may not be allowed unless the department determines that the lowering of water quality is necessary and in the overriding public interest (see subsection (4) of this section).

WAC 173- 201A-320(1).

Measurable change is numerically defined for temperature, DO, bacteria, pH, and turbidity. It is further defined as "Any detectable increase in the concentration of a toxic or radioactive substance." WAC 173-201A- 320(3). Measurable change is based on water

quality at a point outside the source area, after allowing for mixing consistent with WAC 173-201A-400(7).

Because the City of Spokane and Liberty Lake draft permits essentially allow increased discharges of phosphorus, and potentially other pollutants, Ecology must explain how it has addressed antidegradation. This includes an analysis of impacts to parameters for which the river is not listed and a separate analysis that includes the prohibition under antidegradation on additional pollutant loads of phosphorus, ammonia, CBOD, and PCBs (listed parameters).

The fact sheets for these two draft permits include the same paragraph:

The Department has reviewed existing records and is unable to determine if ambient water quality is either higher or lower than the designated classification criteria given in Chapter 173-201A WAC; therefore, the Department will use the designated classification criteria for this water body in the proposed permit. The discharges authorized by this proposed permit should not cause a loss of beneficial uses.

Spokane Factsheet at 13 and Liberty Lake Factsheet at 10.

In other words, Ecology is saying that they do not have ambient data to determine whether the Spokane River is above or below water quality standards for phosphorus, PCBs, or other pollutants, so it cannot determine the tier. This is surprising, given the amount of attention that this river has received in recent years and the clear data that exists in current and draft TMDLs. If the data truly does not exist, then the permittees receiving permits for expanded discharges must be required to collect it prior to any expanded discharge occurring.

Ecology has not made a compelling case that antidegradation does not apply for phosphorus, PCBs or other pollutants that meet water quality standards in the Spokane River. Moreover, it is clear that the analysis is inadequate.

## **7. Permit Limits are Not Consistent with the Draft TMDL.**

Federal regulation requires that permit effluent limits must be consistent with wasteload allocations set in a TMDL. 40 C.F.R. § 122.44(d). TMDLs must be implemented through the NPDES permitting process to ensure attainment of WQSs. 33 U.S.C. § 1311(b)(1)(C); 40 C.F.R. §§ 122.4, 122.44(d)(1)(vii)(B), 122.62.<sup>11</sup> Once TMDLs are

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<sup>11</sup> If Ecology fails to implement the TMDL through the NPDES process, or EPA is otherwise unable to implement the TMDL due to State actions or inactions, EPA is required to initiate procedures to revise the State NPDES program to incorporate the TMDL process pursuant to 40 C.F.R. § 123.62. If the State refuses to implement TMDLs through the NPDES process, EPA is required to withdraw certification of the State NPDES program, pursuant to 33 U.S.C. § 1342(c)(3) and 40 C.F.R. § 123.63(a)(5) (withdrawal

established, NPDES permits must be issued and/or revised to allow the receiving stream to achieve attainment of the water quality standards. *Id.*

Moreover, even if a TMDL is not finalized, EPA regulations require that the effluent limitations incorporated in NPDES permits meet any additional standards and state requirements. *Id.* Specifically, “each NPDES permit shall include conditions meeting [w]ater quality standards and State requirements.” *Id.* This section establishes the need for “any requirements in addition to or more stringent than promulgated effluent limitations guidelines or standards under [other sections of the Act] necessary to: (1) Achieve water quality standards established under section 303 of the CWA, including State narrative criteria for water quality.” 40 C.F.R. § 122.44(d)(1).

Under the federal regulations implementing the NPDES program, permit issuers must determine whether a given point source discharge “causes, has the reasonable potential to cause, or contributes to” an exceedance of water quality standards. 40 C.F.R. § 122.44(d)(1)(ii). If a discharge is found to cause, have the reasonable potential to cause, or contribute to such an exceedance, the permit writer must calculate WQBELs for the relevant pollutants. 40 C.F.R. § 122.44(d)(1)(i), (iii)-(vi).

The Washington Supreme Court, in *Port of Seattle v. Pollution Control Hearings Bd.* 151 Wash.2d 568, 603 (Wa. 2004), described these requirement:

NPDES permits may be issued only where the discharge in question will comply with state water quality standards. 33 U.S.C. § 1342(b)(1)(A) requires state-issued NPDES permits to comply with 33 U.S.C. § 1311. In turn, 33 U.S.C. § 1311(b)(1)(C) requires effluent limitations to comply with state water quality standards. In addition, 40 C.F.R. § 122.44 requires state-issued NPDES permits to contain conditions requiring compliance with state water quality standards. 40 C.F.R. § 122.44(d)(1)

In order to demonstrate compliance with water quality standards, the permit effluent limits must match the wasteload allocations in the draft TMDLs for dissolved oxygen and PCBs. Permitted flows should also match the TMDL projections. The permits themselves, on the cover page of the factsheet, indicate, “This permit implements the Spokane River DO TMDL.”

As discussed on the next page, there are significant inconsistencies between the TMDL and the permits.

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permitted where the State has not “develop[ed] an adequate regulatory program for developing water-quality based effluent limits in NPDES permits”).

**a. *Phosphorus Wasteload Allocations not Consistent with the TMDL.***

The Liberty Lake phosphorus limitation is not consistent with the TMDL. While the concentration limit drops from 1 mg/L to 50 µg/L, it still does not meet the 2017 interim target from the TMDL of 10 µg/L.

The City of Spokane permit phosphorus limitation is not consistent with the TMDL. In the compliance schedule, the permit refers to a 2017 concentration limit of 50 µg/L, but this limitation is never explicitly assigned. Even if it were assigned, it is five times less stringent than the 2017 interim target assigned in the TMDL (10 µg/L). Again in 2027, the draft permit does not explicitly assign a concentration limitation.

**b. *No Effluent Limit for Ammonia and CBOD.***

None of the permits have CBOD or ammonia limits that are consistent with the draft DO TMDL. Instead, the permits “assume[] that efforts to control phosphorus will also serve to control CBOD and ammonia.” Spokane Factsheet at 19. There is nothing in the literature or in the modeling reports included with the TMDL to support the assumption that ammonia and CBOD would be controlled as a result of phosphorus control activities. To the contrary, the draft TMDL contains limits for CBOD and ammonia that need to be incorporated into the permits. TMDL at ix.

**c. *Flows are Inconsistent with the TMDL.***

As discussed above, the flows in the permits do not match the flows in the TMDL.

**8. *Permits must meet Spokane Tribe’s Water Quality Standards***

Under the Clean Water Act, Ecology may not issue NPDES permits “when the imposition of conditions cannot ensure compliance with the applicable water quality requirements of all affected states.”<sup>12</sup> With regard to these permits, both Washington, where the effluent discharges take place, and the Spokane Reservation, where the receiving waters flow, are considered affected states. Thus, Ecology must consider the water quality standards of both jurisdictions in making permit decisions.

In addition, federal regulations clearly and unambiguously require Ecology to include in these permits any conditions necessary to achieve the Spokane Tribe’s water quality standards, including limitations on all pollutants which Ecology determines will cause or have the reasonable potential to cause or contribute to an excursion above the Tribe’s water quality standards.<sup>13</sup>

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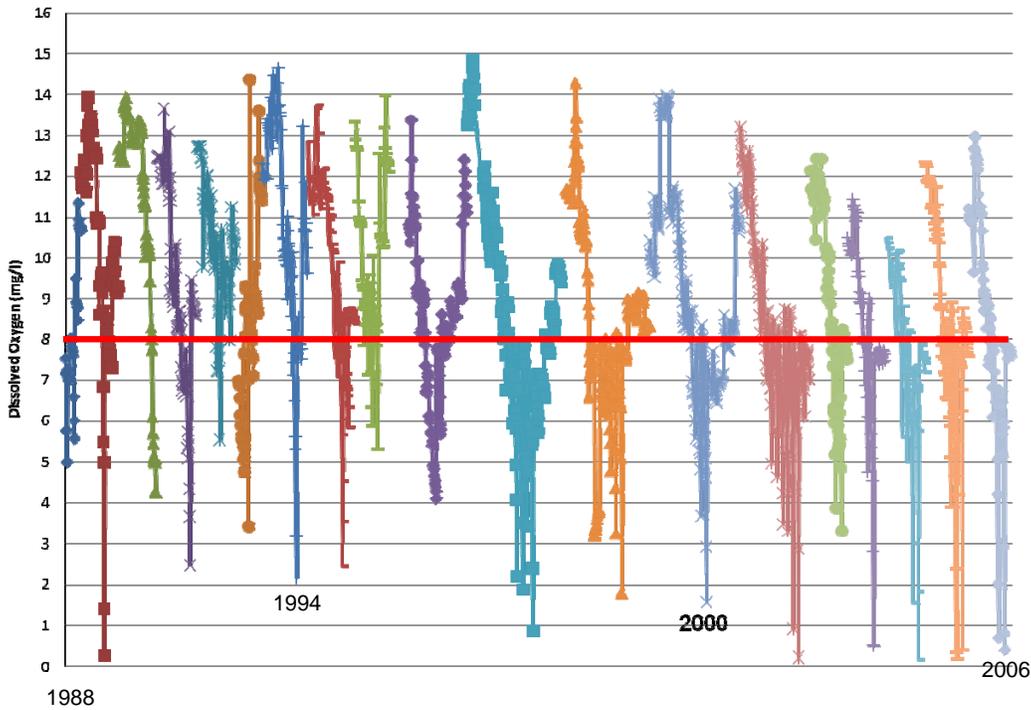
<sup>12</sup> 40 C.F.R. § 122.4 (d).

<sup>13</sup> 40 C.F.R. § 122.44(d).

As set forth by the Supreme Court, any NPDES permit issued to a discharger in an upstream jurisdiction must include limitations necessary to comply with the water quality standards of a downstream jurisdiction. *Arkansas v. Oklahoma*, 503 U.S. 91, 107 (1992); *see also Montana v. EPA*, 941 F. Supp. 945 (D. Mont. 1996); *City of Albuquerque v. Browner*, 97 F.3d 415 (10<sup>th</sup> Cir. 1996).

Unfortunately, the permits provide no discussion or analysis of compliance with the Spokane Tribe's water quality standards. It is clear that the Tribe's water quality standards are not being met. As illustrated below, data from the Tribe indicates alarming low levels of dissolved oxygen at Porcupine Bay on the lower Spokane River. These levels have dipped as low as 0.2 mg/L, significantly below the tribal standard of 8.0 mg/L.<sup>14</sup>

### Ranges of DO concentrations at Porcupine Bay



Source: Chris Butler, Spokane Tribe

Moreover, as indicated by the draft PCB TMDL<sup>15</sup>, the Tribe's PCB standards are not being met. Drastic reductions in PCBs are required to meet these standards. The draft PCB TMDL states:

<sup>14</sup> Tribal standards are available at <http://www.epa.gov/waterscience/standards/wqslibrary/tribes/spokane.pdf>.

<sup>15</sup> Available at <http://www.ecy.wa.gov/pubs/0603024.pdf>.

A PCB loading scenario was proposed based on meeting the Spokane Tribe water criterion for PCBs (3.37 pg/l). The scenario requires a 95% PCB load reduction at the Idaho border, a 97% load reduction in the Little Spokane River, and  $\geq 99\%$  reductions in municipal, industrial, and stormwater discharges.

Draft PCB TMDL at 9.

The permits lack any analysis of how the four Washington permittees may cause or contribute to the DO and PCB problems on the Spokane Reservation. In fact, despite explicit analysis by Ecology indicating a need for significant reduction to meet the Tribe's PCB limits, the permits lack any PCB effluent limits. Legally, Ecology must analyze whether the permittees cause or contribute to a violation on the Spokane Reservation and include water quality-based effluent limits to address those standards.

