AVISTA

March 11, 2010

RECEIVED

MAR 12 2010

DEPARTMENT OF ECOLOGY
OFFICE OF DIRECTOR

Mr. Ted Sturdevant, Director
Washington State Department of Ecology
P.O. Box 47600
Olympia, Washington 98504-7600

Re: Dispute Resolution Request
Spokane River and Lake Spokane Dissolved Oxygen TMDL

Dear Mr. Sturdevant:

On February 12, 2010, the Washington Department of Ecology (Ecology) submitted its final Spokane River and Lake Spokane Dissolved Oxygen Total Maximum Daily Load (DO TMDL) to the U.S. Environmental Protection Agency (EPA). Avista recognizes the extraordinary effort that Ecology has put into moving the DO TMDL process forward, and is committed to continuing to work with Ecology to implement the DO TMDL in a manner that substantially improves the water quality in Lake Spokane.

Avista appreciates the indications in the final DO TMDL and in its response to comments that the modeling results, as reflected in Table 7, may be further refined during the development of Avista's DO Water Quality Attainment Plan (WQAP), pursuant to its Section 401 Certification. Avista also appreciates the clarifications in the section entitled "Avista's Dissolved Oxygen Responsibility." In that section, Ecology states that: "The dam (which does not discharge pollutants) contributes to the reservoir's impairment by altering the hydrology of the river. One of the goals of this DO TMDL is to apportion responsibility for the impaired condition of Lake Spokane, and its remediation, between the dam and point and nonpoint sources of pollutants." TMDL at 44.

This statement is consistent with RCW 90.48.422(3), which provides that: "With respect to Federal Energy Regulatory Commission licensed hydropower projects, the department [of Ecology] may ***only*** require a person to mitigate or remedy a water quality violation or problem ***to the extent*** there is substantial evidence such person has caused such violation or problem." (Emphasis added.) In this case, Avista is responsible for DO problems in the Lake only to the extent they are caused by its impoundment of the River. This is an important principle to keep in mind as we enter the implementation phase of the process. Without this understanding, Avista is concerned that it could be held responsible for the detrimental effects of upstream discharges due to land development, significant accidental releases of nutrients by dischargers, or other activities such as septic tank failures around Lake Spokane.

Avista is also concerned that certain portions of the final DO TMDL and Implementation Plan could be interpreted in a manner that is not consistent with the Clean Water Act and Ecology's own regulations. Unless clarified, they could be erroneously implemented in the future

in a manner that imposes requirements on Avista that are inconsistent with its legal responsibilities. Because the implementation process will take many years, and will require a high level of cooperative effort among Ecology, Avista, and other stakeholders, Avista believes that it is important that Ecology adopts the clearest possible "rules of the road."

Another concern is that adjustments to the wasteload allocations in the DO TMDL, as a result of the Ecology dispute resolution process, or other legal action, could unfairly shift additional burden onto Avista and its customers. At the same time, Avista appreciates the challenges faced by the dischargers in meeting their wasteload allocations, and has no objection to Ecology adjusting wasteload allocations among them, so long as there is no increase in Avista's responsibility.

By this letter, Avista respectfully invokes Ecology's dispute resolution process in order to clarify the DO TMDL and Implementation Plan, and to oppose any change in the wasteload allocations that would result in an increased responsibility for Avista. Clarity will allow Avista and other stakeholders to move forward into the implementation process with confidence.

I. Reasons for Dispute

A. Ecology Should Clarify that it Intends to Update and Expand the Water Quality Information Used in the Implementation of the TMDL

The DO TMDL states that: "Lake Spokane has a long history of water quality problems. Eutrophication of the lake has been one of the major water quality concerns for the area over the past 40 years (Cunningham 1969, Soltero et al. 1973-86, Singleton 1981, Wagstaff and Soltero 1982)." *Id.* Based upon this statement, a reader could reasonably assume that the water quality in Lake Spokane is quite poor. In fact, water quality in Lake Spokane has improved substantially since the late 1970s. DO concentrations in the Lake improved immediately after the installation of a new wastewater treatment facility by the City of Spokane in 1977, and continued to improve into the 1990s. *See* Cusimano 2003, *Data Summary: Spokane River and Lake Spokane (Long Lake) Pollutant Loading Assessment for Protecting Dissolved Oxygen* at 32. However, since then, almost no DO water quality data has been collected; in fact, only one waterbody segment covered in the DO TMDL is listed based on data collected after 2001. *See* DO TMDL at Table 1; 2008 303(d) Listings 40939, 15188, 17523, 15187 and 11400.

Therefore, Ecology should clarify that it intends to use updated and expanded water quality information in implementing the DO TMDL, including an assessment of the health of fish and other aquatic life uses. Additional water quality monitoring data collected in Lake Spokane would aid in the understanding of any impairments, and also serve as a basis for measuring DO improvements resulting from the implementation of the DO TMDL.

B. Ecology Should Clarify that it Will Evaluate Improvements to the Dominant Aquatic Habitat of the Lake.

Ecology's regulations require that DO levels be measured in the dominant aquatic habitat of the water body. As provided in WAC 173-201A-200(1)(d)(iv):

(iv) DO measurements should be taken to represent the ***dominant aquatic habitat*** of the monitoring site. This typically means samples should:

(A) Be taken from well mixed portions of rivers and streams; and

(B) Not be taken from shallow stagnant backwater areas, within isolated thermal refuges, at the surface, or at the water's edge. (Emphasis added.)

However, the DO TMDL makes no mention of the dominant aquatic habitat of Lake Spokane. Ecology should acknowledge that the protection of dominant aquatic habitat will be an important consideration in evaluating Avista's compliance with its DO responsibility as it works to improve water quality in the Lake. This places the focus, appropriately, on beneficial uses, and will avoid an expensive and futile effort to achieve compliance with numeric criteria in those portions of the Lake where native salmonid spawning and rearing would not naturally occur even under the most favorable DO levels.

