CITY OF COEUR D'ALENE
WASTEWATER UTILITY DEPARTMENT

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Via U.S. Mail and E-mail: tstu461@ecy.wa.gov

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

Re: **CORRECTED** Request for Dispute Resolution
Spokane River and Lake Spokane Dissolved Oxygen TMDL Water Quality Improvement Plan

Dear Mr. Sturdevant:

The City of Coeur d'Alene requests dispute resolution on the Spokane River and Lake Spokane Dissolved Oxygen Total Maximum Daily Load Water Quality Improvement Report, Revised February 2010 (Pub. No. 07-10-073) ("TMDL") pursuant to Department of Ecology WQP 1-25.

1. Reason for Dispute Resolution Request

The City of Coeur d'Alene submits the follow matters for dispute resolution:

A. TMDL assumptions regarding treatment capacity.

While the TMDL does not directly make allocations to Idaho dischargers, Ecology has defined compliance with its water quality standards based on the water quality model used to derive load allocations for dischargers in Washington. EPA has indicated that it will issue NPDES permits in Idaho based on the same model assumptions used for the TMDL. The model assumptions, and thus the TMDL allocations, are based on what can be achieved with technology and what constitutes a fair allocation between dischargers and Avista as the operator of the Long Lake Dam. In this regard, Ecology divined that Coeur d'Alene can achieve a monthly maximum average of 50 µg/L for phosphorus concentration levels, adjusted by a conversion factor to a long term average of 36 µg/L.

Coeur d'Alene has been actively evaluating treatment technology to improve nutrient removal from its effluent since 2004 as part of the Spokane River Collaborative Process. Ecology was a participant in that process and is fully aware of the enormous effort to evaluate treatment technology, including pilot studies at the Coeur d'Alene

Wastewater Treatment Plant ("WWTP"). Based on those efforts and ongoing facility planning, Coeur d'Alene has not been able to identify any treatment technology that would allow it to achieve a seasonal average of 50 µg/L.

Coeur d'Alene has raised its concerns in this regard numerous times to EPA and to Ecology. Neither agency has identified any specific technology that is available to Coeur d'Alene that would enable Coeur d'Alene to achieve a seasonal TP average of 36 µg/L. The assumptions are simply arbitrary and capricious numbers selected by Ecology and EPA staff for water quality modeling.

Coeur d'Alene previously submitted its comment letter, dated September 27, 2007, to EPA Region 10, together with the attachment submitted with that letter. (Exhibit 1.) Ecology has not explained in response to these comments why this information does not justify revising the assumptions about treatment technology available to Coeur d'Alene in the TMDL water quality model. The capabilities of these technologies will not be confirmed without additional pilot testing, plant design, and optimization. But it is clear from the pilot testing described in Exhibit 1 that the technology will not be able to achieve 36 µg/L as a seasonal average. It is simply too soon for any qualified engineer to assert that 36 µg/L is an attainable seasonal average for Coeur d'Alene. It is not a good engineering practice, or defensible, for Ecology to prejudge the capabilities of treatment technology based on the analysis in Appendix J.

Ecology explained in response to these comments how it used Appendix J to determine the "very specific assumptions" that apply to the Idaho dischargers. The Appendix was not, however, discussed anywhere in the Draft TMDL and the Draft TMDL is silent as to what assumptions, if any, Ecology has derived from the report. Coeur d'Alene's prior comments incorporated by reference the HDR critique of Appendix J. (Exhibit 2.) Ecology's comment responses do not address the HDR critique in any respect other than to state that Ecology may consider treatment technology in developing a TMDL. That certainly is not at issue.

What is at issue is the selective and arbitrary use of data to justify the TMDL. It is, for example, meaningless for Ecology to declare that there is filter technology that can achieve 10 µg/L without some analysis or justification for application of that technology to Coeur d'Alene. The data from actual pilot testing together with the HDR critique demonstrate that such technology is not available to Coeur d'Alene.

The Draft TMDL includes a memorandum, Appendix L, from the Technology Work Group that was part of the Collaborative Process. That memorandum sets forth specific conclusions about the limitations of data and additional evaluation of data. Ecology did not respond to comments specifically asking whether it agrees or disagrees with the statements. It must therefore be assumed that Ecology agrees with the statements made in the memorandum. Agreement with these conclusions would render Ecology's determination that Coeur d'Alene can achieve a monthly maximum phosphorus average of 50 µg/L arbitrary and capricious and without substantial evidence in the record.