**9. Initial Interim Limits should be Established Based on Existing Performance.**

The permits could allow increases in pollution discharges up to existing flow limits until pollution reduction measures are implemented. To avoid any making water quality problems worse, Ecology must cap flows and pollutant discharge from these facilities at existing performance until interim and final effluent limits can be met. These caps should be based upon actual performance and design flows. This is consistent with the Permit Writer's Manual, which specifies: "If longer than five years, an interim limit, based on existing performance, is placed in the permit." Permit Writer's Manual at VI-36.

These caps should include a cap on flow based upon existing levels, as well as PCBs and all dissolved oxygen impacting pollutants.

**10. The Delta Elimination Plans are Poorly Defined and may not be Scientifically/Legally Defensible.**

All four permits include a delta elimination plan, but these plans are not well defined. The plans are intended to allow the point source dischargers to get credit for nonpoint source pollutant reductions. In effect, a trading program is being established, but without the specifics that allow the public to understand and provide input into trades.

The permits do not specify how permittees are to engage in such a program and how trades might or might not impact compliance with numeric permit limits. The permits further state that delta elimination will be allowed to help meet wasteload allocations, although no specifics are provided regarding exactly how this accounting will be done, and how permit compliance will be monitored. Moreover, the permits lack provisions that specify the specific "delta reduction" actions and provisions for enforcement if those actions are not implemented.

For example, the City of Spokane and Liberty Lake draft permits refer to “delta credits earned, expended and available for trading.” The Kaiser Aluminum and IEP draft permits state that annual reports shall include delta elimination plans and an “assessment on the progress of meeting the Waste Load Allocation Target for total phosphorus (through the combination of phosphorus treatment technology and delta elimination).”

The poorly defined delta elimination plans raise doubts about whether the future effluent limitations will ultimately be met.

Beyond being poorly defined, it is questionable whether relying on delta elimination plan is scientifically/legally defensible. Washington law limits credits or offsets to the proportion of the non-point source reductions which occur beyond existing requirements.<sup>16</sup> Similarly, EPA’s Water Quality Trading Policy provides credits only for pollutant reductions greater than those required by regulatory requirement or established under a TMDL.<sup>17</sup>

WAC 173-201A-450(1) provides, “A water quality offset occurs where a project proponent implements or finances the implementation of controls for point or non-point sources to reduce the levels of pollution for the purpose of creating sufficient assimilative capacity to allow *new or expanded discharges*.” The regulation does not address offset for existing levels of discharge. Regardless, the regulation is clear that “[t]he improvements in water quality associated with creating water quality offsets for any proposed new or expanded actions *must be demonstrated to have occurred in advance* of the proposed action.” *Id.* at 450(2)(b)(emphasis added). Accordingly, water quality offsets may be used for new and expanded discharges only after it is demonstrated that the improvements by the offset actions have occurred and are having the desired water quality benefits.

Moreover, an offset proposal must be supported by “good science”:

(c) The technical basis and methodology for the water quality offsets is documented through a technical analysis of pollutant loading, and that analysis is made available for review by the department. The methodology must incorporate the uncertainties associated with any proposed point or nonpoint source controls as well as variability in effluent quality for sources, and must demonstrate that an appropriate margin of safety is included. The approach must clearly account for the attenuation of the benefits of pollution controls as the water moves to the location where the offset is needed.

The draft TMDL for about a 15% nonpoint source reduction from the tributaries. Unlike point sources, non-point source pollution is notoriously difficult to control. Its sources

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<sup>16</sup> WAC 173-201A-450.

<sup>17</sup> Final Water Quality Trading Policy, III D. (EPA 2003) at <http://www.epa.gov/owow/watershed/trading/finalpolicy2003.html>.

are myriad - such as urban runoff, forestry practices, agricultural practices including crop and animal feeding operations, and recreation, including boats and marinas - and enforcement difficult. As a result, TMDLs must focus first on addressing the largest controllable sources first, point sources, while working on preventive and curative non-point source actions.

One of the non-point phosphorous reduction “success stories” from the Inland Northwest is the Cascade Reservoir near McCall, Idaho. The Cascade Reservoir captures runoff from a 357,000 acre watershed in the Payette River basin (a slightly smaller watershed than the Hangman watershed). As illustrated below, EPA reports the phosphorous loadings to the reservoir declined by 21% (57% of the reduction goal) after 8 years and the investment of \$20 million. Non-point source load was reduced only 12% (41% of the total goal of 31% reduction sought). Agricultural non-point source (like that in the Hangman watershed) achieved a 6% reduction (21% of the goal) -- well short of what had been originally projected.

#### Summary of Estimated Phosphorus Loads and Reductions for Point and Nonpoint Sources in the Cascade Reservoir Watershed, 1994 through 2002

	Total Load (kg/yr)	Projected Reduction (kg/yr) <sup>a</sup>	Reduction Achieved to Date (kg)	Percent of Reduction Achieved to Date
<b>Point Sources</b>				
McCall Wastewater Treatment Plant <sup>b</sup>	3,947	3,947	3,947	100%
Idaho Fish and Game fish hatchery	726	508	508	100%
Point source totals	4,673	4,455	4,455	100%
<b>Nonpoint Sources</b>				
Forestry	8,840	2,652	2,675	101%
Agriculture	11,740	3,485	745	21%
Urban and suburban	4,423	1,359	255	19%
Septic systems	2,205	1,544	838 <sup>c</sup>	38%
Unidentified and natural sources	8,508	2,134	80	4%
Nonpoint source totals	35,716	11,174	4,593	41%
<b>Grand Total</b>	<b>39,881</b>	<b>15,121</b>	<b>8,540</b>	<b>57%</b>

<sup>a</sup> Contains management, natural, and background loading.

<sup>b</sup> Construction of winter storage pond is not yet complete. Storage and delivery systems will be completed and tested. Additional options for effluent use are being investigated to ensure that the system will operate with no discharge to North Fork Payette River in extreme water years.

<sup>c</sup> The 838 kg figure used assumes that all septic-to-sewer hookups completed included proper decommissioning of the septic tanks. This assumption has yet to be validated. Septic decommissioning is being evaluated.

Source: EPA, Section 319: Non-point Source Success Story: Idaho, available at [http://www.epa.gov/nps/success/state/pdf/id\\_cascade.pdf](http://www.epa.gov/nps/success/state/pdf/id_cascade.pdf).

Over-reliance on non-point source reduction as a potential offset or trade in the delta elimination plan could efforts to meet water quality standards. For example, delta elimination will not be sufficient if the permittees only reduce phosphorus concentrations

in their effluent to 50 µg/L and attempt to offset the remainder through activities including non-point source reduction.<sup>18</sup> Ecology's April 2007 Spokane River TMDL Model Simulations report found that even with 100% non-point source control that standards would not be met, stating:

The simulation was run with constituent concentrations in Hangman Creek, Coulee Creek, and the Little Spokane River set to values corresponding to natural conditions. Input files at the upstream boundary condition were provided by EPA. These input files were the output of the model developed for the Idaho section of the Spokane River. The Idaho simulation included point source loads corresponding to the proposed Idaho permits (Cope, 2006).

...

With constituent concentrations in Hangman Creek, Coulee Creek, and the Little Spokane River being set to natural condition values, the simulation with Washington point sources having total phosphorus concentrations of 50 micrograms/liter slightly exceeded the standard of 0.2 mg/l on several occasions.

DO TMDL at 81. Obviously, 100% control on nonpoint sources in the tributaries is an impossible task. What this does illustrate is that the permittees must achieve significantly better than 50 µg/L in order to meet water quality standards. The permits must reflect this reality.

**11. Additional Documents must be Available for Citizen Review.**

The permits call for the creation of additional documents, such as a technology selection protocol, engineering report, and delta elimination plan. Ecology rules related to the administration of the NPDES program address public access to information, stating "the department shall make records relating to NPDES permits available to the public for inspection and copying." WAC 173-220-080(1). Accordingly, it should be made clear that these documents will be available for public review.

**12. The Permits fail to Account for all Existing Controls on Point and Nonpoint Sources of Pollution.**

Federal law requires Ecology to account for all existing controls on point and nonpoint sources of pollution when determining whether a discharge causes or has the potential to cause or contribute to water quality violations. The modeling shows that existing controls on point and nonpoint sources in Idaho and Washington are inadequate to

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<sup>18</sup> See Foundational Concepts, available at [http://client-ross.com/spokane-river/docs/FoundationalConcepts\\_v21.pdf](http://client-ross.com/spokane-river/docs/FoundationalConcepts_v21.pdf).

control pollution in Lake Spokane. Accordingly, Ecology must consider these sources in conditioning these permits.

Washington water quality standard for Lake Spokane for dissolved oxygen is no measurable (0.2 mg/L) decrease from natural conditions. Washington's standards also require consideration of all existing sources, *e.g.* a cumulative analysis, as does 40 C.F.R. § 122.44(d). Unfortunately, EPA has drafted permits that allocates the entire 0.2 mg/L decrease to the three small Idaho dischargers and has called upon Ecology to consider pollution crossing the Stateline as "natural." *See* DO TMDL at 16-17.

EPA's interpretation of Washington's lake criteria is difficult to sustain on its face. Unfortunately, this leaves no allowable allocation for Washington sources (nonpoint and point). Ecology must consider all existing sources of loading to Lake Spokane, both in Idaho and Washington, in calculating protective effluent limits in this permit.

Upon learning that EPA intended to grant the entire allowable loading to Idaho, Ecology's Senior Water Quality Standards Analyst, Mark Hicks, sent an email to Ecology and EPA staff stating:

I am a little bewildered about how EPA is dealing with dissolved oxygen issues right now. For the Spokane River, EPA appears poised to grant a 0.2 mg/l depression from naturally low dissolved oxygen levels to the point source dischargers in Idaho, and then grant another 0.2 mg/l depression for the Washington dischargers. However, our standards allow only a cumulative 0.2 mg/l depression below naturally low oxygen levels for all human sources combined (point and non-point), not 0.4 mg/l. Further the 0.2 is for our state's dischargers, not Idaho's.

- How can EPA interpret our standards as permitting the 0.2 mg/l human allowance to go to Idaho's dischargers?
- Shouldn't EPA be accounting for non-point source contributions?
- How can EPA ignore that our standards set a cumulative 0.2 depression by granting a cumulative 0.4 mg/l.?
- What is the mechanism for overriding our state standards in writing permits?
- EPA standard's staff involved in the ongoing review of our standards have formally questioned whether or not we should even be giving 0.2 mg/l?

- Why did EPA, who has told us they believe 0.1 is measurable and more appropriate, not divide the 0.2 mg/l allowance between the two state's dischargers?
- Won't this result in other dischargers in our state questioning why they are being held to 0.2 since EPA finds 0.4 sufficient to meet our standards and the CWA?
- EPA has told us that the existing oxygen criteria are probably not protective enough to pass ESA, yet they appear ok with allowing a 0.4 further depression from natural levels that are below those questionable criteria. How can they be knowingly allowing an even greater depression from levels below what they question as protective?

The current EPA dialogue on dissolved oxygen does not appear defensible or logical. The current approach of treating each issue (CWA review, ESA review, NPDES permitting, TMDL) independently and inconsistently is almost certainly going to lead to greater problems for the state in the long run.

We should be encouraging EPA Region 10 to develop a more coherent policy surrounding the review and application of our state's dissolved oxygen criteria.

