

1100 Market Place Tower
2025 First Avenue • Seattle, WA 98121
Phone (206) 493-2300 Fax (206) 493-2310
www.TupperMackBrower.com

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Via E-mail: dmoo461@ecy.wa.gov

Mr. David Moore
Water Quality Program
Eastern Regional Office
Washington State Department of Ecology
4601 North Monroe Street
Spokane, WA 99205-1295

Re: Spokane River and Lake Spokane Dissolved Oxygen Total Daily Maximum Load
Water Quality Improvement Plan – May 2008

Dear Mr. Moore:

Thank you for the opportunity to comment on the above-referenced draft TMDL for Dissolved Oxygen (DO) in the Spokane River and Lake Spokane. These comments are submitted on behalf of Inland Empire Paper Co. (IEP).

As you know, IEP is a party to the March 7, 2007, Memorandum of Agreement (MOA) regarding Foundational Concepts, Managed Implementation Plan, and Dissolved Oxygen TMDL for the Spokane River. IEP was a participant in the Spokane River collaborative process that led to the adoption of the MOA and has committed to implementing cutting edge technology and source reduction to achieve the highest possible water quality standards in Lake Spokane. Under the MOA Ecology is obligated to adopt a TMDL and implementation plan for the TMDL consistent with the Foundational Concepts document dated June 30, 2007.

IEP has seven areas of concern presented in the following comments:

1. That Ecology affirm the commitment in the MOA for investment stability and a waste load allocation (WLA) at year ten based on implementing innovative technology and source reduction.
2. That Ecology honor its commitments in the MOA.
3. That the TMDL include a load allocation (LA) for the Avista Long Lake Dam impoundment.

4. That the TMDL account for other point and non-point sources including the main stem of the Spokane River and developments on Lake Spokane in Stevens County.
 5. That the WLA to IEP only include the bio-available fraction of phosphorus in its effluent.
 6. That the TMDL should provide an equivalency for nutrient loading.
 7. That the TMDL should provide a credit towards meeting CBOD WLAs from nonpoint source reduction programs.
 8. IEP asks that Ecology consider and respond to the comments submitted by Esvelt Environmental Engineering dated June 24, 2008, attached hereto as Ex. 10.
1. **The WLA to IEP at year ten must be limited to implementing innovative technology and source control.**

IEP has committed to adopting innovative technology and source controls to minimize the nutrient loading from its effluent. It was agreed in the MOA that addressing the DO problem in Lake Spokane would take extraordinary efforts over a twenty-year period. In the revised draft TMDL Ecology has added language, at page 37, to clarify that compliance schedules in NPDES permits would include enforceable limits within ten years. IEP does not dispute this interpretation, so long as it is clearly understood that the enforceable limits at year ten are implementing (1) advanced treatment technology and (2) source control efforts.

IEP also supports the inclusion in the draft TMDL of language that provides investment stability for point source discharges. On page 41 of the revised draft, Ecology states:

Investment Stability: Ecology recognizes that the investment in phosphorus removal technology has a 20-year life. So, no significant modifications or replacements of phosphorus removal facilities will be required during the 20-year timeframe of this TMDL, except in cases where the best available data indicates that modifications to installed technology would enhance phosphorus removal performance and are efficient and cost-effective.

This language and commitment by Ecology is essential to the successful implementation of the TMDL and ultimate achievement of DO water quality criteria in Lake Spokane. Ecology acknowledged this in a recent guest opinion published in the Spokesman Review:

Over the first 10 years, if the dischargers take all of the actions required by the plan (as they agreed to), it is very likely that the dissolved oxygen standard will be met. In the unlikely event it is not, we will work with the dischargers and the community at large to finish the job. The Foundational Concepts agreement reserves as backup an additional 10 years if needed.