B. The selection of model Scenario #1 is arbitrary and capricious.

The TMDL and 2010 PSU modeling report fail to describe the difference in modeling results between Scenarios #1 and #2. This appears to be an intentional action by Ecology to obscure the evident fact that there is no meaningful difference between the results from either modeling scenario. From what can be gleaned from the documents, both scenarios show results that comply with the pH and dissolved oxygen water quality criteria at model segment 154. The results also show that both scenarios are compliant with the ad-hoc, and improper, use of EPA eco-region criteria. Ecology should fully disclose and discuss the differences in results for both scenarios.

The modeling results indicate that the differences between Scenario #1 and Scenario #2 are "slight." (Exhibit 3.) In response to these comments Ecology should explain both the full results for Scenario #2 and the basis for selecting Scenario #1 over Scenario #2.

The modeling results for Scenario #1 and Scenario #2 indicate that there are no real differences in the projected TP concentrations at model segment 154. (Exhibit 4.) Exhibit 4 indicates that Scenario #1 model results meet 10 μg/L 65% of the time from March through October. The modeling results also indicate, however, under Scenario #2, that the TP level at model segment 154 will meet 10 μg/L 62% of the time over the same period.

Ecology asserts that the "water quality goal at the benchmark location is being used to confirm that when the Spokane River enters the reservoir upstream sources of dissolved oxygen impairment have been reduced to the point where remaining dissolved oxygen impairments in the reservoir is caused by Long Lake Dam and is Avista's responsibility." Ecology has failed to explain the basis for this position, which lacks any legal, technical or equitable basis. It is not legally defensible, equitable, or reasonable to impose an allocation on Idaho dischargers that cannot be achieved where Avista is only assigned "responsibility" to "improve" dissolved oxygen conditions in Long Lake.

C. Idaho dischargers have minimal impact on dissolved oxygen levels in Washington.

The PSU modeling includes additional modeling for Idaho dischargers. The results from this modeling are not discussed anywhere in the TMDL. Ecology has not explained how the PSU modeling results were used to arrive at the "specific assumptions" about Idaho discharge permits.

Ecology should also acknowledge that the PSU modeling demonstrates that Idaho discharges do not cause or contribute to a violation of pH or dissolved oxygen criteria at the state line (PSU Report, Fig. 6) and at model segment 154 (PSU Report, Fig. 9). As shown in Figure 9, there is no difference between dissolved oxygen levels at model segment 154, comparing the No Source Scenario and Idaho only dischargers under Scenario #1.

The PSU modeling results for Idaho dischargers, PSU Report, Tables 14 and 15, show that the Idaho dischargers contribute only 5% of the DO incremental decrease in the lake from all sources based on the modeled results at depths of 179, 180 and 181 during the critical time of year (August 16-31).[1] More significantly, the results of the PSU Idaho only modeling shows that the Idaho sources cumulatively contribute to an INCREASE in DO at the critical depth of 188 for all modeled timeframes from June 1 to September 15, including the critical August 16 through 31 timeframe. The increases range from 0.13 in June to .01 in the critical August 16 through 31 timeframe. The PSU report does not explain the modeled DO increase contributed by the Idaho dischargers at the 188 critical depth.

Ecology should explain whether it believes that the results would be any different in comparing the No Source results with Idaho-only dischargers under Scenario #2. Ecology should also explain how it is reasonable and equitable to impose unachievable load allocations on Idaho when Idaho dischargers are not responsible for a measurable or modeled increase in dissolved oxygen at the riverine assessment point.

At Coeur d'Alene's request, LimnoTech conducted additional modeling runs assuming Idaho dischargers are responsible for higher seasonal average concentrations. (Exhibit 5.) The additional modeling assumed higher TP assumptions for Idaho-only discharges to assess the Idaho-only impact on the river and lake DO. At higher assumed TP allocations for Idaho sources, modeling conducted by LimnoTech demonstrates the Idaho sources set at allocation assumptions of 100 μg/L and 200 μg/L would add to the overall decrease in DO attributed to Idaho dischargers by only .011 and .045, less than 0.7% to 3% at the worst case depth (187 for Scenario #1 as modeled by PSU) and critical depth (188 for Idaho only scenarios of 100 and 200).[2]

Ecology ignored the PSU report which demonstrates that Idaho sources under Scenario #1 contribute to improved DO at the critical depth and demonstrates that the application of Scenario #1 allocations to Idaho is not equitable for Idaho. Ecology should not arbitrarily disregard its own modeling results. The PSU model reports show that Idaho sources at the critical river mile (154) and depth (188) and time of year under Scenario #1 allocation assumptions will both meet the DO criteria at the riverine assessment point and contribute to improved DO in the lake. There is no modeled impact on DO at the critical depth for Idaho sources. Idaho sources do not cumulatively or independently contribute to a decrease in DO at the critical depth under Scenario #1; they contribute to an increase or improvement in DO.