It is clear that the combined effect of the EPA proposed permit limits, the allocations in the draft DO TMDL, and these proposed limits is to authorize degrading dissolved oxygen by 0.2 mg/L from the Idaho sources and an additional 0.2 mg/L degradation from the Washington sources. This approach sets a *de facto* criteria of 0.4 mg/L reduction in dissolved oxygen as the new target that is not consistent with Washington water quality standards. This approach is based on faulty legal reasoning, bad science, and results in violations of federal law.<sup>19</sup> Ecology must recalculate the proposed effluent limits considering the impacts of the loading from the three Idaho facilities.

While it is true that Washington may not impose waste load allocations on Idaho dischargers, it is clear that EPA has a duty under the Clean Water Act to consider all sources contributing to water quality violations in Lake Spokane in setting waste load allocations in the Idaho permits. Indeed, EPA approved the bi-state Spokane River Phosphorus Management Plan in 1989 that included the Idaho and Washington dischargers. This plan was established in lieu of a TMDL for phosphorus and was intended to "equitably distribute responsibility for point source phosphorus control and

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<sup>19</sup> This is well illustrated by the statements of the former TMDL writer, Drea Traeumer, in a recent article in the Spokesman Review ("My recommendations on how to proceed defensibly were disregarded."), available at [http://www.spokesmanreview.com/tools/story\\_pf.asp?ID=208812](http://www.spokesmanreview.com/tools/story_pf.asp?ID=208812).

any benefits resulting from its removal to all point source dischargers to the Spokane River upstream from Long Lake.” Although that plan proved insufficient, the need for a watershed-based solution remains. Ecology must consider the impacts of the sources from both sides of the Stateline when drafting these permits and must call upon EPA to apply Washington’s water quality standard in a manner consistent with the Clean Water Act.

## **Comments on Individual Permits and Factsheets**

### **City of Spokane**

- **Draft Permit**

**Section S1.A Page 7-8:** The permit does not include final water quality-based effluent limitations (WQBELs) for phosphorus, CBOD, and ammonia as required by 40 C.F.R. § 122.44(d). The appropriate WQBELs for the pollutants which affect dissolved oxygen in receiving waters are identified in the draft TMDL.

It is unclear whether these are the final or interim effluent limits for this facility. If this is the interim limit, the permit should clarify as such, provide the final effluent limitation, and, pursuant to WAC 173-201A-510(4)(c), provide for a ten year compliance schedule.

The effluent limits for the low flow season are identical to the limits for the high flow season. Moreover, the effluent limits for ammonia and BOD are also identical. These are pollutants of concern that impact dissolved oxygen levels in Lake Spokane. Moreover, the Spokane River is critically impaired for fecal coliform bacteria and the section of river near the treatment plant is a popular for primary contact recreation. Accordingly, the permit should consider impacts associated with fecal coliform in the low flow season. Consideration of low flows and its impacts to the river needs to be considered for all pollutants, particularly those impacting water quality standard compliance.

The phosphorus limit in the draft permit represents only a small change in current discharges. In recent years, phosphorus discharges during the period from April through October have averaged 0.85 mg/L.<sup>20</sup> The new concentration limit for the City of Spokane of 0.63 mg/L during the period when chemical removal is required would therefore require only a small decrease in phosphorus concentrations compared with recent average discharges.

As illustrated by footnote f, the dates for seasonable phosphorus removal, as defined by the low flow season, are inconsistent throughout this permit. Moreover, these dates appear to be inconsistent with the draft TMDL. The draft TMDL provides, “In-stream

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<sup>20</sup> Annual averages are year-round averages of average monthly data from January 2005 through August 2007 from DMRs. April through October averages use average monthly data from April through October in 2005 and 2006, and from April through August in 2007. City of Spokane is for Outfall 005A.

concentrations for various reaches must be approximately 10 µg/L total phosphorus during the critical period (April 1 – October 31).” TMDL at v.

The effluent limitations appear to be inconsistent with the TMDL in that it lacks the wasteload allocations for CBOD contained in the draft TMDL (383.4 lbs/day and 466.1 lbs/day by 2027). TMDL at ix. Moreover, the ammonia allocation is similarly inconstant. *Id.*

The pH limit of 6-9 is inconsistent with the limit described in the factsheet of 6.0-7.8. Factsheet at 25. This inconsistency should be remedied and explained.

The bacteria limit appears to be too high, since this leaves no margin of safety (it appears to be set right at criteria).

The permit lacks an arsenic wasteload allocation. The factsheet indicates a potential that the discharge of arsenic from this facility will cause an exceedance of water quality standards and sets an effluent limit of 0.23 µg/L (monthly average) and 0.46 µg/L (daily max). Factsheet at 24. However, the factsheet summarily dismisses the limit. In the absence of an arsenic limitation, additional information is needed regarding the decision to not such a limit.

**Section S2, Page 10-11:** The permit should contain a placeholder to allow inclusion of monitoring plan requirements referenced in the draft TMDL.

The permit should require monthly monitoring of total PCBs via grab samples and the development of a track back and source identification plan designed and implemented within a year

Footnote 1 should state, “the permittee shall monitor” not “monitoring.”

**Section S4.A, Page 14-15:** The flow restriction should be clearly articulated with the Wasteload Allocation chart on pages 7-8.

Moreover, the flow limitations, themselves, are not consistent with the TMDL. The average monthly dry season limit in the permit is 55.9 million gallons a day (mgd), but the TMDL predicts flows of 41.76 and 50.77 mgd in 2017 and 2027, respectively. The permit recognizes that the Foundational Concepts established an annual average flow of 43.0 mgd, but does not reconcile these various flows.

Moreover, average annual flows and the average flows during the critical period from April through October have been 38.98 mgd and 38.39 mgd.<sup>21</sup>

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<sup>21</sup> Annual averages are year-round averages of average monthly data from January 2005 through August 2007 from DMRs. April through October averages use average monthly data from April through October in 2005 and 2006, and from April through August in 2007. City of Spokane is for Outfall 005A.

Finally, the flow greatly exceeds the flow laid out in the Foundational Concepts document. As stated in the draft permit:

The collaboration effort that produced the 'Foundational Concepts' which this permit is implementing established an annual average flow of 43.0 MGD for the time period of this permit cycle.

Not only are these expanded flows inconsistent with the draft TMDL, they are inconsistent with federal regulations regarding NPDES permits, which prohibit increased discharges into non-compliant water quality segments unless certain strict controls are in place. *See* 40 C.F.R. §§ 122.4(i), 122.44(d).

Increased discharge flows which do not comply with appropriate WQBELs will further degrade water quality. This increased loading to the river should not be allowed without first installing appropriate treatment to control the pollutants that cause and contribute to violations of WQ standards. Pollutant loading associated with the discharge should be capped at the existing permitted treatment capacity until treatment is installed to remove these pollutants. Accordingly, during the term of this permit and until the final limit of 10 µg/L is attained, the maximum flow during the critical period should be limited to 43.0 mgd.

**Section S4, Page 16:** Section E on this page calls for an “annual assessment of ... flow and waste load” to be submitted by “July 1, 2007.” This may be a typo as this date has already passed.

**Sections S6 & S7, Page 20-33:** The permit should require a robust pre-treatment program to control phosphorus and PCBs. Both the City and County of Spokane have pretreatment programs as conditions of this draft NPDES permit, but neither include mandatory phosphorus or PCB control.

Next to human wastes, a variety of industrial and commercial dischargers contribute the most phosphorus to the influent streams of wastewater treatment plants (WWTP). The contribution of phosphorus from commercial and industrial sources accounts for approximately 46 percent of the non-ingested phosphorus load discharged into WWTPs. Reducing the commercial and industrial phosphorus contribution to WWTPs by one half would reduce the total non-ingested phosphorus discharged to WWTPs by almost 23 percent.<sup>22</sup>

Numerous commercial, industrial, and institutional businesses utilize phosphorus for such activities as cleaning and sanitizing, metal preparation, finishing and painting, and food processing. Such enterprises include car/truck washing facilities, dairies, food processing

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<sup>22</sup> Minnesota Pollution Control Reports, <http://www.pca.state.mn.us/publications/reports/pstudy-section4.pdf>.

plants, meat packing and locker plants, metal finishing facilities, nursing homes, hospitals, research facilities, restaurants, and schools. Many of these, especially food processing plants, contribute a significant amount of CBOD as well.

Traditionally, industrial/commercial pretreatment programs focused on end-of-pipe solutions to control the discharge of industrial/commercial wastewater phosphorus, thus increasing the cost of wastewater treatment and requiring larger amounts of harsh treatment chemicals. Indeed, there are currently no pretreatment regulations, standards or requirements for phosphorus reductions from such businesses in the region.

Appropriate pretreatment programs designed to reduce phosphorus from these sources can reduce influent loadings of phosphorus and reduce influent water (hydraulic loading) thus avoiding the need to invest in additional sewer and treatment capacity, reducing chemical, energy and sludge management costs, reducing water demand, and increasing the life of existing water supplies.<sup>23</sup> For example, the City of St. Cloud, Minnesota implemented a Phosphorus Management Plan that included strict pretreatment controls, biological treatment, modifications to city and local codes, and education and outreach to commercial businesses and residents. As a result, the City reduced the amount of phosphorus coming into its POTW by 32% and the amount of phosphorus leaving the facility by 48%.<sup>24</sup>

Appropriately crafted pretreatment regulations can also benefit industry by enhancing environmental performance, reducing water consumption, lowering operating costs, and reducing regulatory burdens. For example, by implementing a phosphorus reduction program in its manufacturing process, Electrolux Home Products, a freezer manufacturer, dropped its phosphorus loading by 90%.<sup>25</sup> Rochester Powder Coating, a facility that paints sheet metal parts using powder coatings, reduced its phosphorus discharge by 98% over two years by using pollution prevention practices.<sup>26</sup>

The City has a duty to protect its plant from discharges of pollutants into the collection system by industrial/commercial users which may interfere with treatment process, pass through to receiving waters, or contaminate WWTP sludge. The primary regulatory mechanism to control these pollutants is through pretreatment standards and requirements. 33 U.S.C. § 1317; Title 40 Chapter 403 C.F.R; RCW 90.48.260; WAC 173-208-090, 173-216-150. Excise taxes and/or effluent strength charges may also reduce influent pollutants.

Both the City and County of Spokane have pretreatment programs as conditions of their combined NPDES permit, but neither include mandatory phosphorus control. There are many unregulated sources of phosphorus that could be addressed through pretreatment

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<sup>23</sup> See Minnesota Technical Assistance Program at <http://mntap.umn.edu/POTW/index.htm>.

<sup>24</sup> <http://mntap.umn.edu/pmp/stcloud.htm>.

<sup>25</sup> <http://mntap.umn.edu/POTW/electrolux.htm>.

<sup>26</sup> <http://www.p2pays.org/ref/04/03462.htm>. For more examples, see <http://mntap.umn.edu/POTW/industrial.htm>

requirements. For example, Ecology has calculated 21 car washes in Spokane, 11 in Spokane Valley, and 3 operated by Public Transit.<sup>27</sup> Very few of these have recycling systems.

Ecology should require the City to identify and implement appropriate phosphorus reduction processes applicable in various industrial settings. In addition to mandatory requirements, Ecology should require the City to develop a program of education and technical assistance for industrial, commercial, and institutional businesses that contribute phosphorus (and other nutrients) to the wastewater plant, to enact ordinances amending pretreatment requirements and standards under their respective sewer codes to require all known, available and reasonable phosphorus removal and other pollution prevention measures by industrial/commercial users, and to amend sewer rates to provide incentives for compliance with phosphorus reducing pretreatment requirements and standards. For example, the standards could require the connecting customer to maintain a waste stream that is cost-effective and equitable to treat and will not cause WWTP violations or loss of nutrient load allocation capacity. This should be a condition of sewer service availability.