C. Ecology Should Clarify that Avista May Pursue Non-point Source Offsets Immediately

The DO TMDL states that Ecology may award water quality offsets for non-point source reductions, but not "until the load allocations in Table 6 have been met as determined through data collected for the biennial and ten-year assessments." DO TMDL at 67. Given Avista's responsibility for improving DO in Lake Spokane, it is essential that Avista be allowed to pursue actions to reduce nonpoint sources of pollution entering the Spokane River, including both the mainstem and its tributaries. This is consistent with Ecology's goal of improving water quality in Lake Spokane, and should be allowed immediately upon implementation of the DO TMDL.

D. Ecology Should Revise Table 7 to Accurately Reflect Numeric Water Quality Criteria for Lake Spokane

Table 7 should be revised in order to accurately reflect the numeric water quality criteria for Lake Spokane. As stated in the DO TMDL, the criteria provides for: "No measurable (0.2 mg/L) decrease from natural conditions when dissolved oxygen levels are lower than aquatic life criteria for core summer salmonid habitat (9.5 mg/L)". DO TMDL at 10.

However, Table 7 does not deduct the allowed 0.2 mg/L from the difference between the No Source and TMDL Scenario #1 dissolved oxygen concentrations. For example, for July 1-15, segment 174, there should not be a yellow-shaded box because the italicized value (7.79) is within 0.2 mg/L of the bolded value (7.96). Therefore, none of the yellow-shaded boxes showing "0.2" should be shaded. All other yellow-shaded boxes should have the value within the box reduced by 0.2. For example, for the same time period, segment 177, the "0.3" should be reduced to "0.1." In addition, all references in the DO TMDL and Managed Implementation Plan to Avista's responsibility pertaining to Table 7 should be revised accordingly (e.g., page 45).

E. The DO TMDL Should Consistently Refer to Avista's Obligation to Implement "Reasonable and Feasible" Measures, as Required by Ecology's Regulations

Although the DO TMDL frequently refers to Avista's responsibility to implement measures that are "reasonable and feasible," as provided in WAC 173-201A-510(5)(b)(ii), it also deviates from this language in ways that might create confusion during the implementation process. Ecology should make clear that it intends to abide by that standard throughout the implementation process.

II. How These Concerns Were Raised by Avista in the Course of its Participation in the DO TMDL Process

Avista was an early and committed participant in the DO TMDL development process. Ecology issued a draft TMDL for public comment in 2004, and revised versions in 2007 and 2008. Avista participated in the process prior to and throughout this period, but Ecology conveyed to the company that any compliance responsibilities would instead be determined through Ecology's Section 401 Certification, to be issued in conjunction with the FERC relicensing of Long Lake Dam. In early 2009, the relicensing and TMDL processes formally converged, after several parties appealed Avista's 401 Certification. As a part of settling those appeals, Avista volunteered to become a full participant in the TMDL process. Settlement Agreement in *Sierra Club v. Department of Ecology*, PCHB Nos. 08-067, 08-068, and 08-072, Attachment A at 10-11 (February 2009).

The administrative record demonstrates that Avista has taken every opportunity, both prior and subsequent to the convergence of these processes, to communicate its concerns to Ecology. Avista has submitted public comments, participated in Ecology-led workgroups, and has repeatedly met in person with Ecology representatives. Most recently, Avista raised these issues in a detailed comment letter to Ecology of October 30, 2009 regarding the draft DO TMDL. A copy of that letter is attached.

III. Applicable Laws, Regulations, and Policies

Washington Statutes: RCW 90.48.260 (Ecology designated state agency to exercise federal Clean Water Act powers); RCW 43.21A.130 (Right of concerned individuals to participate in TMDL process); RCW 90.48.575 – 90.48.090 (Data requirements for TMDLs); RCW ch. 34.05 (Washington Administrative Procedures Act).

Washington Administrative Regulations: WAC 173-201A-200 (Fresh water designated uses and criteria); WAC 173-201A-510 (Implementation of Water Quality Standards); WAC 173-220-130 (Effluent limitations).

Federal Statutes: Clean Water Act § 303(d); 5 USC § 500 *et seq.* (federal Administrative Procedure Act).

IV. Related Correspondence

October 30, 2009 letter from Avista to David Moore, commenting on the draft DO TMDL.

V. Relief Requested

Avista respectfully requests that Ecology:

1. Clarify its intent to update and expand the water quality information used in the implementation of the DO TMDL, including an assessment of the health of fish and other aquatic life uses;

2. Clarify its intent to focus on the "dominant aquatic habitat" of the Lake, as required by its regulations;

3. Clarify that Avista may pursue non-point source offsets immediately upon implementation of the DO TMDL;

4. Revise Table 7 to accurately reflect the numeric water quality criteria for Lake Spokane;

5. Consistently refer to Avista's obligation to implement only measures that are "reasonable and feasible," as provided in Ecology's regulations; and

6. Not modify wasteload allocations in a manner that increases Avista's DO responsibilities.

VI. Request for Oral Presentation

Avista hereby requests the opportunity to make an oral presentation to the Dispute Resolution Panel in person. The presentation will be made by Avista personnel and/or its attorneys and consultants.

We appreciate your consideration of our concerns and look forward to working with you to achieve prompt resolution so that the TMDL process may move forward expeditiously based on clear ground rules. Please feel free to call me if you have any questions.

Sincerely,

Speed Fitzhugh

Elvin "Speed" Fitzhugh
Spokane River License Manager
Avista Corporation
(509) 495-4998

CC: Dustin Bilhimer, Department of Ecology
Gary G. Allen, Givens Pursley LLP
H. Sid Fredrickson, City of Coeur d'Alene Wastewater Utility Department
Kevin Rasler, Inland Empire Paper Company

ATTACHMENT

October 30, 2009 letter from Avista to David Moore, commenting on the draft DO TMDL.

AVISTA

October 30, 2009

Mr. David Moore
Washington State Department of Ecology
Eastern Regional Office
N. 4601 Monroe
Spokane, WA 99205-1295

Re: Spokane River and Lake Spokane 2009 Dissolved Oxygen Draft TMDL

Dear Mr. Moore:

On behalf of Avista Corporation ("Avista"), I am writing to provide comments on the draft Spokane River and Lake Spokane Dissolved Oxygen Total Maximum Daily Load Water Quality Improvement Report issued on September 15, 2009 ("draft DO TMDL"). We appreciate the hard work by the staff of the Department of Ecology ("Ecology") and Region X of the Environmental Protection Agency in preparing the draft DO TMDL.

