INLAND EMPIRE PAPER COMPANY

PHONE 509/924-1911
FAX 509/927-8461

3320 N. ARGONNE
SPOKANE, WASHINGTON 99212-2099

March 3, 2006

Washington State Department of Ecology
PO Box 47600
Olympia, WA 98504-7600
Attention: Mr. David Peeler (dpee461@ecy.wa.gov)

Subject: Inland Empire Paper Company response to the WA DOE Spokane River MIP

Dear Mr. Peeler:

The enclosed information is submitted by Inland Empire Paper Company (IEP) in response to Washington State Department of Ecology's proposed Managed Implementation Plan (MIP) for the Spokane River and Lake Spokane.

To preface, IEP has been dedicated to the efforts of the Collaboration and has operated in good faith towards the goal of developing a realistic and achievable TMDL settlement. IEP has invested a significant amount of time and capital toward this effort in order to further the Collaboration's understanding of the issues surrounding the TMDL. IEP took a proactive approach and invested nearly $0.5 million into the pilot testing of six (6) state-of-the-art phosphorus reduction technologies. Two of IEP's technical staff expended significant time and effort in serving on several of the Work Groups analyzing various technical aspects of the TMDL. An additional member of IEP's management staff devoted significant time by serving on both the Full Group and Steering Committee. After one and a half years of this extensive effort IEP is extremely disappointed in the outcome summarized by the MIP.

The MIP has done nothing but reinforce the conclusions of the Draft TMDL that intends to impose discharge limits that are economically and technologically unattainable. Nearly all of the information gained by the Collaboration has basically been ignored within the verbiage of the MIP. The MIP once again imposes the burden of meeting unrealistic water quality standards on the Dischargers.

The MIP and the Draft TMDL both attempt to achieve "class-based" water quality standards that are technologically and economically unattainable. Furthermore, the class-based standard used by the model is flawed by attempting to apply "river-based" standards to a dissimilar impounded water body. It is apparent that neither the Draft TMDL nor subsequent MIP is able to provide reasonable assurance that this unrealistic water quality standard can be achieved. Due to the evidence gathered during the Collaboration, it is apparent that a Use Attainability Analysis (UAA) may be necessary to either support or modify the water quality standards for the Spokane River and Long Lake. Unless there are significant changes to the MIP and any subsequent TMDL's to provide realistically attainable goals, IEP must support the incorporation of the UAA results into the TMDL in order to preserve our survivability well into the future.

IEP does not have access to many of the "tools in the toolbox" that are available to the Municipalities in attempting to reach the "goal" of 10 µg/L Total P. IEP is basically limited to the installation of state-of-the-art tertiary treatment, conservation and reclamation. Pilot testing using the best known technologies for phosphorus reduction resulted in consistently achievable phosphorus levels 10 times higher than the "goal," using unrealistically high dosages of chemicals. All technology Suppliers conclude that IEP's effluent is the most difficult that they have encountered due to significant levels of non-reactive phosphorus. In addition, there are limitations to the extent that conservation and reclamation may be employed due to the requirements of mill processes. Implementation of conservation and reclamation projects within the mill also result in increased concentrations of contaminants. How these increased concentrations will affect the WWT system and the capabilities of the tertiary treatment reduction efficiency remains unknown.

IEP can not agree to the terms stipulated within the MIP without jeopardizing the future of the mill. In light of the above, we offer the following comments to the MIP:

1. Regarding Ecology's Approach (Page #1, 5th Paragraph), the MIP states: *"The Draft TMDL also deals with C/BOD, ammonia, and TSS. Recognizing that strategies for managing P will likely result in reductions of these other important pollutants, the TMDL Implementation Plan focus on P is appropriate. This focus, however, should not be construed as an acceptance of current conditions for the other pollutants."*

   IEP, as well as all of the other Dischargers, will be investing significant capital and continued operating and maintenance costs for tertiary treatment equipment and "tools from the toolbox" in an attempt to meet the total phosphorus (P) limitations proposed by the MIP. It is true that these measures to reduce P will also result in some decrease to C/BOD and TSS. Because of this significant effort and investment, we must receive assurance within the DO TMDL MIP that; the resulting emissions of C/BOD, ammonia, TSS and chemicals associated with the P reduction process will be acceptable, that no major additional treatment will be necessary, and that no future TMDL's or NPDES permits will attempt to further reduce these resulting values within the twenty (20) year technology pay-back period stipulated within the MIP.