Similarly, the NPDES permit should require mandatory PCB control as part of a pretreatment requirement. At a minimum, the permit should have a requirement for the City to implement a source identification program to identify sources of PCBs. Santa Clara Valley has adopted a pollution prevention program that includes source identification and control that could be adopted in Spokane.<sup>28</sup> As municipal wastewater treatment facility, Spokane may not be able to completely eliminate PCB discharges. Some PCBs will be present in domestic waste for some years to come. However, Spokane does have a great deal of influence concerning wastewater inputs to the wastewater system and the pretreatment of waste. Therefore, a track-back study that identifies sources of PCBs coming into the plant should be a high priority requirement for this permit. Once these sources are identified, actions may be taken to reduce their impact.

Actions may include the implementation of BMPs or even cleaning sewer drains which have been found to be significant sinks of PCBs in urban environments, subsequently resulting in additional PCB loadings to waterways. Controlling these sources will be key to the successful reduction of PCB loading to the River, and should be acted on as soon as possible.

At a minimum, Ecology should require the City to adopt a program that has the following components:

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<sup>27</sup> See Email from Michael Hepp, included as Attachment D.

<sup>28</sup> See <http://www.sevurppp-w2k.com/pcbs.htm>.

Action	Tools / Sub-tasks
Identify PCB contaminated sites in service area	Review records and conduct site investigations
Research types and age of structures that would most likely contain PCB-containing materials	Define procedures to identify which structures are most likely to contain these materials.
Identify unenclosed PCB sources in service area	Use procedures identified above to identify structures. Review building & planning department records, maps, other local agency records, site investigations
Identify areas likely to have elevated levels of PCBs in sediments	Evaluate based on information obtained for contaminated sites and unenclosed sources
Evaluate accumulated sediments in conveyance systems	Conduct sediment monitoring, upstream investigations in identified areas
Prioritize identified sources for further action	Prioritization conducted periodically as information on sources is developed. Tools include: • Screening level load estimate • Concentration evaluation • Ease of implementation/ cost • Potential for runoff • Other factors

**Section S11, Page 35:** There is a blank in the description of the ACEC – “The ACEC equals \_\_ % effluent.”

**Section S12, Page 36:** The requirements for CSO should specifically include the measures/requirements set forth in Ecology’s September 11, 2006 Administrative Order 3821 (included as Attachment E). This order was issued as a result of an unlawful dry weather CSO event that occurred over the serious of several days in July 2006. The order is intended, in part, to reduce the occurrence and impact of these types of events. Moreover, it does not appear that the requirements of the order have been implemented. Accordingly, the requirements should be explicitly included as requirements of this permit.

This description of the CSO needs updating. According to the City’s 2006 Report<sup>29</sup>, CSO 2 & 3c are consolidated and regulated at CSO 2 and 3c Control Facility to overflow no more than once per year on average via Outfall 2. CSO 3b is physically eliminated. Moreover, flow from CSO 18 has been routed to CSO 16, which has been upgraded with the 192,000 gallon in-line storage facility.

**Section S14, page 42-43:** The compliance schedule has few enforceable milestones, but merely identifies a schedule by which construction of additional treatment for phosphorus removal (to achieve the interim limitation) is to be “substantially completed”. The permit must contain final WQBELs and should contain interim limitations with a

<sup>29</sup> Available at <http://www.spokanewastewater.org/CSOAnnual2006.pdf>.

meaningful compliance schedule to achieve the final limitations. This permit does not contain final WQBELs, nor does it contain a schedule to meet final WQBELs.

The “delta elimination plan” is poorly defined in the permit, factsheet, and TMDL. The tasks to reduce pollutant loading, which the dischargers agreed to undertake in these negotiations, are not specifically included in the compliance schedule. The date by which final WQBELs must be achieved is not specified. The compliance tasks and milestones are loosely worded and the following language is included which undermines the schedule’s enforceability:

The Department does acknowledge that the above schedule is aggressive and the permittee does have the right to request an amendment in the future based on progress made, other new information and appropriate justification.

It is clear that the compliance schedule must be consistent with WAC 173-201A-510(4)(c). This section specifically provides:

Prior to establishing a schedule of compliance, the department shall require the discharger to evaluate the possibility of achieving water quality criteria via nonconstruction changes (e.g., facility operation, pollution prevention). Schedules of compliance may in no case exceed ten years, and shall generally not exceed the term of any permit.

The date of final compliance is unclear, but does not appear to be within the 10 years allowed. A date for the achievement of the final effluent limitations for total phosphorus (10 µg/L), ammonia, and CBOD needs to be included. Moreover, there is no evaluation included of nonconstruction changes to reduce pollution discharges as required by the regulation.

The draft permit does not contain the requirements set forth in the draft TMDL for the completion and approval of the Technology Selection Protocol and Engineering Report. TMDL at 27, 29.

Subsections B and E refer to an interim effluent limitation of 50 µg/L TP. However, nowhere in the draft TMDL or in the permit is there an interim limit of 50 µg/L established. The TMDL specifically states, “When new treatment technology is installed, Ecology will set interim phosphorus permit limits based on the engineering reports.” TMDL at 29. The TMDL does not set a target or wasteload allocation of 50 µg/L. Accordingly, the interim limit must be based upon technology selection and not an arbitrary number of 50 µg/L.

**Section S15, page 43:** The deadline for renewal of November 31, 2011 does not correspond to the deadline on page 6 (May 15, 2012).

- **Factsheet**

**Page 2-3, History:** The description of the CSO system should be updated to reflect: (1) the details of Ecology's September 11, 2006 Administrative Order 3821, including the details surrounding the order and (2) the status of the CSO elimination program.<sup>30</sup> Moreover, the City has been working since the 1980s as part of the 1979 CSO Abatement Plan to separate stormwater systems, not 1993 as referenced on page 3.

This section references a projected dry weather flow of 56 MGD by 2015. This contradicts the TMDL, which predicts flows of 41.76 and 50.77 mgd in 2017 and 2027, respectively. It must be noted that Ecology cannot approve a facilities plan for increased discharge (more loading) to waters already impaired by the existing discharge. WAC 173-240-040.

**Page 6, Discharge Outfall:** This section should be updated to reflect upgraded/eliminated CSO outfalls and those scheduled for upgrade/elimination during the term of this permit.

**Page 7, Summary of Compliance with Previous Permit:** This section has no description of the dry weather CSO events that the City has reported, including the two events resulting in Department of Ecology fines. For example, the City has reported 29 dry weather overflows during the period of January 2004- September 2006 resulting in ½ million gallons of unlawful discharge. Moreover, Ecology issued fines for dry weather CSO events during the July 2006 and August 1999.

There is no discussion in the section of compliance with the previous permit's pretreatment requirements, CSO removal requirements, or discussion on the digester collapse.

**Page 7, Wastewater Characterization:** There is no discussion of how effluent characterization was impacted by the digester collapse and reconstruction. Moreover, Ecology should include characterization based on DMR reporting. The information does not seem accurate. For example, it has been reported that the typical summer season concentrations for phosphorus in the effluent is less than 0.5 mg/l. This is half of what is reported in this section. The 85% removal of phosphorus applies only during the critical season and characterization of this pollutant should have been identified for the period when treatment to remove phosphorus are being applied.

**Page 9-10, Design Criteria:** Was the July 2001 Conceptual Design Report referred to in this section approved by Ecology? If so, on what date?

Moreover, the reference to Spokane County's satellite plant is incorrect. The County intend to build its own plant to accommodate growth and, although some rerouting of

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<sup>30</sup> See <http://www.spokanewastewater.org/CSOAnnual2006.pdf>.

flow may occur, the County intends to maintain their contracted capacity of 10 mgd at the City's plant.<sup>31</sup>

**Page 10, Table 3:** The Table further demonstrates why the flow of 55.9 mgd is inconsistent with the TMDL and projected growth.

Moreover, this table misrepresents the fact that Spokane County will not be removing 10 mgd from the City's plant if a new County WWTP is built.<sup>32</sup> Does the above table also presume that Airway Heights will also be discharging in the future?

**Page 11-12, Technology-Based Effluent Limitation:** The tertiary treatment that must be installed to achieve necessary phosphorus limitations, will also produce a final effluent with very low turbidity that is very amenable to UV disinfection, as opposed to the use of chlorine.

The first three monthly effluent mass loadings calculated on page 11 do not have an no indication of what pollutants/parameters they were calculated for.

Please explain the basis for the 13,448 lbs/day interim limit for CBOD described on the top of page 12. It is unclear what this number represents.

**Page 12, Numeric Criteria for the Protection of Aquatic Life:** This section refers to WQBELs that should be applicable to the Spokane River. However, it does not appear that any WQBELs were actually utilized.

**Page 16, Surface Water Quality Criteria:** This section identifies a need for a 99% reduction in municipal PCB discharges to meet the Spokane Tribe's water quality standard. What is the basis for not including a PCB effluent limitation given the existing science that supports such a limit? As stated above, the fact that the TMDL is not final is not a legal excuse for not including a PCB effluent limit.

The last paragraph of this section refers to a potential temperature analysis. Was the CE-QUAL-W2 model used to assess temperature impacts of this discharge? If not, why? CE-QUAL-W2 can model temperature impacts to a river.<sup>33</sup>

**Page 17, Consideration of Surface Water Quality-Based Limits for Numeric Criteria:** It is unclear why the 7Q10 flow of 757 cfs referred to on this page does not match the 7Q10 flow used in the chart on the bottom of the page. What is the basis for this discrepancy?

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<sup>31</sup> See County's Facilities Plan at <http://www.spokanecounty.org/utilities/wwfp/>.

<sup>32</sup> See County's Facilities Plan at <http://www.spokanecounty.org/utilities/wwfp/>.

<sup>33</sup> See Portland State University CE-QUAL-W2 website at <http://www.ce.pdx.edu/w2/>.

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Moreover, this page refers to the seasonal 7Q20 as the “critical condition.” Ecology’s permit writer’s guidance provides that the 7Q10 flow is to be used as the critical condition.

In general, it does not appear that the analysis on this page including information from the recent USGS aquifer study and information that is and has been obtained from the CE-QUAL-W2 model. The data and CE-QUAL-W2 model calibrated to 2001 which more closely resembled the actual 7Q10 flow of the river. Does this analysis consider the most recent information available from these tools? Moreover, the 2004 water quality assessment<sup>34</sup> also illustrate the trend in 7Q10 flows over the past 100 years has declined from 1,700 cfs in 1900 to about 600 in 2001. Given this trend, it is logical to assume critical condition 20 years from now will be lower still.

**Page 17-18, Chart:** These figures appear to be identical to the existing permit. Have these numbers been verified/updated to reflect the most accurate information about the river?

There is a reference in a cell on page 17 to “yr. 2004 Spokane.” This reference is confusing. The model was calibrated with 2001 data, not 2004.

The top cell on page 18 is labeled “River DO TMDL model.” What is this? Is this a reference to the CE-QUAL-W2 model? Please provide more information regarding this reference.

The chart indicates that cadmium, lead, and zinc levels “exceed criterion” (this should be criteria) and therefore limits will be “performance-based.” This is an incorrect approach. Ecology cannot allow limits that allow more than the river can handle to meet standards. The TMDL had assumed reductions from Idaho sources to meet standards. This has not occurred and there is nothing in the Clean Water Act that allows a point source that will “cause or contribute” to a water quality standards violation. Ecology must establish water quality-based effluent limits for these parameters.