Avista's detailed comments on the draft DO TMDL are appended as Attachment A. As you will see, Avista's primary concern relates to the role that water quality modeling results will play in implementing the DO TMDL. In particular, we are concerned about the use of the numeric modeling values shown in Table 6, which purport to definitively measure Avista's responsibility for DO deficits in Lake Spokane.

Despite the shortcomings described in our detailed comments, Avista does not object to Ecology's use of the modeled DO values shown in Table 6 as one consideration in determining Avista's compliance with its DO responsibility under the TMDL. Other important considerations include the extent to which existing and designated uses are being supported (with a particular focus on the dominant aquatic habitat), and the results that are achieved once Avista has employed reasonable and feasible measures toward improving DO levels in Lake Spokane.

However, Avista strongly objects to the use of Table 6 as anything more than an approximation of DO changes caused by Long Lake Dam, based on very limited data and highly debatable modeling assumptions. For example, the model's assumption that upstream sources are not contributing to the DO problem in Lake Spokane once their nutrients enter the Lake is flawed and unrealistic.

The key language that Avista believes requires modification is found on page 36 of the draft DO TMDL:

> Direct calculation of the dissolved oxygen improvements necessary to meet the water quality standards in Lake Spokane are provided in Table 6 and are calculated for each segment (vertical averaged dissolved oxygen) location within the reservoir (Figure 7).

> The water quality improvements required in Table 6 must occur in order to achieve water quality standards for DO in Lake Spokane, and will serve as the basis for evaluation of the adequacy of Avista's WQAP in meeting its responsibilities. To achieve these water quality improvements, Avista can consider all necessary methods, such as technology or engineering improvements to the dam and reservoir, as well as methods to reduce nonpoint sources of nutrients to the system.

Avista proposes that Ecology replace this language with the following:

> Table 6 shows the model's approximate, predicted dissolved oxygen levels in Lake Spokane under "natural" conditions, after implementation of controls on upstream sources. The shaded cells indicate those areas where it is predicted that DO levels will be more than 0.2 mg/L below natural conditions. Future versions of this table, with modeling results based on additional updated data (particularly that regarding the dominant aquatic habitat within the Lake), will serve as one indicator of whether Avista's DO WQAP is fulfilling Avista's responsibility to mitigate its proportionate level of responsibility for DO problems in Lake Spokane. To fulfill its responsibility, Avista shall consider and implement reasonable and feasible technological and operational measures.

If Ecology adopts this proposed language, inconsistent language elsewhere in the draft DO TMDL will need to be revised accordingly.

I am enclosing a CD that includes copies of previous comments filed by Avista during the course of the DO TMDL process, and documents referenced in Attachment A for your reference and consideration, and in order to ensure a complete administrative record.

I hope that you will find our comments helpful in developing a DO TMDL that more appropriately addresses Avista's level of responsibility for DO conditions in Lake Spokane. If I can provide you with any additional information, please do not hesitate to contact me.

Sincerely,

Speed Fitzhugh

Elvin "Speed" Fitzhugh
Avista Corporation
Spokane River License Manager
(509) 495-4486

Enclosure

Attachment A

Avista's Comments on Ecology's
September 2009 Draft DO TMDL

Avista Corporation

Comments on Draft Water Quality Improvement Report for Spokane River and Lake Spokane Dissolved Oxygen Total Maximum Daily Load

I. INTRODUCTION AND BACKGROUND

A. Avista Plays a Unique Role in this DO TMDL Process.

The purpose of a TMDL process is to develop a plan to improve water quality in water bodies known to be out of compliance with applicable water quality standards. The TMDL then divides responsibility for making necessary improvements among the point sources that discharge into the water body, such as wastewater treatment facilities and industrial facilities, and non-point sources, such as fertilizer use, animal waste handling, and failing septic systems.

Currently, Lake Spokane receives approximately 85,750 lbs of phosphorus during March through October.[1] The primary point sources are seven facilities located along the main stem of the Spokane River between Coeur d'Alene Lake and Lake Spokane. Together, they discharge a summer average of approximately 75 million gallons of treated wastewater per day into the River. Another point source is expected to result from construction of a wastewater treatment facility by Spokane County. These eight facilities are referred to collectively as "Dischargers."

Avista plays a unique role in this DO TMDL process because none of its facilities discharge nutrients into the River or Lake Spokane. Instead, Avista owns and operates the Spokane River Hydroelectric Project (Spokane River Project), consisting of five hydroelectric dams on the Spokane River. One of these is the Long Lake Dam, which impounds the river and creates a 23.5 mile-long reservoir, Lake Spokane. The impoundment causes some of the nutrients discharged by point and non-point sources to

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[1] Phosphorus loads into Lake Spokane were calculated by multiplying load (lbs P/day) by the corresponding number of days, and summing these values when necessary. Current phosphorus loading into Lake Spokane is 85,750 pounds from March through October. Draft DO TMDL at 24-25. Primary tributaries (i.e., Hangman Creek, Coulee Creek and Little Spokane River) contribute about 35,000 pounds (41%) of this phosphorus load. Draft DO TMDL, Appendix M, at 2. Attaining the draft DO TMDL load allocations would reduce these tributary loadings to approximately 28,000 lbs, a reduction of 20%. *Id.* Groundwater accounts for about 22,400 lbs (26%) of the phosphorus loadings into the Lake, and the draft DO TMDL does not provide an allocation that would reduce these loadings. Draft DO TMDL, Appendix M, at 1. Although the draft DO TMDL does not provide the 2001 loadings from point sources, it does provide waste load allocations, which total 6,248 lbs of phosphorus, for the four existing point sources in Washington (Liberty Lake, Kaiser, Inland Empire Paper Company, and the City of Spokane) and Spokane County's new wastewater treatment plant, which has yet to be constructed. Draft DO TMDL at Table 4. "The point source load will be reduced by 94 percent in March – May, 87 percent in June, and nearly 90 percent in July – October." Draft DO TMDL at Figure 4. Note that three additional point sources located in Idaho (City of Coeur d'Alene, Hayden Area Regional Sewer Board, and City of Post Falls) also contribute to Spokane River loads.

settle and accumulate on the bottom of the lake. Without Long Lake Dam, the same amount of nutrients would simply continue to be carried downstream before settling and accumulating on the bottom of the next storage reservoir, Lake Roosevelt.