2. Regarding the Goal #P (Page #2, 4th Paragraph):

   The 0.20 pounds/day phosphorus goal indicated for IEP is incorrect. The total effluent flow for IEP reported in the draft TMDL is 4.80 MGD (equivalent to 0.40 pounds of P/day based on the target 10 µg/L P concentration). The Draft TMDL indicates that IEP's effluent flow rate of 4.80 MGD includes cooling water, which is true. However, this cooling water flow averaged 0.70 MGD as reported to the WA DOE for purposes of calculating IEP's impact in the model. Therefore, the adjusted flow rate for calculating the waste load allocation should be 4.10 MGD resulting in a phosphorus mass flow rate of 0.34 pounds/day at a P concentration of 10 µg/L.

3. Page #2, 5th Paragraph of the MIP states: *"Once a permittee achieves the #P goal, or the river in general is at 10 µg/L P, concentration measurements will apply. #P will no longer be used to express the permittee's target."*

The above statement is counter to the intent expressed by WA DOE both verbally and throughout the MIP document. A mass-based P target for each discharger must apply, in lieu of concentration, as this encourages use of the other "tools from the toolbox" and provides incentive to achieve the goal #P. Methods such as water conservation, reclamation and reuse may be implemented to achieve the pounds of P goal that may result in a P concentration above 10 µg/L.

4. Page #3, 1st Paragraph of the MIP states: *"EPA is determining the maximum pollutant loadings from those permits that will not cause or contribute to a violation of Washington's water quality standards."*

   It is difficult to believe that Idaho municipalities can discharge levels of phosphorus five times higher than the TMDL model illustrates for WA state dischargers without violating WA state water quality standards. Furthermore, EPA stated that the Idaho model used Lake Coeur d'Alene to establish natural background conditions. This assumption seems questionable, considering the amount of agricultural activity along the lake and tributaries, number of septic systems along the shoreline and the amount of human activity in and around the lake. It is also difficult to believe that Lake Coeur d'Alene is indicative of surface water quality before any human-caused pollution. If this is indeed the case, then the WA state TMDL model should also use Lake Coeur d'Alene to establish natural background conditions to be consistent with EPA.

5. Page #3, 2nd Paragraph of the MIP states: *"When the new Idaho permits are determined, there may need to be some reconsideration of such on Washington's Draft TMDL."*

   This paragraph needs to be removed from the MIP and any subsequent TMDL's. EPA has stated: *"EPA is determining the maximum pollutant loadings from those permits (Idaho) that will not cause or contribute to a violation of Washington's water quality standards."* Therefore this paragraph is redundant and meaningless. The WA state draft DO TMDL already imposes unreasonably low limits on the WA state Dischargers – it would be impermissible to allow WA DOE an opportunity to further lower the TMDL limits based on the failures of EPA to enforce proper controls on the Idaho dischargers to protect WA state standards.

6. Page #3, 4th Paragraph of the MIP states: *"Resources for pursuing an improved Spokane River are limited to what can be afforded by those using the river and whatever assistance the state and federal governments can provide. Fiscal responsibility requires some degree of predictability and confidence that dollars spent to improve the river will be effective and have long-term value. The quality of the river can not be unreasonably compromised, nor can the ability of the people to fund and perform the necessary improvements be unreasonable."*

   Implementation of the proposed 10 µg/L Total P for each discharger is not fiscally responsible or predictable, nor will the funding be reasonable. Installation of state-of-the-art wastewater treatment will be effective in improving river quality, and will have long-term value. However, this alone will not be sufficient to achieve the proposed 10 µg/L Total P limit. The additional costs to achieve the 10 µg/L Total P, if it can be achieved at all, are unknown. Enormous amounts of capital may be expended chasing this illusive and unreasonable limit

without any caps in place for spending. Unlike the Municipalities, IEP has no means to recuperate the capital and operating costs associated with this endeavor, as we are in a fixed price commodity market.