**Page 19, CBOD<sub>5</sub>, Ammonia, and Total Phosphorus:** There is nothing in the literature or in the modeling reports included with the TMDL to support the assumption that ammonia and CBOD would be controlled as a result of phosphorus control activities. To the contrary, the modeling reports specifically address an ammonia reduction. Moreover, the draft TMDL does contain limits for CBOD and ammonia that need to be incorporated into the permit.<sup>35</sup> TMDL at ix.

This page states that the permits will achieve a 10 µg/L phosphorus concentration limit by the end of the second permit cycle. However, this requirement is not reflected anywhere in the draft permit.

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<sup>34</sup> Available at <http://www.ecy.wa.gov/pubs/0403006.pdf>.

<sup>35</sup> Federal law and regulations require that the NPDES permit reflect limits in a TMDL. See 33 U.S.C. § 1311(b)(1)(C); 40 C.F.R. §§ 122.4, 122.44(d)(1)(vii)(B), and 122.62.

Ecology's 2004 water quality assessment of the Spokane River water quality problems<sup>36</sup> represent the most comprehensive information available about pollutant loading capacity and reductions necessary to restore water quality. As such, this information must be used to establish appropriate water quality-based effluent limits for oxygen-impacting pollutants. That analysis was used in the draft TMDL to identify that the loading capacity for nutrient from the Spokane facility is background. There is an assumption that discharges will not cause or contribute to degradation of dissolved oxygen, if they contain no higher concentrations of pollutants than the estimated natural condition concentrations. In the vicinity of the Spokane facility, those estimated conditions are:

CBOD	1.18 mg/l
Ammonia	0.030 mg/l
Phosphorus	0.0082 mg/l

Loading limitations associated with the concentration-based natural background condition need to be based on the actual amount of discharge flow (not a design flow), otherwise the limitations authorize more loading that the receiving water can assimilate.

**Page 19-20, Ammonia:** There is nothing in the literature or in the modeling reports included with the TMDL to support the assumption that ammonia would be controlled as a result of phosphorus control activities. To the contrary, the modeling reports specifically address an ammonia reduction. Moreover, as referenced on the top of page 20, the draft TMDL does contain limits for ammonia that need to be incorporated into the permit.<sup>37</sup> TMDL at ix.

**Page 21, Toxic Pollutants:** This page refers to effluent sampling conducted from July 1996 to May 1999. More current data is available through the City's DMR reports. Why didn't Ecology use more current information?

As stated above, the draft TMDL calls for a 99% reduction in municipal discharge. The final permit must incorporate the best available information and include a PCB effluent limit.

The table on the bottom of this page does not appear to be based upon the most current information. It should be updated.

**Page 22:** The first sentence on this page ("Effluent limits were derived for ammonia, chlorine which were...") is confusing and appears to contradict the previous discussion on ammonia. First, if there is a potential for a violation, why is the limit becoming less stringent as stated in the second paragraph. Second, the ammonia limit, by law, must match the wasteload allocation in the TMDL.

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<sup>36</sup> Available at <http://www.ecy.wa.gov/pubs/0403006.pdf>.

<sup>37</sup> Federal law and regulations require that the NPDES permit reflect limits in a TMDL. See 33 U.S.C. § 1311(b)(1)(C); 40 C.F.R. §§ 122.4, 122.44(d)(1)(vii)(B), and 122.62.

In regards to the less stringent limit for ammonia and chlorine, how does this comply with anti-backsliding provisions of the Clean Water Act, 33 U.S.C. § 1342(o)? There is no analysis of consistency with this provision. This appears to violate the anti-backsliding requirements of the Act.

**Page 25, Chart:** The pH limit in the chart does not match the limit in the draft permit.

The word “Interim” is spelled incorrectly in the title of this chart.

**Page 27-28, Implementation of Foundational Concepts:** Page 27 discusses that the draft TMDL contains an interim limit of 50 µg/L. This is not the case. The draft TMDL calls for at least 50 µg/L, but specifically states that “Ecology will set interim phosphorus permit limits based on the engineering reports.” TMDL at 29. Moreover, any interim limit established must be done consistent with the compliance schedule requirements of WAC 173-201A-510(4)(c). This has not occurred.

Moreover, the CE-QUAL-W2 modeling make it clear that if the dischargers reach 50 µg/L, there still will be water quality violations even with 100% nonpoint source control (which is impossible). TMDL at 80-81. This illustrates the need for the dischargers to achieve much better than 50 µg/L to meet water quality standards.

The requirements for the Technology Selection Protocol and Engineering Report discussed on page 28 are not in the draft permit.

**Page 28, Delta Elimination Plan:** There is no reasonable assurance that significant reductions of pollutant loading from nonpoint sources could ever be accomplished to create loading capacity for the point source discharges absent efforts to reach the 10 µg/L target at the treatment plants. The CE-QUAL-W2 modeling make it clear that if the dischargers only reach 50 µg/L, there still will be water quality violations even with 100% nonpoint source control (which is impossible), stating:

With constituent concentrations in Hangman Creek, Coulee Creek, and the Little Spokane River being set to natural condition values, the simulation with Washington point sources having total phosphorus concentrations of 50 micrograms/liter slightly exceeded the standard of 0.2 mg/l on several occasions.

TMDL at 80-81.

**Page 28, Interim Limits:** Any interim limit established must be done consistent with the compliance schedule requirements of WAC 173-201A-510(4)(c). Moreover, according

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to a recent EPA Region 10 report, it appears that technology to reach 10 µg/L is available, scalable, and affordable.<sup>38</sup>

**Page 28, Final Limits:** Final limits must be water quality-based effluent limits and not performance-based as suggested in this section.

**Page 28, Investment Stability:** Please provide the legal basis for this determination. What is the definition of a “significant modification”? What if additional information/data indicates that additional upgrades are necessary? This seems like an illegal and unenforceable promise on the part of Ecology. Ecology can not “sign away” its Clean Water Act responsibilities.

**Page 29, Class A Effluent:** Consistent with this provision, there is no requirement in the permit that the City’s upgraded facility meet Class A requirements.

**Page 30, Table:** Consistent with the TMDL and Foundational Concepts, the factsheet and permit must require the completion of the technology selection protocol and engineering report.

The date for the conclusion of pilot testing in this table does not match the date in the permit (November 2008).

**Page 34, Pretreatment:** Are there current interlocal agreements with both the City of Spokane Valley and Spokane County for their discharge into the City’s system that included pretreatment requirements? If so, what is the date of these documents?

### **Liberty Lake Sewer and Water District**

- **Permit**

**Section S1, Page 6-8:** The permit does not include final water quality based effluent limits for phosphorus, ammonia, or CBOD. These limits are identified in the draft TMDL. The draft permit assigns a concentration limit for phosphorus of 1 mg/L at the start of the permit cycle, and this limit then drops 50 µg/L. The TMDL, however, requires concentrations to decrease to 10 µg/L in 2017 and 2027. Even though the new draft permit drastically reduces phosphorus concentrations, this is still five times higher than the concentration required in the TMDL. TMDL at ix.

The effluent limitations appear to be inconsistent with the TMDL in that it lacks the wasteload allocations for CBOD contained in the draft TMDL (15.3 lbs/day and 16.4 lbs/day by 2027). TMDL at ix. Consistent with this, the permit should contain a CBOD limit not BOD (as drafted). Moreover, the draft permit lack the ammonia WLA provided

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<sup>38</sup> See <http://yosemite.epa.gov/r10/water.nsf/Water+Quality+Standards/AWT-Phosphorus>.

in the TMDL. *Id.* Moreover, the permit lacks a PCB limit despite information in the draft PCB TMDL indicating that Liberty Lake is a significant source of PCBs.

The interim flow limitations is not consistent with the TMDL. The interim and final flow limitation allows a discharge of 2 mgd beginning on November 1, 2008 prior to any phosphorus removal measures. Permit at 7. However, the draft TMDL predicts flows of 1.41 and 1.51 mgd in 2017 and 2027, respectively. Moreover, an Ecology document, included as Attachment F, indicates that Liberty Lake will not reach 2 mgd until 2036. The permit provides no indication of why the doubled flow is justified prior to the implementation of removal measures. This increase is particularly alarming given that average annual flows and the average flows during the critical period from April through October have been 0.69 mgd and 0.68 mgd.<sup>39</sup>

Not only are these expanded flows inconsistent with the draft TMDL, they are inconsistent with federal regulations regarding NPDES permits, which prohibit increased discharges into non-compliant water quality segments unless certain strict controls are in place. *See* 40 C.F.R. §§ 122.4(i), 122.44(d).

When Ecology approved expansion of the facility at Liberty Lake, it was with the express understanding that flows would remain at 1 mgd and that an expansion would comply with the requirements of the TMDL.<sup>40</sup>

Increased discharge flows, which do not comply with appropriate WQBELs, will further degrade water quality. This increased loading to the river should not be allowed without first installing appropriate treatment to control the pollutants that cause and contribute to violations of WQ standards. Pollutant loading associated with the discharge should be capped at the existing permitted treatment capacity until treatment is installed to remove these pollutants. Accordingly, during the term of this permit and until the final limit of 10 µg/L is attained, the maximum flow during the critical period should be limited to no more than 1 mgd.

The critical period for phosphorus removal is April 1 thru October 31 not October 30 referenced in this section.

Further, if Liberty Lake is going to receive a compliance schedule to meet the 10 µg/L WLA, it must be consistent with WAC 173-201A-510(4)(c). This section specifically provides:

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<sup>39</sup> Annual averages are year-round averages of average monthly data from January 2005 through August 2007 from DMRs. April through October averages use average monthly data from April through October in 2005 and 2006, and from April through August in 2007. City of Spokane is for Outfall 005A.

<sup>40</sup> *See* Letter from Jim Bellatty to Lee Mellish and Email from Len Bramble, included as Attachment G. Sierra Club submitted detailed comments to Liberty Lake outlining its concern with an expanded plant. These comments are included as Attachment H.

Prior to establishing a schedule of compliance, the department shall require the discharger to evaluate the possibility of achieving water quality criteria via nonconstruction changes (e.g., facility operation, pollution prevention). Schedules of compliance may in no case exceed ten years, and shall generally not exceed the term of any permit.

The draft permit or factsheet do not demonstrate that the requirements of this provision have been met. There is no evidence that the compliance schedule is “as short as possible” or that any “nonconstruction changes” were analyzed.

**Section S1.C, Page 8:** The final effluent limitation of 50 µg/L is slated to start January 1, 2012, which is a full year before the substantial completion of the phosphorus removal process units is required (as set forth on page 32 (“No later than December 31, 2012, the Permittee shall have substantially completed the construction of additional phosphorus removal process units of 50 µg/L TP.”)).

**Section S1.D, Page 8:** The mixing zone should specify a depth.

**Section S2, Page 9-10:** Does the “bi-monthly” requirement for PCBs mean twice a month or every other month? This is confusing.

Moreover, the permit should require monthly monitoring of total PCBs via grab samples and should require a track back and source identification plan designed and implemented within a year

In footnote a, what is reason to wait until year 4 to monitor for BOD and CBOD? This is confusing particularly given the impacts of CBOD to the River’s dissolved oxygen problem.

**Section S4, Page 14:** The draft permit would allow Liberty Lake to discharge significantly more wastewater (up to 3 mgd) prior to meeting final wasteload limits contained in the draft TMDL. The existing permit is for 1 mgd. Since the facility was not upgraded to protect water quality, Ecology cannot allow an increase beyond 1 mgd prior to the permittee meeting the final 10 µg/L limit

This section also includes a discussion of phosphorus load limitations. The wasteload of 89 lb/day of phosphorus described here is significantly higher than the 0.12 and 0.13 lb/day required by the TMDL in 2017 and 2027, and is also significantly higher than the 19.1 lb/day discharged on average from April through October in recent years. This is clearly inconsistent with the TMDL.