For almost a decade, the Spokane River DO TMDL process proceeded in parallel with the relicensing of the Spokane River Project by the Federal Energy Regulatory Commission (FERC). From 2000 to 2005, Avista consulted with other interested parties as it prepared its License Application to FERC, while Ecology and the Dischargers attempted to complete the DO TMDL process. Ecology issued a draft DO TMDL for public comment in 2004, and then issued revised versions in 2007 and 2008. Avista participated in the TMDL process throughout this period, but was instructed by Ecology and others that it did not belong in that process because it is not a discharger. Instead, Ecology decided that Avista's responsibilities regarding DO in Lake Spokane would best be determined through Ecology's Section 401 Certification, to be issued in conjunction with the FERC License. May 2008 Draft Spokane River DO TMDL at 5, 47, and B-83.

Only earlier this year did the relicensing and DO TMDL processes officially converge, after several parties appealed the Section 401 Certification that Ecology issued for the Spokane River Project. In the course of settling those appeals, Avista volunteered to become a full participant in the DO TMDL process, so that its level of responsibility could be determined along with the Dischargers and non-point sources on a comprehensive basis. Settlement Agreement in *Sierra Club v. Department of Ecology*, PCHB Nos. 08-067, 08-068, and 08-072, Attachment A at 10-11 (February 2009). Pursuant to that Settlement Agreement, Ecology issued a revised Section 401 Certification on May 8, 2009, and the conditions of that certification are now included as Appendix B to the FERC License issued on June 18, 2009.

The revised Section 401 Certification provides that, after EPA approves the DO TMDL, Ecology will amend its certification to require Avista to develop, within two years of the effective date of the amendment, a DO Water Quality Attainment Plan (WQAP) for review and approval by Ecology. The WQAP will provide a detailed strategy to address Avista's "proportional level of responsibility, based on its contribution to the dissolved oxygen problem in Lake Spokane as determined in the DO TMDL." FERC License, Appendix B, Sec. 5.6.C. Additionally, Avista has until the end of December 2009 to "identify reasonable and feasible improvements and/or mitigation measures that could be used to address its proportional level of responsibility for dissolved oxygen in Lake Spokane," in accordance with the Settlement Agreement between Avista, Ecology, Inland Empire Paper, Sierra Club, and the Center for Environmental Law and Policy referenced above. Settlement Agreement at 3. The identified mitigation measures will be further refined during development of the WQAP.

The current draft DO TMDL is the first to include an apportionment of responsibility for Avista. Draft DO TMDL at xii. With Avista now "at the table," Ecology increased the total phosphorus waste load allocations (WLAs) for the Dischargers by several-fold; from 7-8 ppb in the 2008 draft DO TMDL to 25-42 ppb in the current draft DO TMDL. May 2008 Draft TMDL, Table 5, at 30 and 2009 draft DO TMDL, Table 4, at 28, respectively.

Counteracting the effects of this increase now becomes the responsibility of Avista, according to the draft DO TMDL.

B. Avista has Already Committed to Improving DO Levels In and Below Lake Spokane.

Avista has already taken steps to improve DO levels, both at the outflow of the Long Lake Dam and in Lake Spokane itself. The Long Lake Dam outflow to the powerhouse is drafted from well below the lake's surface (the intake is located 29-45 ft below the full pool elevation), drawing water from the middle layer of the lake. When stratification occurs during the summer, the water flowing downstream from the dam is relatively cold (in fact, colder than the natural river would be at times) (HDR, May 9, 2005, *Spokane River Hydroelectric Project: Current Operations Water Quality Report* at 6-41 and 6-45), but does not meet the applicable numeric criteria for DO.

In response, in its 2005 application to FERC, Avista proposed to explore ways to improve the DO levels in the outflow from Lake Spokane. Since then, it conducted an initial feasibility study and proposed, as part of the Section 401 Certification and FERC relicensing processes, to complete a Phase II Feasibility and Implementation Plan. The proposal was welcomed by others and included by Ecology in its Section 401 Certification, which is now part of the FERC License. FERC License, Appendix B, Sec. 5.6.B.

Avista made other proposals in the relicensing process to address water quality in Lake Spokane, and those too have now been included in the FERC License. Such proposals include the creation of a 200-foot shoreline buffer along approximately 18 miles of Avista-owned Lake Spokane property to preserve it in a natural condition, preventing future residential, commercial, and/or agricultural uses that would further impact the lake's water quality. FERC License, E. 47, at 15. Additionally, Avista proposed to acquire, restore and/or enhance 47 acres of wetlands along Lake Spokane, which was later revised by Ecology in its Section 401 Certification to a minimum of 42.51 acres. FERC License, Appendix B, Sec. 5.3.G. As stated above, Avista's DO WQAP will identify additional mitigation measures to improve DO levels in Lake Spokane.

C. Avista is Subject to Different Laws than the Dischargers and Non-point Sources.

Avista has agreed to have its proportional level of responsibility determined in the DO TMDL process, notwithstanding that dams do not discharge pollutants. However, the water quality effects of hydroelectric dams are governed by distinctly different provisions of law than are the water quality effects of either point source or non-point source Dischargers. Among other things, Washington law makes dams responsible for water quality problems only to the extent that there is substantial evidence that they have caused the problem, and provides that dams are to employ "reasonable and feasible" means to attain water quality standards. These differences are discussed in more detail below.

II. SPECIFIC COMMENTS

A. The TMDL Must Not Make Avista Responsible for Eliminating All DO Deficits as Quantified in the Shaded Cells in Table 6.

For a number of reasons discussed below, the following language in the draft DO TMDL would impose an unreasonable and disproportionate DO responsibility on Avista:

> Direct calculation of the dissolved oxygen improvements necessary to meet the water quality standards in Lake Spokane are provided in Table 6 and are calculated for each segment (vertical averaged dissolved oxygen) location within the reservoir (Figure 7). The water quality improvements required in Table 6 must occur in order to achieve water quality standards for DO in Lake Spokane, and will serve as the basis for evaluation of the adequacy of Avista's WQAP in meeting its responsibilities. To achieve these water quality improvements, Avista can consider all necessary methods, such as technology or engineering improvements to the dam and reservoir, as well as methods to reduce nonpoint sources of nutrients to the system.