The DO TMDL model shows that the river will not meet WA state water quality standards at various times of the year even with all of the point source discharges removed from the river. If this is indeed the case, how can DOE reference terms such as fiscal responsibility, predictability and confidence? **Considering the countless hundreds of millions of dollars that will be spent by the dischargers attempting to achieve an unattainable limit, DOE should consider other more fiscally responsible alternatives such as Dam removal to meet the assumed "river" water quality standards.** If the DOE insists upon using "river" water quality standards, in lieu of developing "reservoir" water quality standards more indicative of this type of water body, then perhaps sewering Long Lake residences or lake aeration may be more fiscally responsible alternatives.

7. Page #5, 2nd Paragraph of the MIP states: *"Ecology proposes each NPDES permittee use a vigorous, open, well-documented technology selection process that includes pilot testing."*

   IEP has invested nearly $0.5M performing pilot testing of six (6) state-of-the-art technologies renowned for low-level phosphorus reduction. This pilot testing program was prompted by the issuance of the Draft TMDL and provided valuable data to the Collaboration. The Collaboration would likely not be where it is today without IEP's proactive approach.

   IEP was exceptionally open in performing these studies, by: inviting the Technology Workgroup to assist in development of the testing protocol, providing tours of the pilots in operation, splitting effluent samples with the WA DOE for analysis, arranging for presentations by each Supplier describing their technology and the results of the testing at IEP, and sharing the data gathered by the various pilots with the Collaboration. A comprehensive report of the results is forthcoming and will be available to the Collaboration.

   IEP is assuming that the WA DOE will accept the results of these studies and that IEP will not have to perform further testing.

8. Page #7, 2nd Paragraph:

   The MIP states that this TMDL is a regional effort addressed as a watershed problem. See response to Item No. 4 above regarding EPA's contrast in dealing with the Idaho and WA state dischargers.

   This paragraph also discusses funding for non-point P reduction efforts. IEP will be focusing all of its P reduction efforts within the mill boundaries, and stands to gain no direct benefit from non-point source reduction. Furthermore, IEP pays significant local taxes and fees to the municipal utilities, some of which will be used to fund this non-point source reduction effort. It has been agreed in discussions with the other Dischargers that no additional non-point funding will be required by IEP.

9. Page #9, Section 2.1.1., Technology:

   The total scheduled time frame of 30 to 42 months allotted to IEP for the complete design, installation and commissioning of tertiary treatment technology may be unreasonable. All entities should be treated equally regarding this schedule for implementation. IF DOE believes otherwise, IEP would like to know the reasons why our schedule would differ from that of the other Dischargers.

10. Page #10, Section 2.1.2.3, Final Limits of the MIP states: *"By completion of the pilot studies Ecology will determine final effluent limits for each permitted wastewater treatment facility. Final limits are effectively the concentration-based, or equivalent mass-based, maximum pollutant loading to the Spokane River , are identified in the Draft Spokane River DO TMDL and 10 µg/L for total phosphorus, and are effectively comprised of "all of the tools in the toolbox". Final limits must be adhered to by year 10 of each permitted facility's compliance schedule."*

    The concentration based 10 µg/L Total P limit within a 10 year compliance schedule is unreasonable, and contradictory to other sections of the MIP and to the intent expressed by DOE. As stated in Item #2 above, final effluent limits for each permitted wastewater treatment facility must be mass-based, not concentration-based, in order to provide incentive for use of the other "tools in the toolbox."