Moreover, all the allocations described on this page are significantly larger than the effluent limitations included in Section S1. What is the intent of these allocations?

**Section S6, Page 19-23:** As with the Spokane permit, this permit should include requirements for an aggressive pretreatment program.

Next to human wastes, a variety of industrial and commercial dischargers contribute the most phosphorus to the influent streams of wastewater treatment plants (WWTP). The contribution of phosphorus from commercial and industrial sources accounts for approximately 46 percent of the non-ingested phosphorus load discharged into WWTPs. Reducing the commercial and industrial phosphorus contribution to WWTPs by one half would reduce the total non-ingested phosphorus discharged to WWTPs by almost 23 percent.<sup>41</sup>

Numerous commercial, industrial, and institutional businesses utilize phosphorus for such activities as cleaning and sanitizing, metal preparation, finishing and painting, and food processing. Such enterprises include car/truck washing facilities, dairies, food processing plants, meat packing and locker plants, metal finishing facilities, nursing homes, hospitals, research facilities, restaurants, and schools. Many of these, especially food processing plants, contribute a significant amount of CBOD as well.

Traditionally, industrial/commercial pretreatment programs focused on end-of-pipe solutions to control the discharge of industrial/commercial wastewater phosphorus, thus increasing the cost of wastewater treatment and requiring larger amounts of harsh treatment chemicals. Indeed, there are currently no pretreatment regulations, standards or requirements for phosphorus reductions from such businesses in the region.

Appropriate pretreatment programs designed to reduce phosphorus from these sources can reduce influent loadings of phosphorus and reduce influent water (hydraulic loading) thus avoiding the need to invest in additional sewer and treatment capacity, reducing chemical, energy and sludge management costs, reducing water demand, and increasing the life of existing water supplies.<sup>42</sup> For example, the City of St. Cloud, Minnesota implemented a Phosphorus Management Plan that included strict pretreatment controls, biological treatment, modifications to city and local codes, and education and outreach to commercial businesses and residents. As a result, the City reduced the amount of phosphorus coming into its POTW by 32% and the amount of phosphorus leaving the facility by 48%.<sup>43</sup>

Appropriately crafted pretreatment regulations can also benefit industry by enhancing environmental performance, reducing water consumption, lowering operating costs, and reducing regulatory burdens. For example, by implementing a phosphorus reduction program in its manufacturing process, Electrolux Home Products, a freezer manufacturer, dropped its phosphorus loading by 90%.<sup>44</sup> Rochester Powder Coating, a facility that

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<sup>41</sup> Minnesota Pollution Control Reports, <http://www.pca.state.mn.us/publications/reports/pstudy-section4.pdf>.

<sup>42</sup> See Minnesota Technical Assistance Program at <http://mntap.umn.edu/POTW/index.htm>.

<sup>43</sup> <http://mntap.umn.edu/pmp/stcloud.htm>.

<sup>44</sup> <http://mntap.umn.edu/POTW/electrolux.htm>.

paints sheet metal parts using powder coatings, reduced its phosphorus discharge by 98% over two years by using pollution prevention practices.<sup>45</sup>

Liberty Lake has a duty to protect its plant from discharges of pollutants into the collection system by industrial/commercial users which may interfere with treatment process, pass through to receiving waters, or contaminate WWTP sludge. The primary regulatory mechanism to control these pollutants is through pretreatment standards and requirements. 33 U.S.C. § 1317; Title 40 Chapter 403 C.F.R.; RCW 90.48.260; WAC 173-208-090, 173-216-150. Excise taxes and/or effluent strength charges may also reduce influent pollutants.

Ecology should require Liberty Lake to identify and implement appropriate phosphorus reduction processes applicable in various industrial settings. In addition to mandatory requirements, Ecology should require the Liberty Lake to develop a program of education and technical assistance for industrial, commercial, and institutional businesses that contribute phosphorus (and other nutrients) to the wastewater plant, to enact ordinances amending pretreatment requirements and standards under their respective sewer codes to require all known, available and reasonable phosphorus removal and other pollution prevention measures by industrial/commercial users, and to amend sewer rates to provide incentives for compliance with phosphorus reducing pretreatment requirements and standards. For example, the standards could require the connecting customer to maintain a waste stream that is cost-effective and equitable to treat and will not cause WWTP violations or loss of nutrient load allocation capacity. This should be a condition of sewer service availability.

Similarly, Ecology should require mandatory PCB control as part of a pretreatment requirement. At a minimum, the permit should have a requirement for the City to implement a source identification program to identify sources of PCBs. Santa Clara Valley has adopted a pollution prevention program that includes source identification and control that could be adopted in Spokane.<sup>46</sup> As a municipal wastewater treatment facility, Liberty Lake may not be able to completely eliminate PCB discharges. Some PCBs will be present in domestic waste for some years to come. However, Liberty Lake does have a great deal of influence concerning wastewater inputs to the wastewater system and the pretreatment of waste. Therefore, a track-back study that identifies sources of PCBs coming into the plant should be a high priority requirement for this permits. Once these sources are identified, actions may be taken to reduce their impact.

Actions may include the implementation of BMPs or even cleaning sewer drains which have been found to be significant sinks of PCBs in urban environments, subsequently resulting in additional PCB loadings to waterways. Controlling these sources will be key to the successful reduction of PCB loading to the River, and should be acted on as soon as possible.

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<sup>45</sup> <http://www.p2pays.org/ref/04/03462.htm>. For more examples, see <http://mntap.umn.edu/POTW/industrial.htm>

<sup>46</sup> See <http://www.sevurppp-w2k.com/pcbs.htm>.

At a minimum, Ecology should require Liberty Lake to adopt a program that has the following components:

Action	Tools / Sub-tasks
Identify PCB contaminated sites in service area	Review records and conduct site investigations
Research types and age of structures that would most likely contain PCB-containing materials	Define procedures to identify which structures are most likely to contain these materials.
Identify unenclosed PCB sources in service area	Use procedures identified above to identify structures. Review building & planning department records, maps, other local agency records, site investigations
Identify areas likely to have elevated levels of PCBs in sediments	Evaluate based on information obtained for contaminated sites and unenclosed sources
Evaluate accumulated sediments in conveyance systems	Conduct sediment monitoring, upstream investigations in identified areas
Prioritize identified sources for further action	Prioritization conducted periodically as information on sources is developed. Tools include: • Screening level load estimate • Concentration evaluation • Ease of implementation/ cost • Potential for runoff • Other factors

**Section S10, Page 31-32:** The compliance schedule has few enforceable milestones, but merely identifies a schedule by which construction of additional treatment for phosphorus removal (to achieve the interim limitation) is to be “substantially completed”. The permit must contain final WQBELs and should contain interim limitations with a meaningful compliance schedule to achieve the final limitations. This permit does not contain final water quality-based effluent limits, nor does it contain an enforceable schedule to meet final limits. The compliance tasks and milestones are loosely worded and the following language is included which undermines the schedule’s enforceability:

The Department does acknowledge that the above schedule is aggressive and the permittee does have the right to request an amendment in the future based on progress made, other new information and appropriate justification.

It is clear that the compliance schedule must be consistent with WAC 173-201A-510(4)(c). This section specifically provides:

Prior to establishing a schedule of compliance, the department shall require the discharger to evaluate the possibility of achieving water quality criteria via nonconstruction changes (e.g., facility operation, pollution prevention). Schedules of compliance may in no case exceed ten years, and shall generally not exceed the term of any permit.

The date of final compliance is unclear, but does not appear to be within the 10 years allowed. A date for the achievement of the final effluent limitations for total phosphorus (10 µg/L), ammonia, and CBOD needs to be included. Moreover, there is no evaluation included of nonconstruction changes to reduce pollution discharges as required by the regulation.

The “delta elimination plan” is poorly defined in the permit, factsheet, and TMDL. The tasks to reduce pollutant loading, which the dischargers agreed to undertake in these negotiations, are not specifically included in the compliance schedule.

The draft permit does not contain the requirements set forth in the draft TMDL for the completion and approval of the Technology Selection Protocol and Engineering Report. TMDL at 27, 29.

**Section S10.A, Page 31:** The October 2009 date for submitting an updated wastewater facility plan is inconsistent with the 2008 schedule for interim limitations identified in S1.A.

**Section S10.E, Page 32:** Substantial completion of construction of additional phosphorus removal units to meet a limitation of 50 µg/L is to be completed by December 31, 2012. There is no schedule to meet the final 10 µg/L limit contained in the draft TMDL. 50 µg/L is not the final phosphorus limit.

**Section S11, Page 32-33:** This section does not require that any upgrades to the facility must comply with Class A treatment standards as provided in the draft TMDL.

- **Factsheet**

**Page 6, Wastewater Characterization:** Wastewater characterization should be based upon recent performance at the facility utilizing DMR data. This section states that it is based upon information submitted in the permit application. Ecology should use DMR data. Copies of DMR data is included as Attachment C.

**Page 8, Design Criteria:** This section describes an increase in discharge flow nearly twice the treatment capacity permitted in the existing permit. As discussed above, any increase in discharge flow without meeting the final 10 µg/L is unlawful. Since existing discharges from the facility cause and contribute to violation of water quality standards, any increase in limitations will only make the problem worse.

**Page 8, Technology-Based Effluent Limitations:** This section should only address pollutants not needing water quality-based effluent limitations and, therefore, should omit BOD. Water quality-based imitations for CBOD are needed and called for in the draft TMDL and must be included in this permit.

The discussion after Table 3 is incorrectly states loading for BOD, which must be water quality based and consistent with the TMDL.

**Page 9-10, Numeric Criteria for the Protection of Aquatic Life:** This section refers to WQBELs that should be applicable to the Spokane River. However, it does not appear that any WQBELs were actually utilized.

**Page 13, Surface Water Quality Criteria:** This section identifies a need for a greater than 99% reduction in municipal PCB discharges to meet water quality standards. What is the basis for not including a PCB effluent limitation given the existing science that supports such a limit? This is particularly disturbing given that “an estimated average value of 1730 pg/L was found” from the Liberty Lake effluent. Ecology must legally set a PCB effluent limit.

**Page 16-17, CBOD<sub>5</sub>, Ammonia, and Total Phosphorus:** As noted in this section, the draft “TMDL report sets WLAs for total phosphorus ultimate CBOD, and ammonia for each NPDES discharger to the Spokane River.” There is nothing in the literature or in the modeling reports included with the TMDL to support the assumption that ammonia and CBOD would be controlled as a result of phosphorus control activities. To the contrary, the modeling reports specifically address an ammonia reduction. Please provide scientific data supporting this contention.

Moreover, the draft TMDL does contain limits for CBOD and ammonia that legally need to be incorporated into the permit. TMDL at ix. There should be a detailed explanation of the presumption referenced on page 17 that CBOD limits will be complied with if phosphorus removal is implemented.

**Page 17, Ammonia:** There is nothing in the literature or in the modeling reports included with the TMDL to support the assumption that ammonia would be controlled as a result of phosphorus control activities. To the contrary, the modeling reports specifically address an ammonia reduction. Moreover, as referenced on the top of page 16, the draft TMDL does contain a WLA for ammonia that needs to be incorporated into the permit. TMDL at ix.

**Page 18, Total Phosphorus:** This statement incorrectly states that the “interim limits is agreed to be 50 µg/L following upgrades.” This is not the case. The draft TMDL calls for at least 50 µg/L, but specifically states that “Ecology will set interim phosphorus permit limits based on the engineering reports.” TMDL at 29. Moreover, any interim limit established must be done consistent with the compliance schedule requirements of WAC 173-201A-510(4)(c). This has not occurred.