Draft DO TMDL at 36 and xi. The text of the heading for Table 6 contains similar language:

> **Table 6. TMDL Scenario #1 dissolved oxygen concentrations** *(italics) are compared with No Source scenario concentrations (bold) for [start date] through [end date]. Those areas of the reservoir where additional DO improvement is needed by Avista are shaded. Avista's responsibility (mg/L) for each segment is quantified in the shaded cells.*

(Emphasis in original). The draft DO TMDL must recognize the limitations inherent in the modeling results, and must not hold Avista responsible for eliminating all DO deficits as they are quantified in the shaded cells in Table 6. Avista proposes that Ecology replace the paragraph from pages 36 and xi of the draft DO TMDL quoted above with the following:

> Table 6 shows the model's approximate, predicted dissolved oxygen levels in Lake Spokane under "natural" conditions, after implementation of controls on upstream sources. The shaded cells indicate those areas where it is predicted that DO levels will be more than 0.2 mg/L below natural conditions. Future versions of this table, with modeling results based on additional updated data (particularly that regarding the dominant aquatic habitat within the Lake), will serve as one indicator of whether Avista's DO WQAP is fulfilling Avista's responsibility to mitigate its proportionate level of responsibility for DO problems in Lake Spokane. To fulfill its responsibility, Avista shall consider and implement reasonable and feasible technological and operational measures.

In addition, Ecology should change the heading of Table 6 to read as follows:

Table 6. TMDL Scenario #1 dissolved oxygen concentrations *(italics) are compared with No Source scenario concentrations (bold) for [start date] through [end date]. Those areas of the reservoir where the model predicts a decrease of more than 0.2 mg/L of DO over natural conditions are shaded.*

1. The model is simply a regulatory tool; it cannot legitimately be used as a precise measure of compliance with numeric water quality criteria.

The draft DO TMDL discusses water quality modeling results as if they are a precise measure of reality, and of Avista's level of legal responsibility for achieving water quality standards. This is inconsistent with the comments of Ecology and EPA during the public meetings, where EPA's lead modeler, Mr. Ben Cope, and others repeatedly acknowledged that a water quality model is not itself reality, but is rather a "pretty good representation" of what is happening in the Spokane River and Lake Spokane, based on a number of assumptions. These latter comments are consistent with comments by Ecology early in the TMDL process (2004), when it stated that "the model provides a good approximation of the major forcing processes and features of the system that affect water quality such as the hydrodynamics of Lake Spokane, pools associated with the dams, periphyton growth, and pollutant loading." Cusimano, R. F., 2004, *Spokane River and Lake Spokane (Long Lake) Pollutant Loading Assessment Report for Protecting Dissolved Oxygen* (Cusimano 2004) at 56.

This more cautious characterization of the modeling results also reflects the limited amount of actual data used to verify the model. The entire model is based on DO measurements ***gathered over a period of nine days;*** two days at six stations in 2001, and on seven days at two stations in 2000. Wells, S. and C. Berger, June 2009, *Spokane River Modeling Report 2009: Model Update and Calibration Check* at 52 and 83. Thus the apparent precision of Table 6, with its 32 lake segments and 14 semi-monthly periods, each with DO values expressed in tenths of micrograms, is derived by substantially extrapolating and interpolating the actual data. It is important that this be acknowledged in the final DO TMDL so that those who implement it (most of whom will not be trained modelers) will understand and appreciate that the modeling results are but one simulated measure of success, not the sole indicator of compliance.

2. The draft DO TMDL's characterization of the water quality of Lake Spokane is based on information that is incomplete and outdated.

The draft DO TMDL begins by asking the critical threshold question: "Why is a TMDL project being done in this watershed?" Draft DO TMDL at x. In response, the draft states that: "Lake Spokane, also known as Long Lake, has a long history of water quality problems. Eutrophication of the lake has been one of the major water quality concerns for the area over the past 40 years (Cunningham 1969, Soltero et al. 1973 – 86, Singleton 1981, Wagstaff and Soltero 1982)." *Id.*

This characterization ignores the improvements in water quality that have occurred since the late 1970s. Among other things, the City of Spokane constructed a new advanced wastewater treatment plant in 1977, with secondary treatment that removed 85 percent of the phosphorus. Cusimano 2004 at 31. By 1987, a study prepared for Ecology based on data collected from 1966 to 1985 concluded that: "All four trophic status indicators [(i.e., chlorophyll-a concentrations, phytoplankton biovolume, Secchi disk transparency and hypolimnetic DO levels)] have exhibited significant ($P<.05$) improvements following the implementation of AWT [Advanced Water Treatment] at Spokane." Patmont et al. 1987, *The Spokane River Basin: Allowable Phosphorus Loading* at 46.

By 2003, an Ecology report had concluded that: "The minimum dissolved oxygen concentrations in the lake improved immediately after 1977 and appear to have continued to improve until 1991, but the 2000 and 2001 data suggest that the lake may not improve further without further management." Cusimano 2003, *Data Summary: Spokane River and Lake Spokane (Long Lake) Pollutant Loading Assessment for Protecting Dissolved Oxygen* at 32. Since then, however, Ecology has collected almost no DO water quality data from Lake Spokane. The draft DO TMDL addresses five water body segments that Ecology included in its 303(d) list for dissolved oxygen. Of these five, only one (Listing 11400) is based on data collected after 2001. Draft DO TMDL, Table 1; 2008 303(d) Listings 40939, 15188, 17523, 15187, and 11400.