Ecology needs to reassess the assumed Scenario #1 allocations for Idaho sources based on the PSU modeling results and the LimnoTech modeling results. These results support higher allocation modeling assumptions for the Idaho sources by Ecology in its

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[1] David Dilks, LimnoTech, *Results of CE-QUAL-W2 Model Sensitivity Analyses in Response to Different Levels of Idaho Point Source Discharge*, at 3, September 1, 2009. (Exhibit 5.)

[2] *Id.* at 3.

selection of equitable WLA for Washington sources including Avista. The modeling results support an assumed range of TP allocations to the Idaho sources from 50 to 200 µg/L. The TMDL should be revised to include these ranges for Idaho sources as the assumed Idaho loadings for final modeling purposes. Based on the PSU 2009 modeling and LimnoTech modeling for Idaho-only sources, the stated TMDL WLA basis in Washington of equity among the sources and achievement of the DO standard at the riverine assessment point for upstream sources from both states can be achieved at these higher contribution assumptions. It will then be up to EPA to set permit limits for the Idaho dischargers based on this range.

During the development of the water quality modeling it was understood that Idaho dischargers would have a higher seasonal average than Washington dischargers, except Inland Empire Paper Company, which would have the same seasonal average as Idaho dischargers, and Kaiser Aluminum, which would have a lower seasonal average. (Exhibit 6.) Ecology should explain why this essential assumption was abandoned in the final modeling specifications.

D. The Idaho allocation improperly assumes that effluent offsets are available in Idaho.

In response to these comments Ecology should explain whether the use of effluent offsets was a factor in selecting Scenario #1 as the basis for the TMDL. Since the allocations of 36 µg/L are not achievable with known technology, the allocations must assume that allocations will only be achievable through technology and nonpoint source reduction.

During the TMDL development process it was made clear to EPA and Ecology that effluent offsets were not available to Idaho dischargers. (Exhibit 7.) Ecology should explain how effluent offsets are available to Coeur d'Alene and how offsets are factored into the "very specific assumptions" Ecology and EPA made about the Idaho discharger permits.

E. Ecology improperly rejected EPA's proposed allocation to Idaho dischargers.

In July 2009 EPA Region 10 submitted a proposed allocation for Idaho dischargers that was based on consultation with EPA headquarters and the EPA Office of General Counsel. (Exhibit 8.) The proposed allocation would have been based on the percentage of DO deficit in Lake Spokane attributable to Idaho dischargers and would have allowed EPA permitting in Idaho to set limits for the three municipalities in a manner that would address actual impacts relative to a water quality standard.

It was arbitrary and capricious for Ecology to reject base allocations on assumed capabilities of technology as opposed to any application of the state water quality criteria.

F. The use of eco-region criteria in the TMDL is arbitrary and capricious.

Ecology has relied on so-called eco-region criteria from EPA that have never been adopted by Ecology as part of the state water quality standards. Further, in response to comments Ecology specifically declined to adopt the EPA eco-region criteria as part of the state standards when the state standards were last updated.

Ecology additionally failed to acknowledge in response to comments that Ecology has not followed any of the procedures set forth in WAC 173-201A-230 for developing nutrient criteria. In particular, Ecology failed to acknowledge that it did not conduct a specific study or consider "stakeholder input as part of a public involvement process equivalent to the Administrative Procedure Act" as required under WAC 173-201A-230(3)(b). The use of the eco-region criteria in the TMDL exceeds the authority of the department, violates the Clean Water Act procedures including public notice requirements for adopting water quality standards, and violates Washington's Administrative Procedure Act.

Ecology also failed to acknowledge in response to comments that it derived the eco-region criteria for the TMDL simply by determining the boundary between two eco-regions. The Idaho Department of Environmental Quality ("DEQ") was highly critical of the arbitrary and capricious manner in which the EPA criteria are being applied in the TMDL. (Exhibit 9.) Ecology's reply is not responsive to DEQ's comments in Exhibit 9. As such, the use and application of the eco-region criteria is arbitrary and capricious and is not based on substantial evidence in the record.

G. Lake Spokane is not an oligiotrophic water body.

Ecology failed to acknowledge in response to comments that the Spokane River and Lake Spokane are not oligiotrophic water bodies. Lake Spokane, as a man-made reservoir, has probably always been a mesotrophic water body, as it supports a warm-water fishery. There is no evidence of salmonid spawning.