Ex. 1, Jay Manning, "Phosphorus Plan Puts River First," *Spokesman Review* (June 17, 2008). IEP takes issue with this statement only to the extent Ecology claims that the Foundational Concepts reserves the second 10 years as a "backup". That is not what Ecology agreed to in the MOA:

The first ten years of MIP efforts need to be in place and operational prior to their consequences being fully assessed. A thorough assessment after the 10th year of the MIP will provide the information necessary to guide actions for a second ten year MIP period. These second period actions will include continuation of successful actions conducted in the first 10 years, such as operation of the treatment technology and other phosphorus reduction efforts, and they could include new actions such as consideration of river oxygenation and/or reconsideration of Water Quality Standards applied to the River and Lake Spokane. **The MIP's actions necessary to eliminate an NPDES permit holder's Delta will be enforceable over the 20 year life of the MIP and the TMDL phosphorus waste load allocation will become enforceable requirements at the end of the 20 years covered by the MIP.**

Draft DO TMDL, at page B-76. (Emphasis added.)

IEP cannot be expected to undertake the extraordinary investment in innovative technology – technology that has not been required of any other pulp mill in the country – coupled with aggressive source reduction efforts without assurance that these measures will be consistent with and constitute compliance with the WLA at year ten of TMDL implementation.

Ecology should clearly explain whether it intended by its clarifying language in the revised draft TMDL at page 37 to impose an enforceable numeric effluent limitation based on the WLA effective at year ten of the TMDL implementation. If that is Ecology's intent, it is contradicted by the investment stability provision in the TMDL and the department's public statements. More important, this dramatic departure from the MOA and Foundational Concepts would be arbitrary and capricious and contrary to available evidence before the department.

Ecology cannot legally adopt a TMDL, and EPA cannot approve a TMDL, under the Clean Water Act, 33 U.S.C. §1313(d)(1)(C), that is arbitrary and capricious. The TMDL here will be arbitrary and capricious if it does not consider an important aspect of the problem or runs counter to the evidence before the agencies. Ecology cannot legally impose WLAs as numeric effluent limitations until it accounts for all sources of the DO problem in Lake Spokane. As discussed below, that has not been done with respect to Avista and other potential point and non-point sources on the river and Lake Spokane. The current version of the TMDL with a 20 year implementation plan accounts for the uncertainty resulting from the lack of information about other sources by calling for short-term immediate action by point sources while addressing nonpoint sources and gathering more information about the DO problem. Ecology would be acting arbitrarily to impose numeric effluent limits at year ten without developing this information and such action would result in an indefensible TMDL.

2. The TMDL must be consistent with the MOA.

The MOA is a binding agreement signed by the current director of the Department of Ecology on March 7, 2007. The MOA specifically provides that final limits – i.e., the limits at year ten of the TMDL implementation will be “set based on the actual performance of the technology installed and operated at optimum reliable efficiency.” Draft DO TMDL, at B-80. The MOA also provides clear and unambiguous language as to the effluent limitations in NPDES permits:

The permit will state a goal of achieving an equivalent of an effluent phosphorus concentration of 10 µg/l phosphorus by the end of the following permit cycle (i.e., in 10 years) through a combination of phosphorus treatment technology and target pursuit actions.

Draft DO TMDL, at B-86.

The clarifying language at page 37 of the revised draft DO TMDL is not consistent with these provisions in the MOA. The TMDL is also inconsistent with the MOA by setting a WLA based on meeting 8 µg/l rather than 10 µg/l, as specifically agreed in the MOA. These departures from the MOA constitute a breach of contract by the Department of Ecology. *See also*, Review and Comments by Esvelt Environmental Engineering, Ex. 10, at para. 5.

The TMDL is also inconsistent with the MOA by setting separate WLAs for CBOD and ammonia. The MOA was clear that the “goal” of the TMDL is to reduce significant amounts of phosphorus. Draft DO TMDL, at page B-75. The MOA specifically states, “[f]or the purpose of implementing the Spokane River Dissolved Oxygen TMDL, it is assumed that efforts to control phosphorus will also serve to control CBOD and ammonia.”

Id. Ecology has acted in disregard to this agreement by setting WLAs and effluent limitations for CBOD and ammonia.