With respect to impacts on fish and other aquatic species, the draft DO TMDL states the problem in the abstract, rather than in the specific context of Lake Spokane: "Eutrophication is a process where excess aquatic plant growth occurs in a water body in response to high levels of nutrients (i.e., nutrient enrichment), and this plant growth can reduce the oxygen in the water to levels that are harmful for fish and other aquatic species." Draft DO TMDL at x. The draft DO TMDL cites ***no evidence*** that fish and other aquatic species in Lake Spokane are being harmed by low levels of DO. To the contrary, Lake Spokane is the site of several bass fishing tournaments each summer. In addition, the FERC License requires Avista to annually stock 155,000 catchable-sized sterile rainbow trout in Lake Spokane for a minimum of five years. FERC License, Article 406, at 85. This requirement is based on a recommendation by the Washington Department of Fish and Wildlife (WDFW), which stated that "Upper Falls, Nine Mile, and Lake Spokane reservoirs all offer littoral and limnetic habitats that are favorable to producing rainbow trout fisheries." WDFW, Comments on the Draft Environmental Impact Statement for FERC Projects P-2545 (Spokane River Developments) and P-12606 (Post Falls Project) and Modified Recommendations for Terms and Conditions, March 6, 2007 at 26.

While there is no requirement that "all data relied upon by the agency be immediate," an agency should seriously consider how much weight to give to out-of-date studies. *Lands Council v. Powell*, 395 F.3d 1019, 1031 (9th Cir. 2005) (finding a six-year-old study "too outdated to carry the weight assigned to it"); *Seattle Audubon Soc'y v. Espy*, 998 F.2d 699, 704-05 (9th Cir. 1993) (overturning NEPA analysis on basis that it relied on "stale scientific evidence"). In particular, an agency should not rely on older data while failing to consider up-to-date studies on the same topic. *Espy*, 998 F.2d at 704-05 (older study

was "stale" in part because a newer report had been issued, to which agency gave inadequate consideration).

3. The model does not focus on "dominant aquatic habitat" of the Lake, as required by Ecology's regulations.

Ecology's regulations require that DO levels be measured in the dominant aquatic habitat of the water body. As stated in WAC 173-201A-200(1)(d)(iv):

> (iv) DO measurements should be taken to represent the ***dominant aquatic habitat*** of the monitoring site. This typically means samples should:
>
> (A) Be taken from well mixed portions of rivers and streams; and
>
> (B) Not be taken from shallow stagnant backwater areas, within isolated thermal refuges, at the surface, or at the water's edge.

(Emphasis added.) However, the draft DO TMDL makes no mention of the dominant aquatic habitat of Lake Spokane. More importantly, the monitoring points identified in the draft DO TMDL do not, in fact, represent the dominant aquatic habitat of the lake.

WDFW has concluded that spawning and rearing habitat exist in the river and shallower part of the upper reservoir and tributaries, and that the lower reservoir provides refuge and forage habitat. *Summary of Ecology Information Regarding Aquatic Life Uses in Lake Spokane* (undated) at 2. This is consistent with the fact that the dominant aquatic habitat of a stratified water body is the area above the thermocline. In such water bodies, the area below the thermocline typically has reduced DO due to natural processes. Wetzel, R.G., 1975, *Limnology* at 127. Therefore, these areas cannot serve as the dominant aquatic habitat.

By establishing compliance points in the areas identified by WDFW, Ecology would provide reasonable assurance that numeric criteria will be met where the other essential habitat conditions exist. Such an approach would also avoid an expensive and futile effort to achieve compliance with numeric criteria in those portions of the lake where spawning and rearing would not naturally occur even under the most favorable DO levels. The DO TMDL should acknowledge that protection of dominant aquatic habitat will be an important consideration in evaluating Avista's compliance with its DO responsibility.

Instead of this approach, however, the draft DO TMDL goes in the opposite direction. First, the modeling excludes the top 8 meters of the lake, ***over 40 percent of the lake's volume,*** much of which is part of the dominant aquatic habitat. The draft DO TMDL states that the top 8 meters have "amplified algal activity which increases daytime dissolved oxygen levels." Draft DO TMDL at 36. However, the draft DO TMDL neglects to mention that amplified algal activity (i.e., respiration) ***reduces*** DO levels at nighttime. Thornton et al., 1990, *Reservoir Limnology: Ecological Perspectives* at 75. Because the draft DO TMDL measures compliance with the numeric DO criteria on the

basis of a ***daily minimum*** (i.e., the minimum over a 24 hour period), the fact that algal activity may increase the daytime DO levels is not a reason to exclude the upper 8 meters from the analysis.

Second, as to the bottom 60 percent of the lake, the draft DO TMDL makes no distinctions between portions of the lake that may constitute dominant aquatic habitat and those that do not. Instead, it requires compliance with the numeric criteria in all 35 segments of the lake.

4. The draft DO TMDL must be consistent with provisions of state law pertaining to dams.

a. Avista's obligation under the TMDL is to address only water quality problems caused by its dam.

Washington law limits the extent to which dams may be held responsible for water quality problems: "With respect to Federal Energy Regulatory Commission licensed hydropower projects, the department [of Ecology] may only require a person to mitigate or remedy a water quality violation or problem to the extent there is substantial evidence such person has caused such violation or problem." RCW 90.48.422(3). The draft DO TMDL acknowledges the causation principle underlying RCW 90.48.422(3): "A dissolved oxygen responsibility has been determined with the CE-QUAL-W2 model to account for the dissolved oxygen impacts ***caused by*** Long Lake Dam during the most critical times of the year." Draft DO TMDL at vii (emphasis added). The draft DO TMDL also correctly states that "water quality in the reservoir is a function of: 1) the quality of water flowing into the reservoir, and 2) the reduced assimilative capacity of the system caused by Long Lake Dam." *Id.* at 24.

However, the modeling construct used to determine Avista's responsibility incorrectly attributes causation to Long Lake Dam. This construct is described in the draft DO TMDL:

> The approach used to evaluate the extent to which the dam's alteration of the free-flowing river's hydrology contributes to the lake's impairment relies on water quality predictions from the model, CE-QUAL-W2, and focuses on a benchmark location in the free-flowing river, downstream of all anthropogenic sources, but upstream of Lake Spokane. If the model assumes that all upstream sources of impairing pollutants are reduced such that water quality at this benchmark location is unimpaired during the critical period of March to October, then it is reasonable to assume that all impairments downstream of the riverine portion of this TMDL are attributable to the reduction in the assimilative capacity of the lake caused by Long Lake Dam.

Draft DO TMDL at 35. Below, we explain why this approach violates RCW 90.48.422(3).

(1) The draft DO TMDL incorrectly assumes that a water quality problem would not exist but for the dam.