Moreover, the CE-QUAL-W2 modeling make it clear that if the dischargers reach 50 µg/L, there still will be water quality violations even with 100% nonpoint source control (which is impossible). TMDL at 80-81. This illustrates the need for the dischargers to achieve much better than 50 µg/L to meet water quality standards.

**Page 24-25, Chart:** The chart does not match the effluent limits in the draft permit for TSS, BOD<sub>5</sub>, and pH (does not include daily max). Moreover, the draft permit contains a “Final Effluent Limitation” chart on page 8 that is not represented here.

Moreover, footnote 1 indicates that Liberty Lake will be “permitted for 2 MGD.” This facility can only be authorized for no more than 1 mgd until phosphorus elimination measures are implemented and additional discharge can meet the final limit of 10 µg/L.

**Page 26, Section 3.b:** The statement, “Want to think about priorities of items identified, \$” , makes no sense. What is the intent of that statement?

**Page 25-27, Implementation of Foundational Concepts:** Page 25 discusses that the draft TMDL contains an interim limit of 50 µg/L. This is not the case. The draft TMDL calls for at least 50 µg/L, but specifically states that “Ecology will set interim phosphorus permit limits based on the engineering reports.” TMDL at 29. Moreover, any interim limit established must be done consistent with the compliance schedule requirements of WAC 173-201A-510(4)(c). This has not occurred.

Moreover, the CE-QUAL-W2 modeling make it clear that if the dischargers reach 50 µg/L, there still will be water quality violations even with 100% nonpoint source control (which is impossible). TMDL at 80-81. This illustrates the need for the dischargers to achieve much better than 50 µg/L to meet water quality standards.

The statement on page 26 – “it isn’t presently clear that the current projected effluent TP concentration of 10 µg/L will be the required final POTW effluent TP concentration” – is inconsistent with the draft TMDL that provides a final WLA for TP of 10 µg/L. TMDL at ix.

The requirements for the Technology Selection Protocol and Engineering Report discussed on pages 27 and 27 are not in the draft permit. These requirements must be in the permit to be enforceable.

**Page 26, Delta Elimination Plan:** There is no reasonable assurance that significant reductions of pollutant loading from nonpoint sources could ever be accomplished to create loading capacity for the point source discharges absent efforts to reach the 10 µg/L target at the treatment plants. The CE-QUAL-W2 report makes it clear that if the dischargers only reach 50 µg/L, there still will be water quality violations even with 100% nonpoint source control (which is impossible), stating:

With constituent concentrations in Hangman Creek, Coulee Creek, and the Little Spokane River being set to natural condition values, the simulation with Washington point sources having total phosphorus concentrations of 50 micrograms/liter slightly exceeded the standard of 0.2 mg/l on several occasions.

TMDL at 80-81.

**Page 27, Interim Limits:** Any interim limit established must be done consistent with the compliance schedule requirements of WAC 173-201A-510(4)(c). Moreover, according to a recent EPA Region 10 report, it appears that technology to reach 10 µg/L is available, scalable, and affordable.<sup>47</sup>

**Page 27, Final Limits:** Final limits must be water quality-based effluent limits and not performance-based.

**Page 27, Investment Stability:** Please provide the legal basis for this determination. What is the definition of a “significant modification”? What if additional information/data indicates that additional upgrades are necessary? This seems like an illegal and unenforceable promise on the part of Ecology.

**Page 27, Conservation:** There is no requirement in the draft permit for the permittee to complete the conservation measures described in this section.

**Page 27, Class A Effluent:** Consistent with this provision, there is no requirement in the draft permit that the City’s upgraded facility meet Class A requirements.

**Page 28, Table:** Consistent with the TMDL and Foundational Concepts, the factsheet and permit must require the completion of the technology selection protocol and engineering report.

### **Kaiser Aluminum**

- **Permit**

**General Comment:** The permit lacks a discussion of contaminated groundwater and possible discharge through direct hydraulic connection to the river. Moreover, to the extent Kaiser is diluting its wastewater stream with cooling water, effluent limits must be applied to the wastewater before contact with the cooling water.

**Section S1, Page 6-9:** The interim limit for phosphorus of 1.3 lbs/day is nearly equal to the final limit of 1.28 lbs/day in section S7. It appears that this facility does not need an interim wasteload allocation or compliance schedule. Accordingly, the phosphorus compliance schedule and interim limit should be eliminated consistent with 40 C.F.R. § 122.47, which required compliance “as soon as possible.”

The permit lack limits on flow. The draft permit does include an average flow limitation of 11 mgd for the Black Walnut Shell Filtration System, which discharges via Outfall

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<sup>47</sup> See <http://yosemite.epa.gov/r10/water.nsf/Water+Quality+Standards/AWT-Phosphorus>.

006. This is the only flow limitation in the draft permit. No flow limitation is assigned to the final discharge to the river (Outfall 001) or to the two internal outfalls (Outfalls 002 and 003) to which phosphorus limitations are assigned. For comparison, the draft TMDL requires future flows not to exceed 15.4 mgd in 2017 and 2027. The permit should contain a limit on the quantity of flow discharged from the facility.

The permit fails to comply with the TMDL by lacking waste load limits for ammonia and BOD. The draft TMDL provides for an ammonia WLA of 12.84 lbs/day and a CBOD WLA of 167.1 lbs/day. Moreover, the draft PCB TMDL assigns this facility a wasteload allocation of 0.32 mg/day.

**Section S2, Page 9-12:** Monitoring of Total PCBs needs to occur before dilution with non-contact water. Moreover, this permit should include monthly monitoring of total PCBs, grab samples and require the development of a source identification plan designed and started within a year. Old machinery and uncleaned sumps can contribute significantly to PCB loadings along with direct industrial processes.

**Page 12, footnote c:** The method detection and quantification levels needs to occur for all parameters.

**Page 12, footnote d:** This requirement is no longer appropriate in light of the current phosphorus requirements which is concentration-based (10 µg/L). Moreover, it does not appear that there is a requirement to monitor TP at the river intake (which would make this impossible).

**Section S5, Page 18:** The flow and Total PCB loading should be included as an Effluent Limitation on page 6.

Given the nearly identical interim and final phosphorus limitation, a compliance schedule is not appropriate for this facility consistent with 40 C.F.R. § 122.47. To the extent that a compliance schedule is provided, it must be consistent with WAC 173-201A-510(4)(c).

- **Factsheet**

**Page 4-5, Industrial Process:** This facility has undergone many changes since the last permit that need to be described here.

It is unclear why groundwater is being considered as wastewater. Please explain the basis for this. Dilution of effluent loads prior to discharge is implicitly prohibited by the requirement that permits contain mass load limitations for all pollutants except pollutants, which cannot appropriately be expressed by mass. 40 C.F.R. § 122.45(f)(1). Kaiser cannot use excess groundwater pumping to dilute its wastewater.

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**Page 5, Historic Releases/Clean Up Activities:** As stated above, excess groundwater cannot be used to dilute Kaiser's effluent. The use of cold groundwater appears to allow effluent to meet temperature criteria.

**Page 6-7, Wastewater Characterization:** Has the noncontact cooling water and excess groundwater diluted the process water before the sampling point?

**Page 7, Design Criteria:** The flow and PCB limit should be included in the permit's effluent limits.

Were other treatment components included in these figures? What are the actual flows from each wastewater source at the facility? These should be described.

**Page 7-10, Technology-Based Effluent Limitation:** Please explain the basis for the assumption that "Best Practical Technology (BPT) limits were assumed equal to BCT."

The permit and factsheet should quantify and characterize the "non-scope wastewater" described in this section to determine if AKART is being applied to the sources.

Did Ecology consider current performance, as opposed to just current permit limits, in setting the limits for chromium and aluminum?

Why was design flow, as opposed to actual flow, used for the BOD<sub>5</sub> and TSS loading described on page 10?

**Page 14, Surface Water Quality Criteria:** Why was the "historic daily maximum and monthly average flow rates from January, 2004 and June, 2006" used for calculating criteria dilution factors?

**Page 14, Consideration of Surface Water Quality-Based Limits for Numeric Criteria:** The discussion on the mixing zone indicates that the dilution percentage is more restrictive. While this may be the case, the permit must specify a location and area for the mixing zone.

**Page 15, Chart on Bottom of Page:** Was the CE-QUAL-W2 model used to model river conditions at the outfall site during critical conditions?

There are 2 "footnote a". In the second footnote a, the river at the Kaiser outfall is very different from conditions at the Stateline. Why was data from Stateline utilized?

**Page 16, BOD<sub>5</sub>, Ammonia, and Total Phosphorus:** As stated above, the interim limit for phosphorus of 1.3 lbs/day is nearly equal to the final limit of 1.28 lbs/day. Accordingly, it does not appear that this facility does not need an interim wasteload allocation or compliance schedule. Accordingly, the phosphorus compliance schedule and interim limit should be eliminated consistent with 40 C.F.R. § 122.47, which required

compliance “as soon as possible.” Moreover, to the extent that a compliance schedule is needed, it must comply with WAC 173-201A-510(4). The permit and factsheet do not demonstrate: (1) that there is a need for an interim limit or compliance schedule or (2) that the requirements of the WAC have been met (i.e., “department shall require the discharger to evaluate the possibility of achieving water quality criteria via nonconstruction changes (e.g., facility operation, pollution prevention)”).

**Page 17, Delta Elimination Plan:** There is no reasonable assurance that significant reductions of pollutant loading from nonpoint sources could ever be accomplished to create loading capacity for the point source discharges absent efforts to reach the 10 µg/L target at the treatment plants. The CE-QUAL-W2 modeling make it clear that if the dischargers only reach 50 µg/L, there still will be water quality violations even with 100% nonpoint source control (which is impossible). Accordingly and in light of the situation of this facility, the permit should require that treatment technologies achieve the final phosphorus limit.

**Page 17, Interim Limits:** As stated above, the interim limit for phosphorus of 1.3 lbs/day is nearly equal to the final limit of 1.28 lbs/day. Accordingly, it does not appear that this facility does not need an interim wasteload allocation or compliance schedule. Accordingly, the phosphorus compliance schedule and interim limit should be eliminated consistent with 40 C.F.R. § 122.47, which required compliance “as soon as possible.” Any interim limit established must be done consistent with the compliance schedule requirements of WAC 173-201A-510(4)(c). Lastly, according to a recent EPA Region 10 report, it appears that technology to reach 10 µg/L is available, scalable, and affordable.<sup>48</sup>

**Page 17, Final Limits:** Final limits must be water quality-based effluent limits and not performance-based as suggested in this section. Moreover, the Final Limit must be in the permit with a legal compliance schedule (10 years).

**Page 18, 1<sup>st</sup> Full Paragraph:** Performance-based limits are not protective of water quality. Legally, permits must be water quality based.

**Page 18, Total PCBs:** Given the potential to cause or contribute to a water quality standard violation, Ecology cannot legally wait for a final PCB TMDL to give a PCB limit.

**Page 18, Metals:** End-of-the-pipe criteria is not sufficient for metals. If the river does not have the capacity to allocate, Ecology cannot legally allow the discharge of metals.

Ecology states hardness of the effluent was used for determining reasonable potential for metals to exceed the acute and chronic criteria established for metals. Hardness-dependent criteria should be applied using the hardness of the receiving waters that exists at the point of the receiving water where these criteria are applied. Typically, acute and

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<sup>48</sup> See <http://yosemite.epa.gov/r10/water.nsf/Water+Quality+Standards/AWT-Phosphorus>.

chronic water quality criteria are applied at the edge of the respective effluent mixing zone. Ecology's Permit Writers Manual specifies that permit limitations for these criteria are to be developed using ambient criteria. Moreover, if Ecology is going to base metals limits on hardness, it must put a limit on hardness.