The Department is bound as a matter of law to the terms of the MOA. The MOA is an enforceable agreement to which the Department is both legally and morally obligated to honor. *Swinomish v. Skagit County*, 138 Wn. App. 771, 158 P.3d 1179 (2007). Finally, the MOA could not be clearer that Ecology agreed “that the Managed Implementation Plan for the Spokane River Dissolved Oxygen TMDL and the Spokane River Dissolved Oxygen will be drafted consistent with the Foundational Concepts document.” Draft Do TMDL, at page B-72.

3. The DO TMDL does not account for the contribution of the Long Lake Dam on DO levels in Lake Spokane.

In the context of this discussion, an important aspect of the DO problem in Lake Spokane is the effect of the Long Lake impoundment. There is no genuine dispute from the evidence before the agencies that the impoundment is the primary cause of the failure of Lake Spokane to attain state water quality criteria for DO.

IEP objects to absence of a clear integration of the TMDL implementation and the 401 water quality certification. The 401 certification issued on June 10, 2008, requires Avista to develop a water quality attainment plan for DO within two years of “license issuance” by the Federal Energy Regulatory Commission (FERC). Ex. 2, at 46. There is no definite time for issuance of that license. As a consequence, the TMDL implementation cannot be coordinated with planning required under the 401 certification. Ecology must therefore recognize the impact of the Long Lake impoundment in the DO TMDL and provide, now, for a load allocation (LA) to Avista for its contribution to the DO problem in Lake Spokane.¹

A. There is no dispute that Long Lake Dam contributes substantially to the DO problem.

It has been previously acknowledged by Avista and Ecology that the Long Lake Dam impoundment causes the failure to meet DO criteria in Lake Spokane. Water quality modeling done on behalf of Avista demonstrates that dissolved oxygen levels in Lake Spokane would meet state water quality standards in the late summer if there was no impoundment. The impact of the impoundment was recognized by Avista in a 2004 modeling update by HDR. Ex. 3. In that presentation it is clear that DO criteria are met at the head of the lake and only fail to meet the DO criteria near the deeper end of the lake near the forebay. The same presentation presented a graph showing that under unimpounded and

¹ The need to impose a LA now is apparent from Avista’s comments on the draft 401 certification. It is Avista’s position that “Ecology has no independent authority to enforce the terms of a Section 401 certification as a term of the new license.” (Ex. 7, at 5.)

shallow impounded conditions the DO levels in Lake Spokane would not fall below 8 mg/L from June through September. *Id.*

The results of the 2004 modeling update were set forth and acknowledged in Avista's application for relicensing:

Lake Spokane thermally stratifies from June through September, and stagnation of deep water results in low DO concentrations near the bottom of the lower portion of the reservoir in the summer and early fall. The primary effects of current Project operations on DO concentrations are that concentrations are increased in the upper end of the lake during most of the spring and summer and decreased in the hypolimnion of the lower portion of the lake in comparison to free-flowing conditions. The model indicates that 8.0-milligrams-per-liter concentrations would be met under unimpounded conditions, whereas the current impoundment of water behind Long Lake Dam and current Project operations, collectively, contribute to not satisfying the 8.0-milligrams-per-liter criterion between 3 to 5 months per year in the interflow and hypolimnion of the lower portion of the lake under current conditions.

This representation was included in the Avista FERC application for relicensing and is quoted by Ecology in its March 2, 2007, comment letter on the FERC Draft Environmental Impact Statement. Ex. 4. Relative to the quoted statement, Ecology disagreed with the conclusions of FERC that Long Lake Dam does not influence oxygen levels within Lake Spokane. In light of this evidence, there no justification for Ecology to fail to include specific provision in the TDML that account for the contribution of the impoundment to the DO problem. Without this consideration, IEP and other point sources are arbitrarily forced to solve a DO problem attributable wholly to the artificial conditions created by the Long Lake Dam.