A fundamental error in the draft DO TMDL is the assumption that the DO concerns regarding the Spokane River would be solved if the Long Lake Dam did not exist. "If we run the model without the reservoirs, then the critical condition would be greatly altered and the problems with dissolved oxygen would appear to be non-existent." Draft DO TMDL at 8, quoting from October 24, 2008 Ecology letter to EPA.

This is not accurate. The draft DO TMDL omitted a key qualifier when it quoted from Ecology's October 24, 2008 letter to EPA. In that letter, Ecology continued on in the sentence quoted above to state that "in fact this is not the case." Although DO levels in ***that portion*** of the river would likely be higher without the dam, the absence of the dam would simply allow the same nutrient load to travel downstream to another location, where it would cause algal growth, leading to algae decomposition, and reduced DO levels. In short, the Long Lake Dam does not ***cause*** nutrients from upstream sources to create DO problems that would not otherwise exist; it merely determines ***where*** in the river system DO problems caused by others will manifest themselves.

(2) The draft DO TMDL makes Avista responsible for the effects of nutrients that it did not cause to enter the Lake, from sources over which it has no control.

The draft DO TMDL effectively makes Avista solely responsible for the effects of upstream discharges (both point and non-point) once they reach the lake, notwithstanding the fact that none of them are caused or controlled by Avista. This includes all nutrients from the Dischargers once those nutrients reach the lake, all of the nutrients that flow from Hangman Creek and other tributaries, and those that flow directly into the lake from along its shoreline.

The draft DO TMDL also makes Avista responsible for the effects of decades of historic discharges that it did not cause. Going forward, the Dischargers are required to reduce their nutrient discharges only so that the "benchmark location is unimpaired during the critical period of March to October...." Draft DO TMDL at 35. In other words, the draft DO TMDL does not limit discharges from upstream sources from November through February, notwithstanding that those discharges have the same effect on the bottom of the lake as nutrients discharged from March through October, and any effect those nutrients have during the "critical season" becomes the sole responsibility of Avista under the terms of the draft DO TMDL.

The model also assumes that Segment 154 (where compliance is measured for the Dischargers) is "downstream of all anthropogenic sources," which is not true. This error makes Avista responsible for all discharges resulting from activities on or near the shores of Lake Spokane, notwithstanding the fact that it neither causes nor controls the sources of those discharges. In addition to farming activities along the shore of the lake, the approximate 400 septic tanks located within 300 feet of Lake Spokane most likely

contribute additional nutrients to the lake. Under the model, Avista is held 100 percent responsible for the DO effects of such discharges.

(3) The draft DO TMDL should not make Avista the sole guarantor of DO levels in the Lake.

The obligations of the Dischargers under the TMDL are fixed and predictable. Each Discharger is assigned a WLA, which will be incorporated into its NPDES permit. As long as they meet the effluent limits in their permits (either by lowering the concentration of nutrients in their discharge or through other "delta eliminating" actions), the Dischargers will be in compliance with their obligations under the DO TMDL.

However, the draft DO TMDL takes a fundamentally different approach with respect to Avista. It makes Avista responsible for complying with water quality criteria for DO in all segments of Lake Spokane, from June through October. If upstream land development activities increase the flow of nutrients into the Spokane River or any of its tributaries, or if there is a significant accidental release of nutrients from any of the Dischargers, or if septic tanks fail around Lake Spokane, Avista should not be responsible for counteracting the effects on DO in the lake.

This problem will be particularly acute if compliance is determined solely through monitoring or as indicated in Table 6 of the draft DO TMDL. Monitoring Lake Spokane's water quality would document DO conditions resulting from all sources, but would not distinguish between the effects of Avista's enhancements and those of other sources. In other words, substantial progress by Avista would not necessarily be reflected in monitoring results if other sources of nutrients increase during the same timeframe. It is, therefore, critical that Avista's compliance with the DO TMDL be evaluated based on a combination of factors, including monitoring data, modeling results, implementation and quantification of Ecology-approved BMPs, and the effects these have on the dominant aquatic habitat. The model used to evaluate compliance must also be updated to reflect actual conditions being evaluated.

b. Avista's obligations under the DO TMDL must be to implement measures that are "reasonable and feasible."

Dams that cause or contribute to a violation of water quality standards must develop a WQAP that provides a detailed strategy for achieving compliance using "all reasonable and feasible improvements." WAC 173-201A-510(5)(b)(ii). The "reasonable and feasible" standard should be clearly incorporated into the expression of Avista's compliance obligation.

5. The draft DO TMDL makes Avista responsible for improving water quality in segments of Lake Spokane not identified on Ecology's 303(d) list.

The draft DO TMDL assigns Avista responsibility for improving DO levels in all areas of Lake Spokane represented in the model as segments 165 through 188. These segments

include large portions of the lake that Ecology has not identified as "water quality-limited segments."

Section 303(d) of the Clean Water Act requires each state to "identify those waters within its boundaries for which the effluent limitations required by section 1311(b)(1)(A) and section 1311(b)(1)(B) of this title are not stringent enough to implement any water quality standard applicable to such waters." 33 USC 1313(d)(1)(A). It also requires states to establish TMDLs "for the waters identified" in the preceding sentence. 33 USC 1313(d)(1)(C) and 40 CFR 130.7(c)(1). Thus, a TMDL is written specifically for waters identified as water quality-limited in the state's 303(d) list.

Ecology's 303(d) list identifies only a small portion of Lake Spokane as a Category 5, or impaired, water. Listing ID 40939 in Ecology's 2008 Water Quality Assessment. The portion identified as impaired includes only those areas represented in the model as around segments 181 and 182. Therefore, the draft DO TMDL can allocate responsibility for improving DO levels only in those listed segments.

B. Avista and the Dischargers Must be Allowed to Meet Their Respective Obligations Under the DO TMDL by Using Offsets for Non-point Source Reductions Immediately.