    In attempting to implement a 10 µg/L Total P discharge limit, the DOE intends to establish a standard that is likely technologically and economically unattainable. IEP will make every effort to achieve the lowest possible phosphorus level achievable within the capabilities of the best overall performing and economically viable technology determined from the pilot tests. In addition, IEP will continue efforts in the conservation, reclamation and reuse of water within the mill. However, there are technological and economic limitations to the extent that the mill can "close" its water systems. There can be no definitive guarantee that the 10 µg/L concentration or the equivalent mass based phosphorous loading can be achieved within the 10 year compliance schedule, if at all.

    It is relatively simple to quantify the costs associated with the installation and operation of tertiary treatment technology to obtain state-of-the art phosphorus reduction. However, the implementation and costs associated with the other "tools from the toolbox" is very ambiguous for IEP. As an industrial discharger, IEP does not have many of the "tools" that the Municipal Dischargers have available. Furthermore, IEP is in a fixed price commodity market structure, and unlike our Municipal counterparts, has no ability to recover the additional costs associated with this TMDL effort. Due to the technological and economic limitations, IEP may never be able to achieve the 10 µg/L proposed phosphorus limit regardless of how much money is spent towards this effort. Agreeing to the terms of this TMDL MIP is potentially a contract that could virtually put IEP out of business. With the information that we have gathered to date, the MIP as written basically limits IEP's life span to twenty years.

11. Page #23, Section 5.2.4.1.3. of the MIP states: *"Special Studies: Reactive vs. Non-reactive Phosphorus"*

    This element of the MIP is extremely important to IEP due to the specific nature of our effluent chemistry and the phosphorus reduction difficulties experienced during the pilot studies. All of the various state-of-the-art phosphorus reduction technology Suppliers that performed pilot testing at IEP concur that our effluent is the most difficult that they have encountered due to a significant fraction of non-reactive phosphorus. This conclusion is evident due to the large amount of chemical coagulants and polymers used, that still resulted in a significant amount of residual phosphorus above the proposed TMDL limit of 10µg/L.

    Upon encountering this consistent conclusion with all the pilot technologies, IEP performed additional research into this subject and surprisingly discovered numerous documents that detailed research that had previously been conducted in regards to this matter[1.] These studies conclude that only 60 to 80% of pulp and paper mill effluent phosphorus may be biologically available, which is consistent with the results of the pilot studies conducted at IEP. Furthermore, it is IEP's understanding that the model used in the Draft TMDL assumed that only 80% of IEP's effluent phosphorous was biologically available, again consistent with the conclusions of these studies.

    To address this issue, IEP recommends that the phosphorous limitations used in the final TMDL and NPDES permits be based on orthophosphate - the inorganic element of phosphorus considered to be directly assimilated by organisms. Furthermore, IEP believes that it may be able to achieve the 10 µg/L orthophosphate limit based on the results of the pilot studies, although this will need to be proven during long-term, full-scale tertiary treatment application.

The Spokane River is a valuable asset to IEP and we realize that improvements need to be made to enhance its water quality. IEP is genuinely dedicated to this effort and is poised to move forward towards this goal. However, we can not agree to the terms specified within the MIP or the Draft TMDL without jeopardizing the company's future. It is very unfortunate that we can not proceed immediately with the installation of state-of-the-art treatment technology, which will ultimately be the solution to improved river quality.

Regards,

Inland Empire Paper Company

Douglas P. Krapas
Environmental Compliance Engineer

Cc: Wayne Andresen
Rick Fink
Wayne Frost
Kevin Rasler

1. ***References:***

- Stratton, S.C. (June 2004). Biodegradability of organic nitrogen and phosphorus in pulp mill effluents. NCASI Technical Bulletin No. 879.
- Schmedding, D.W. (September, 2001). Nutrient forms in pulp and paper mill effluents and their potential significance in receiving waters. NCASI Technical Bulletin No. 832.
- Priha, M. (1994). Bioavailability of pulp and paper mill effluent phosphorus.
- Priha, M. and Angi, A. (June, 2000). The impact of nutrient loading of pulp and paper mill effluent in eutrophication of receiving waters.
- Bradford, M.E. and Peters, R.H. (1987). The relationship between chemically analyzed phosphorus fractions and bioavailable phosphorus.