B. Ecology should explain how the TMDL and 401 certification will be integrated.

The revised draft TMDL, at page 4, states that Ecology will address Avista's contribution to DO through the 401 certification process. The Draft TMDL also, at page 34, states that the 401 certification will require Avista to participate in the TMDL advisory committee "where oxygenation and aeration will be considered." These statements provide no assurance that the 401 certification and DO TMDL are parallel processes that share the similar goals of improving water quality in Lake Spokane. IEP supports the coordination of the Water Quality Attainment Plan under the 401 certification with the TMDL implementation. Avista should be required to present modeling as soon as possible that

accounts for its contribution to the DO problem and the TMDL WLAs and LAs should be adjusted as soon as possible to account for this information.

Avista should be responsible for those water quality problems that are related exclusively to impoundment effects. The result should be TMDL waste load allocations for point source nutrient discharges and a load allocation to Avista for its contribution to the dissolved oxygen problem. This is the approach used, for example, in the Snake River-Hells Canyon Subbasin Assessment and TMDLs. Ex. 5. This is also the approach used in the Androscoggin River TMDL covering point sources, including pulp mills and dam operators. Ex. 6. In both of these TMDLs the dam operators were assigned a LA for DO. Ecology should address the effect of the Long Lake Dam impoundment in the same manner. It is inadequate for the department to limit its consideration of the impoundment contribution to DO simply in terms of oxygenation and aeration. A more comprehensive and equitable approach to addressing the DO will be necessary to achieve water quality criteria for DO.

C. The final 401 certification appears to limit coordination with the TMDL implementation.

Ecology should also explain the apparent differences in the planning objectives under the 401 certification and the TMDL. The 401 certification provides that Avista will only have to meet the highest attainable water conditions within Lake Spokane based on “reasonable and feasible improvements.” This statement is inconsistent with the State Water Quality Standards which require that a dam operator “ensure compliance with all applicable water quality criteria, as well as any other requirements established by the department (such as through a total maximum daily load, or TMDL, analysis).” WAC 173-201A-510(5)(c).

What is “reasonable and feasible” must be evaluated in the context of the TMDL implementation. It would undermine the TMDL process if the development of the Water Quality Attainment Plan under the 401 certification is based on an assumption that DO standards cannot be met. If in fact that is the assumed basis for the 401 certification Water Quality Attainment Plan as to Lake Spokane, the same assumption should be applied by Ecology in the DO TMDL and in the individual NPDES permits issued to Washington dischargers.

In its comments on the draft 401 certification, Avista states that the DO criteria cannot be met and this that fact should be acknowledged by Ecology. According to Avista, “the DO problem of Lake Spokane is inextricably linked to the change in water body type from a free-flowing river to a lake that has resulted from impoundment and nutrient loading by others.” Ex. 7, at 34. Ecology should explain in response to comments on the draft TMDL whether it agrees with this statement.

Ecology should further explain in its response to comments how the TMDL implementation process will account for the evaluation of DO impacts required under the 401 certification. The certification states that if Avista is unable to meet water quality standards,

then it shall propose alternative actions and a new compliance schedule or “other alternatives as allowed by WAC 173-201A-510.” The TMDL should acknowledge that those other alternatives include site specific water quality criteria (WAC 173-201A-430), a use attainability analysis (WAC 173-201A-440), or a water quality offset (WAC 173-201A-450). *See* WAC 173-201A-510(5)(g)(ii).

Ecology should explain in its response to comments on the draft DO TMDL how it will ensure that the evaluation of the applicable water quality criteria under the 401 certification will be incorporated into the TMDL implementation process.

The legal premise that would limit a dam operator to achieving the highest attainable water quality in a reservoir applies as equally to the dam operator as any other point or nonpoint source to the reservoir. Federal regulations allow a state to remove a designated use that is not an existing use where “dams, diversions or other types of hydrologic modifications preclude the attainment of use, and it is not feasible to restore the water body to its original condition or to operate such modification in a way that would result in the attainment of the use.” 40 C.F.R. § 131.10(g)(4). In the event that Ecology makes such a determination under the 401 certification, that determination must necessarily apply to all point and non-point sources that contribute to the DO problem in Lake Spokane. It would be unlawful for Ecology to set different water quality criteria for different contributing sources to the DO problem. The TMDL should make clear that the same DO standard will apply to the 401 certification, the DO TMDL, and individual NPDES permits.