The draft DO TMDL acknowledges that water quality standards cannot be achieved unless non-point sources are reduced: "Based on estimates of achievable improvements in nutrient control upstream of the lake, ***water quality standards cannot be achieved*** in Lake Spokane unless both the capacity of Lake Spokane is improved (through reductions in nutrients and improvements in in-lake dissolved oxygen) and upstream anthropogenic sources (point and non-point sources) are substantially decreased." Draft DO TMDL at xi. It further notes that "The nonpoint total phosphorus source load accounts for a large portion of the overall load, especially during the spring months." *Id.*

In Table 5, the draft DO TMDL assigns load allocations to the mouths of certain tributaries to the Spokane River (Hangman Creek, Coulee Creek, and the Little Spokane River) and for groundwater to the mainstem of the Spokane River. Draft DO TMDL at 31. These allocations translate to nutrient loading reductions ranging from 20 to 50 percent. Thus, water quality standards for Lake Spokane cannot be achieved unless the 20 to 50 percent reductions in non-point source loadings are actually achieved. Avista strongly encourages Ecology to take all actions necessary to meet these load allocations.

In addition, it is critical that Avista and the Dischargers be allowed to meet their respective obligations under the DO TMDL by helping to reduce non-point source loadings. The draft DO TMDL states that Ecology may award water quality offsets for non-point source reductions, but not "until the load allocations in Table 5 have been met as determined through data collected for the biennial and ten-year assessments." Draft DO TMDL at 51. This limitation is both counter-productive and contrary to law. It should be deleted from the final DO TMDL, and water quality offsets for non-point source reductions should be awarded when the conditions in WAC 173-201A-450 are satisfied.

First and foremost, this limitation would discourage efforts at non-point source reductions until the first ten-year assessment has been completed. Since the purpose of the DO TMDL is to improve water quality, as quickly as practicable, we believe the DO TMDL should encourage such efforts, not discourage them.

Denying offsets for non-point source reductions until the load allocations in Table 5 have been met also will make it far more difficult for the Dischargers to meet their WLAs. The draft DO TMDL acknowledges that the Dischargers might not meet their WLAs unless they can reduce, and take credit for, non-point source loadings. "The dischargers and Avista can and will likely need to pursue actions to reduce nonpoint sources of pollution to the mainstem of the river and the tributaries, in order to reduce their 'delta' and meet the wasteload allocations (Dischargers) and dissolved oxygen responsibility (Avista)." Draft DO TMDL at 30.

Furthermore, this limitation is contrary to Ecology's regulation on offsets. WAC 173-201A-450(2) sets forth the conditions that must be met before Ecology can grant a water quality offset. One of those conditions states that "[o]nly the proportion of the pollution controls which occurs beyond existing ***requirements for those sources*** can be included in the offset allowance." WAC 173-201A-450(2)(e) (emphasis added). However, the DO TMDL will not establish "requirements" for any non-point source. Instead, it will set collective reductions for the tributaries and groundwater to which these non-point sources discharge. In other words, the DO TMDL will set a percentage reduction for a water body, but will not specify how, or by whom, the reduction will occur.

This is an important distinction. It means that no individual non-point source to the tributaries or to groundwater will have a "requirement" to reduce its nutrient loading. Therefore, if the Dischargers or Avista take action to control loadings from such sources, there is no chance that they would relieve someone else of an existing obligation or that they would receive credit for a non-point source reduction that has already been required.

We understand that Ecology cannot give offset credit for assumed reductions that are built into the DO TMDL. But the draft DO TMDL expects reductions in loadings from the tributaries and groundwater ranging from 0 percent to no more than 50 percent. Draft DO TMDL at Table 5. Thus, 50 percent to 100 percent of the current loadings to the tributaries and to groundwater will still be "available" for reduction by Avista and the Dischargers even if the expected reductions are achieved.

An example will illustrate this point. The draft DO TMDL allocates to Hangman Creek a 20 percent reduction in human-caused pollution (March-May average). *Id.* Even with this allocation, there will still be a loading of 80 percent of human-caused pollution into Hangman Creek between March and May. Avista and the Dischargers could help meet their respective responsibilities under the TMDL by reducing the remaining 80 percent loading to Hangman Creek. These reductions would be over and above the 20 percent already assigned in the DO TMDL, and thus would not constitute "double counting" of loading reduction credit.

Even if the non-point reductions in the DO TMDL were considered "requirements" for

sources to the tributaries and to groundwater, we see no basis in the law for denying offset credits until after the expected reductions have occurred. In fact, Ecology's regulations suggest that offset credits will be available during the implementation phase of a TMDL. WAC 173-201A-450(1) ("Water quality offsets may be used to assist an entity in meeting load allocations targeted under a pollution reduction analysis (such as a total maximum daily load)"). Since the typical compliance period for a DO TMDL is ten years, the regulation contemplates that offsets will be available before the ten-year assessment is conducted.

Finally, the draft DO TMDL also states that offsets "may only be awarded for actions above and beyond landowners existing requirements to manage land in a manner that does not violate RCW 90.48." Draft DO TMDL at 51. It is unclear to us what sorts of "existing requirements" Ecology has in mind. Please clarify this statement so that Avista and the Dischargers understand what types of controls are eligible for offsets.

C. Miscellaneous points.

1. The draft DO TMDL states that "[i]f downstream [monitoring] results indicate non-compliance with Tribal water quality standards for dissolved oxygen, then corrective action will be taken by both the upstream dischargers and Avista per the implementation plans to meet the standard." Draft DO TMDL at 43. Our understanding is that the DO TMDL study area ends at Long Lake Dam, the base of Lake Spokane. As discussed above, Avista is already in the process of improving DO conditions downstream from the Long Lake Dam. In addition, Avista and the Spokane Tribe have entered into an agreement to work together to improve water quality within reservation waters.

2. Table 6 includes shaded cells for the period between October 31 and December 15. These cells should not be shaded, since the DO TMDL makes clear that the critical period for DO does not extend past October 31.

3. The schedule on page 57 of the draft DO TMDL states that Avista is required to develop a WQAP by 2011. However, several actions have to be taken before the deadline for developing Avista's WQAP will be known. Ecology must adopt a final TMDL; EPA must approve the final TMDL; and Ecology must amend Avista's Section 401 Certification to require submittal of the WQAP. Once this last step is taken, Avista will have two years to develop the WQAP. The DO TMDL should acknowledge that the deadline for developing a WQAP may be later than 2011.

III. REFERENCES

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