**Page 18, Temperature and pH:** The reasonable potential evaluation for temperature does not appear to be based on actual temperature conditions in the river.

The temperature of the river is incorrectly described in degrees C, as opposed to degrees F.

**Page 19, Toxic Pollutants:** PCBs are not included in the toxic pollutants present in Kaiser's discharge. This section needs to include PCBs.

**Page 27, Table 1:** Groundwater/non-contact cooling water should not be used to assign a total phosphorus mass loading.

### **Inland Empire Paper**

- **Permit**

**Section S1, Page 7-9:** The draft permit does not include any flow limitations. It does, however, refer to the 4.1 mgd flows that the TMDL assigns in 2017 and 2027, but only in footnotes to the phosphorus limitations and not as a specific limitation.

The effluent limitations appear to be inconsistent with the TMDL in that it lacks the wasteload allocations for CBOD contained in the draft TMDL (37.6 lbs/day). TMDL at ix. Moreover, the draft permit lack the ammonia WLA provided in the TMDL (2.94 lbs/day). *Id.* Moreover, there is no PCB limit despite information indicating that IEP is a significant source of PCBs (the factsheet indicated PCB discharge of 2,544 pg/L from IEP).

The permit also lacks a pathogen effluent limit. Pulp and paper facilities are significant sources of pathogens.<sup>49</sup> The permit appears to lack any analysis of the potential for pathogen impacts to the river.

Further, if Ecology is going to provide a compliance schedule to IEP to meet the 10 µg/L WLA, it must be consistent with WAC 173-201A-510(4)(c). This section specifically provides:

Prior to establishing a schedule of compliance, the department shall require the discharger to evaluate the possibility of achieving water quality criteria via nonconstruction changes (e.g., facility operation, pollution

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<sup>49</sup> See EPA, Protocol for Developing Pathogen TMDLs (2001) at 2-6, available at [http://www.epa.gov/owow/tmdl/pathogen\\_all.pdf](http://www.epa.gov/owow/tmdl/pathogen_all.pdf).

prevention). Schedules of compliance may in no case exceed ten years, and shall generally not exceed the term of any permit.

The draft permit or factsheet do not demonstrate that the requirements of this provision have been met.

The pH limit of 5 appears to be too low. The Kaiser permit calls for 6. What is the basis for the difference?

Footnote 2 on page 9 should provide if the measured value is between MDL and QL, the permittee should use half the QL for averaging.

**Section S1.B, Page 9:** WAC 173-201A-400(7)(a)(i) provides a dimensional limitation on mixing zones that needs to be applied to this permit. Specifically, the regulation provide that a mixing zone shall “[n]ot extend in a downstream direction for a distance from the discharge port(s) greater than three hundred feet plus the depth of water over the discharge port(s).”

The authority to grant mixing zones in Washington NPDES permits is found in WAC 173-201A-100. The regulation provides that mixing zones may be granted “as appropriate” in general permits, but only after a discharge meets AKART, and only if “the supporting information clearly indicates a mixing zone would not have a reasonable potential to cause a loss of sensitive or important habitat, substantially interfere with the existing or characteristic uses of the water body, result in damage to the ecosystem or adversely affect public health as determined by [Ecology].” WAC 173-201A-100(2)&(4). Mixing zones are meant to be exceptions to water quality standards and, as such, they must be carefully limited in their application. WAC 173-201A-100(7)-(8).

**Section S2, Page 9-11:** The monitoring section should specify the methodology to be utilized for monitoring total phosphorus. Moreover, the permit should require monitoring of dioxins, pathogens, and endocrine disruptors associated with pulp and paper processes.

The permit should require monthly monitoring of total PCBs via grab sample.

**Section S6, Page 17:** The draft TMDL calls for the completion of the Technology Selection Protocol by January 1, 2007. TMDL at 72. Has the permittee submitted this document for Ecology’s review and approval?

**Section S7, PCB Source Identification Study:** The final permit should do more than require source identification of PCBs for this facility. As far as PCBs, this permit is the worst of the four permits. Despite discharging the highest concentration of PCBs according to the TMDL, the PCB requirements outlined are the most relaxed. Considering that this facility is discharging wastewater with concentrations almost double that of the wastewater treatment plant for the entire city of Spokane, Ecology needs to act quickly to place limits on IEP’s PCB discharges. The permit in its current form does

nothing to mitigate the PCB problem in the Spokane River and, in fact, only exacerbates it by allowing current trends to continue.

While this permit is the only one requiring a source identification study, the requirements in permit make the requirement essentially useless. IEP would have two years just to develop a scope of work, and after that is approved by Ecology, it would have another two years to actually perform the study. This plan is unacceptable. The absolute latest that this study should begin is within one-year of the permit issue date. No justification has been provided for allowing this project to take four years. IEP needs to both identify and mitigate PCB sources within its facility as soon as possible, and can do so by implementing BMPs before and after sources are identified.

Moreover, the permit must be consistent with the WLA in the draft TMDL. The draft PCB TMDL indicates that sampling of IEP effluent has PCB levels of 5,484 pg/L. PCB TMDL at 23. Moreover, that document recommends a WLA for IEP of 0.09 mg/day of PCBs. The final permit must incorporate the WLA for PCBs.

- **Factsheet**

**Page 4, Industrial Process:** It appears from this section that approximately 2 mgd of water is reclaimed and recovered. This should be taken into consideration is establishing a flow limitation.

**Page 5, Permit Status:** It appears that the IEP permit expired in 2002 and a permit application was not submitted until 2006. Was a permit application received 180 days prior to the expiration of the 1997 permit?

**Page 5, Wastewater Characterization:** This section indicates that Table 1 “summarizes the character of the proposed wastewater discharge.” This is confusing. Is this intended to characterize existing wastewater based upon DMR data?

**Page 7, Numeric Criteria for the Protection of Aquatic Life:** This section refers to WQBELs that should be applicable to the Spokane River. However, it does not appear that any WQBELs were actually utilized. Moreover, the area of the river impacted by this facility is utilized by native trout species. Spawning occurs just upstream of the facility. How were impacts to native trout species impacted?

**Page 14, Final Limits:** Final limits must be water quality-based effluent limits and not performance-based.

**Page 14:** This page states, “The Foundation Concepts document does not specifically address either interim or final limitation for both CBOD and ammonia.” However, the draft TMDL specifically provides WLA for these pollutants that must be included in the permit. TMDL at ix.

**Page 14, Total PCBs:** The draft PCB TMDL identifies a greater than 99% reduction in PCB discharges to meet water quality standards. What is the basis for not including a PCB effluent limitation given the existing science that supports such a limit? The logical provided in this section (that the PCB is draft and not approved by EPA) would equally apply to the DO TMDL. This seems to be arbitrary and capricious.

**Page 14-15, Metals:** This section indicates that “performance-based limits cannot be calculated for the effluent because the Permittee has not routinely tested for lead, cadmium, or lead.” Instead of simply setting the permit limit based upon the end-of-pipe hardness, Ecology should require the permittee to monitor for those metals for 12 months and then use the monitoring data as the basis for a performance-based limit for the remaining 4 years of the permit. This can be achieved by means of a specific reopener clause.

Ecology states hardness of the effluent was used for determining reasonable potential for metals to exceed the acute and chronic criteria established for metals. Hardness-dependent criteria should be applied using the hardness of the receiving waters that exists at the point of the receiving water where these criteria are applied. Typically, acute and chronic water quality criteria are applied at the edge of the respective effluent mixing zone. Ecology’s Permit Writers Manual specifies that permit limitations for these criteria are to be developed using ambient criteria. Moreover, if Ecology is going to base metals limits on hardness, it must put a limit on hardness.

**Page 15, Temperature and pH:** The reasonable potential evaluation for temperature needs to be calculated using the actual temperature conditions for the river.

Was the CE-QUAL-W2 model utilized to predict river conditions in dry years?

What specific upstream temperature was used? This section merely says <20 degrees C.

**Page 15-16, Toxic Pollutants:** The permit does not address endocrine disrupters associated with this facility. Pulp and paper effluents has been linked with altered reproductive function in freshwater fish.<sup>50</sup> The stretch of river impacted by this facility is known wild trout habitat.

What specific upstream temperature was used? This section merely says <20 degrees C.

This section also states that no “reasonable potential determination” for arsenic was conducted because of “uncertainty of the freshwater human health criteria.” Moreover, this section states that a permit limit will be “deferred” until “regulatory issues” are “resolved.” However, Washington does have applicable human health criteria that must be followed.

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<sup>50</sup> See Jobling, *et al.*, Endocrine Disruption in Wild Freshwater Fish, Pure Appl. Chem., Vol. 75, Nos. 11–12, pp. 2219–2234 (2003), available at <http://www.iupac.org/publications/pac/2003/pdf/7511x2219.pdf>.

Applicable Washington Water Quality Criteria for Arsenic (µg/L)

<b>Aquatic Life (WAC 173-201A)</b>			
	acute criterion	360	dissolved arsenic
	chronic criterion	190	dissolved arsenic
<b>Human Health (EPA National Toxics Rule)</b>			
	consumption of water + organisms	0.018	inorganic arsenic
	consumption of organisms only	0.14	inorganic arsenic
<b>Ground Water Quality Standard (WAC 173-200)</b>		0.05	total arsenic
<b>Drinking Water (Safe Drinking Water Act)</b>		50	total arsenic

Washington law specifically provides that toxic substances, such as arsenic, cannot be introduced into a water body, beyond background loads. WAC 173-201A states that “Toxic substances shall not be introduced above natural background levels in waters of the state which have the potential either singularly or cumulatively to adversely affect characteristic water uses, cause acute or chronic toxicity to the most sensitive biota dependent upon those waters, or adversely affect public health, as determined by the department.”

There is nothing in Washington law that would allow Ecology to simply defer establishing an arsenic effluent limit for IEP beyond the natural background level.

**Page 18, Sediment Quality:** This section states that Ecology is “unable to determine” if there is a potential for a violation of sediment discharge standards, but may require an order in the future. What sort of monitoring will the permittee be required to conduct to assess this uncertainty?

**Page 18, Comparison of Effluent Limits with the Previous Permit:** This section describes increases in permit limits for BOD<sub>5</sub> and TSS. How does this comply with anti-backsliding provisions of the Clean Water Act, 33 U.S.C. § 1342(o)? There is no analysis of consistency with this provision. Moreover, CBOD is a pollutant impacting dissolved oxygen levels in Lake Spokane. The permit must include the WLA for CBOD included in the draft TMDL of 37.6 lbs/day. TMDL at ix.

This section further describes that the limit for BOD<sub>5</sub> is technology-based. Again, this limit must be consistent with the WLA provided in the TMDL.

## Conclusion

As illustrated above, these four permits have significant deficiencies that need to be addressed prior to issuance of final permits. Moreover, in the event that significant changes are made to address these comments, comments of other parties, or as the result of changes to the TMDL that materially alter the permits, Sierra Club requests an opportunity to comment on those changes.

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Please do not hesitate to contact me if you have questions about these comments.

Sincerely,

A handwritten signature in black ink, appearing to read 'RIS', with a long horizontal flourish extending to the right.

Rick Eichstaedt  
Attorney for Sierra Club

cc: Lisa Olson, EPA  
Shannon Work, Attorney for Spokane Tribe  
Chris Butler, Spokane Tribe  
Ecology NPDES Permit Staff