4. The TMDL must account for all point and non-point sources contributing to the DO problem.

The Spokane DO TMDL assigns a load allocation to the mouths of the tributaries: Hangman Creek, Coulee Creek, and the Little Spokane River. Draft DO TMDL, at page 28. However, no load allocation is assigned to non-point sources directly on the mainstem. In other words, all of the non-point sources on the middle Spokane and lower Spokane watersheds are not accounted for. This includes a large track of un-sewered homes in the Suncrest development on Lake Spokane within Stevens County.

Ecology and EPA cannot arbitrarily and capriciously approve a TMDL that places the entire burden of solving the DO problem in Lake Spokane on point sources without addressing significant non-point sources of nutrient loading.

5. The phosphorus WLA to IEP should be based on the bio-available fraction of IEP’s effluent.

IEP supports the inclusion of the bio-available phosphorus loading in the section of the TMDL describing what needs to be done. (Draft DO TMDL at 42.) The modeling used to develop the WLAs did not fully consider the fraction of phosphorus in the IEP effluent that is reactive, and therefore biologically available, in the Spokane River and Lake Spokane.

IEP has commissioned two studies on this issue. A memorandum by the National Council for Air and Stream Improvement, Inc. (NCASI) dated August 30, 2006, reports the results of a 133-day study of reactive potential of phosphorus in the IEP effluent. Ex. 8. The report states that “essentially no organic nitrogen or phosphorus was converted to bio-available (inorganic) forms.” Ex. 8, at 2. A more recent phosphate biodegradation report by researchers at Washington State University provides more conclusive evidence that a significant portion of the phosphorus in IEP’s effluent is not bio-available. Ex. 9. That report found in an 87-day test that Total Phosphorus (TP) concentrations remain relatively constant over time.

The TMDL implementation should incorporate a thorough understanding of the bio-available component of the point source discharges and adjust the WLAs based on TP and bio-available phosphorus. This was the approach in the Androscoggin TMDL cited above. Ex. 6.

6. The TMDL should provide an equivalency for nutrient loading.

In the MOA and Managed Implementation Plan agreed to by Ecology, ammonia and CBOD were to be addressed by innovative technology to address phosphorus. It was assumed that technologies installed for phosphorus removal would also result in reductions of CBOD and ammonia. The revised Draft TMDL improperly includes new emphasis on nutrient loading for ammonia and CBOD. The revised Draft TMDL, at page 25, describes how “[t]he loading capacity consists of the combination of the three pollutants (phosphorus, CBOD, ammonia) at the final modeled scenario that results in meeting the water quality standard.” It then says, “Alternatively, the loading capacity is considered the concentration of the three pollutants that would cause no more than a 0.2 mg/L decrease in dissolved oxygen from baseline conditions.”

This paragraph and subsequent sections that provide specific LAs and WLAs need to emphasize that conceptually all three parameters have a degree of equivalency, and it may be possible for a point or a nonpoint source to be higher in one or two of the three, if balanced by a decrease in the other two or one parameters. This concept is important in NPDES permitting and in the Delta Elimination Plan credits. To the extent that equivalency between parameters can be determined now, it should be, and permitting should allow for it. This may be easiest for an equivalency formula between ammonia and CBOD. The TMDL, and NPDES permits, should also recognize and allow for equivalency across all three parameters, even if the exact approach for doing so is still yet to be determined.

IEP is concerned that CBOD and ammonia WLAs were adopted without consideration of the feasibility of discharger to meet the allocations. The CBOD WLAs will result in limits that are not accurately measurable using normal procedures. There are no demonstrated technologies or processes to achieve these concentrations of CBOD₅ in waste water effluent. Ex. 10, at para. 7.