Ecology has previously found that Lake Spokane is and was of a mesotrophic state. The following is excerpted from Ecology's nutrient criteria development guidance document:

> **"Oligiotrophic" Conditions**
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> Low algal productivity will generally exist with TP in the range of 0 to 10 μg/L (Nordin, 1985; Funk and Moore, 1985; Gilliom 1984; OECD, 1982; Simpson and Reckhow, 1979). Carlson (1977) states that at TP ranges from 0 to 12 μg/L, mean chlorophyll-a will be less than 3 μg/L and Secchi transparency depths will be greater than 5 meters. Water-uses are supported for recreation, drinking water, and aquatic life. The water is generally of high clarity and

> is aesthetically pleasing. According to Nordin (1985) and Ney, et al (1990), fisheries productivity will be quite low at TP concentrations less than 5 μg/L.
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> **"Mesotrophic" Conditions**
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> Moderate algal productivity will generally exist with TP in the range of 10 to 20 μg/L (OECD 1982; and others) or 12 to 24 μg/L (Carlson,1977), chlorophyll-a in the range of 2 to 6 μg/L, and Secchi transparency depths between 3 and 5 meters (Gilliom, 1984). Cold-water fisheries may be adversely affected by some degree of hypolimnetic oxygen depletion. There may be additional benefits to salmonids in lakes from having TP less than 15 μg/L (Nordin, 1985).[3]

The guidance document – Table 2.2 – refers to Lake Spokane as mesotrophic as described by Patmont in 1987.[4]

Ecology has also acknowledged the mesotrophic conditions in Lake Spokane in other studies:

> Even though the URS (1981) report highlighted the need for public input as "essential" for selecting an appropriate water quality criterion for protecting beneficial uses, there does not appear to have been much public involvement or intergovernmental coordination (e.g., Fish and Wildlife) in determining the beneficial uses of Lake Spokane, or in determining the lake criterion (time- and area-weighted average euphotic zone TP concentration of 25 ug/L).
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> Initially, Ecology recommended managing Lake Spokane as an upper mesotrophic system by identifying a mean euphotic zone chlorophyll *a* criterion for the June-October period of 10 ug/L (a value that represents the threshold between mesotrophic and eutrophic conditions). This criterion did not lead directly to the site-specific TP criterion that was ultimately approved by EPA. The TP criterion was adopted because predicted phytoplankton biovolume and Secchi disc fell within an approximate mesotrophic criteria range. However, it was acknowledged

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[3] Moore, A., Hicks, M., *Nutrient Criteria Development In Washington State Phosphorus*, Washington State Department of Ecology, Water Quality Program, Watershed Management Section, April 2004. Publication Number 04-10-033.

[4] Patmont, C.R., et al, *The Spokane River Basin: Allowable Phosphorus Loading*, Harper-Owes, Seattle, WA. 1987.

> that the predicted trophic characteristics for mean and peak chlorophyll *a* and mean hypolimnetic minimum dissolved oxygen may exceed the upper mesotrophic target boundary values (i.e., eutrophic characteristics). Data collected since 1978 show that the chlorophyll *a* variables regularly exceed the mesotrophic target boundary values of 10 ug/L in the upper end of the lake....

In 2004 Ecology found that "before establishing any modified phosphorus TMDL for the lake, the **beneficial uses and an appropriate criterion to protect the uses, including the time period(s) to protect, need to be determined."**[5] (Emphasis added.) The TMDL does not include any analysis of beneficial uses in Lake Spokane and throughout this process Ecology has been unwilling to consider the actual beneficial uses in the lake. Absent that information, it is arbitrary and capricious to impose the EPA eco-region criteria as part of the TMDL analysis.

H. The TMDL is based on inequitable translator factors from assumed monthly maximum averages to long term averages in the TMDL model.

The TMDL model uses a higher translator value in the water quality model for the City of Spokane and Spokane County on the basis that the City of Spokane currently, and Spokane County in the future, will monitor effluent discharges more frequently than Coeur d'Alene. As a result, Coeur d'Alene has a proportional smaller allocation than the Washington dischargers. More recently, Ecology's Eastern Regional Office has recognized the blatant inequity in these model assumptions and has declared that any Washington discharger can obtain a higher waste load allocation if their permit requires more frequent monitoring. In contrast, EPA has informed Coeur d'Alene that it cannot make a similar accommodation in its NPDES permit. This inequity can only be addressed through revision of the TMDL.

I. Other Dispute Issues.

Coeur d'Alene joins the request for dispute resolution filed on behalf of the City of Post Falls and the Hayden Area Regional Sewer Board and incorporates their request herein.

2. Prior Communications on Issues.

As set forth above and in the attached documents, the foregoing concerns have been raised repeatedly to Ecology in formal and informal comments.

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[5] Cusimano, B., *Spokane River and Lake Spokane (Long Lake) Pollutant Loading Assessment for Protecting Dissolved Oxygen*, Washington State Department of Ecology, February 2004. Publication No. 04-03-006.

3. Citations of Applicable Authority.

The Department of Ecology is required to respond to all comments submitted on the draft TMDL. Pursuant to 40 CFR section 130.7(c)(ii) and the 1997 Memorandum of Agreement between the Department of Ecology and EPA, Ecology must ensure that the TMDL submittals to EPA include a responsiveness summary to public comments as described in 40 CFR section 25.8. Under 40 CFR section 25.8 the response to comments must include "the agency's specific responses in terms of modifications of the proposed action or an explanation for rejection of proposals made by the public." Ecology failed to comply with these requirements by essentially ignoring the comments and data presented by Coeur d'Alene in its comments.

The Department of Ecology must also respond to comments and resolve the above technical issue in order to survive the inevitable challenge to any EPA approval of the TMDL under the federal Administrative Procedures Act. The failure of Ecology to act on a neutral and rational basis is grounds for a federal court to reject any EPA approval of the TMDL. *FCC v. Fox Television Stations, Inc.*, __ U.S. __, 129 S. Ct. 1800, 1823 (2009). An agency action is arbitrary and capricious if it fails to consider an important aspect of the problem or offers an explanation for its decision that runs counter to the evidence before the agency. *Friends of Richards-Gebauer Airport v. FAA*, 251 F.3d 1178, 1185 (8th Cir. 2001).

4. Copies of Correspondence.

Coeur d'Alene is submitting with this letter its comment letter on the draft TMDL together with each and every document referenced therein.

5. Relief Requested.

Coeur d'Alene respectfully requests that the TMDL be withdrawn and that Ecology undertake a revised water quality model that makes reasonable assumptions about the treatment technology available to Coeur d'Alene and other Idaho dischargers and equitably accounts for reasonable opportunities available to Coeur d'Alene to achieve its waste load allocation under the TMDL.

6. Request for Oral Presentation.

Coeur d'Alene requests an opportunity to present its case for dispute resolution in person before the dispute resolution panel as provided in WQP 1-25. Coeur d'Alene reserves the right to be represented at the oral presentation by employees of the city, its consultants, and attorneys. Coeur d'Alene assumes that the dispute resolution panel will be neutral and will not be briefed or otherwise confer with Ecology staff or any other party regarding the matters subject to this request for dispute resolution other than through written submissions that are copied to Coeur d'Alene and oral presentations to the panel in an open proceeding. Please advise me immediately if the panel intends to

confer with Ecology staff independently on matters that are subject to the foregoing dispute resolution.

I appreciate your consideration of the foregoing request for dispute resolution.

Sincerely

H. Sid Fredrickson
Wastewater Superintendent

Enclosures
cc: John Tindall, P.E., IDEQ (John.Tindall@deq.idaho.gov)
Kelly Susewind, WDOE (ksus461@ecy.wa.gov)
Jim Bellatty, WDOE (jbel461@ecy.wa.gov)

City of Coeur d'Alene
Exhibits to Comment Letter on 2009 Draft TMDL for DO
in the Spokane River and Lake Spokane

Exhibit 1	Letter from Sid Fredrickson to Brian Nickel dated September 27, 2007, with attachments.
Exhibit 2	Dave Clark, HDR, review of March 24, 2009, EPA Region 10 Memorandum on Wastewater Treatment Plants Achieving Low Effluent Phosphorus Concentrations.
Exhibit 3	Email from David Knight to Laurie Mann (June 23, 2009).
Exhibit 4	Email from Brian Nickel to Dave Moore (July 2, 2009) with attachment.
Exhibit 5	David Dilks, LimnoTech, Results of CE-QUAL-W2 Model Sensitivity Analyses in Response to Different Levels of Idaho Point Source Discharge, September 1, 2009.
Exhibit 6	Setting Phosphorus Targets in the Spokane TMDL to Meet Dissolved Oxygen Criteria (April 1, 2009).
Exhibit 7	Email from Marti Bridges to Robert Steed, August 14, 2009.
Exhibit 8	Email from Laurie Mann to Dave Moore (July 29, 2009); Email from Susan Braley to David Moore (July 31, 2009); Attachment "Loading from Sources in Idaho."
Exhibit 9	Email exchange between Robert Steed and John Tindall, dated April 13, 2009.