Region 10, NPDES Permits Unit
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Fact Sheet

Public Comment Start Date: January 29, 2010
Public Comment Expiration Date: March 1, 2010

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Proposed Reissuance of a National Pollutant Discharge Elimination System (NPDES) Permit to Discharge Pollutants Pursuant to the Provisions of the Clean Water Act (CWA)

Clearwater Paper
Lewiston Mill

EPA Proposes To Modify NPDES Permit
Region 10 of the EPA (Region 10) proposes to modify one of the requirements contained in the NPDES permit for the Clearwater Paper Lewiston Mill. The permit sets conditions on the discharge of pollutants from the mill to the Snake River. In order to ensure protection of water quality and human health, the permit places limits on the types and amounts of pollutants that can be discharged.

Specifically, the Region is proposing to modify the water quality-based permit limits for five-day biochemical oxygen demand (BOD_5) for June through November. The remainder of the permit conditions are unchanged, and not subject to modification. Therefore, the Region is accepting comments only on the proposed modified conditions for BOD_5.

This Fact Sheet includes:

- information on public comment, public hearing, and appeal procedures
- a description of the BOD_5 limit that the Region is proposing to modify
- a map and description of the area where the Clearwater Paper Lewiston Mill is located
- technical information supporting the draft modified BOD_5 limit

State Clean Water Act Section 401 Certification
EPA is requesting that the Idaho Department of Environmental Quality (IDEQ) certify the NPDES permit modification for this facility, under Section 401 of the Clean Water Act. Comments regarding the certification should be directed to:

Idaho Department of Environmental Quality
1118 "F" Street
Lewiston, ID 83501
(208) 799-4370

Public Comment
Persons wishing to comment on, or request a Public Hearing for the draft permit for this facility may do so in writing by the expiration date of the Public Comment period. A request for a Public Hearing must state the nature of the issues to be raised as well as the requester's name, address and telephone number. All comments and requests for Public Hearings must be in writing and should be submitted to EPA as described in the Public Comments Section of the attached Public Notice.

After the Public Notice expires, and all comments have been considered, EPA's regional Director for the Office of Water and Watersheds will make a final decision regarding permit issuance. If no substantive comments are received, the tentative conditions in the draft permit will become final, and the permit will become effective upon issuance. If substantive comments are received, EPA will address the comments and issue the permit. The permit will become effective no less than 30 days after the issuance date, unless an appeal is submitted to the Environmental Appeals Board within 30 days.

Documents are Available for Review
The draft NPDES permit and related documents can be reviewed or obtained by visiting or contacting EPA's Regional Office in Seattle between 8:30 a.m. and 4:00 p.m., Monday through Friday at the address below. The draft permits, fact sheet, and other information can also be found by visiting the Region 10 NPDES website at "http://epa.gov/r10earth/waterpermits.htm."

United States Environmental Protection Agency
Region 10
1200 Sixth Avenue, OWW-130
Seattle, Washington 98101
(206) 553-0523 or
Toll Free 1-800-424-4372 (within Alaska, Idaho, Oregon and Washington)

The fact sheet and draft permits are also available at:

US EPA Region 10
1435 N. Orchard
Boise, ID 83706
(208) 378-5746

Idaho Department of Environmental Quality
1118 "F" Street
Lewiston, ID 83501
(208) 799-4370

Acronyms

AML	Average Monthly Limit
BE	Biological Evaluation
BOD_5	Biochemical oxygen demand, five-day
ºC	Degrees Celsius
CFR	Code of Federal Regulations
CWA	Clean Water Act
DO	Dissolved oxygen
EFH	Essential Fish Habitat
EPA	U.S. Environmental Protection Agency
ESA	Endangered Species Act
IDEQ	Idaho Department of Environmental Quality
lbs/day	Pounds per day
mgd	Million gallons per day
N	Nitrogen
NOAA	National Oceanic and Atmospheric Administration
NPDES	National Pollutant Discharge Elimination System
OWW	Office of Water and Watersheds
QAP	Quality assurance plan
WQBEL	Water quality-based effluent limit
WQS	Water Quality Standards

I. Applicant

A. General Information

This fact sheet provides information on the draft modified NPDES permit for the following entity:

Clearwater Paper
Lewiston Mill
NPDES Permit # ID0001163

Physical Address:
805 Mill Road
Lewiston, ID 83501

Mailing Address:
P.O. Box 1016
Lewiston, ID 83501

Contact: Susan Somers, Environmental Engineering Manager

II. Facility Information

A. Activity

Clearwater Paper (formerly Potlatch Corporation) produces bleached grades of paperboard, tissue and market pulp by the kraft (sulfate) process. Potlatch also manufactures wood products at the Lewiston facility. See Appendix A for a map of the facility outfall location. See Appendix B for a diagram of the waste streams and treatment processes.

B. Background Information

The most recent NPDES permit for the mill was issued on March 8, 2005, became effective on May 1, 2005 and will expire on April 30, 2010. The first NPDES permit was issued to this facility in September 1974.

III. Cause for Modification

NPDES permits may be modified for cause as provided for in 40 CFR 122.62. Specifically, 40 CFR 122.62(a)(2) states that permits may be modified when EPA "has received new information. Permits may be modified during their terms for this cause only if the information was not available at the time of permit issuance (other than revised regulations, guidance, or test methods) and would have justified the application of different permit conditions at the time of issuance."

In this case, EPA proposes to modify the effluent limits for five-day biochemical oxygen demand (BOD_5) in response to new information regarding the oxygen dynamics of the receiving waters, specifically the BOD oxidation or decay rate, the atmospheric reaeration rate, and the rate of sediment oxygen demand. This new information justifies a less-stringent summer (June –

November) water quality-based BOD_5 limit. See Appendix C for a detailed discussion of the basis for the modified BOD_5 limit. EPA is accepting comments only on the proposed modified BOD_5 effluent limits at this time.

IV. Receiving Water

Clearwater Paper discharges through outfall 001 to the Snake River at the head of Lower Granite Pool, just below the confluence of the Clearwater River. The diffuser is at latitude 46° 25' 31" N, and longitude 117° 02' 15" W (river mile 140). In addition to outfall 001, the facility discharges seeps from the surface impoundments on the property to the Clearwater Arm of Lower Granite Pool through groundwater that is hydrologically connected to the Clearwater.

The facility's discharges are just upstream from the Idaho/Washington border, and have the potential to impact the water quality in both states.[1]

A. Water Quality Standards

Section 301(b)(1)(C) of the CWA requires the development of limitations in permits necessary to meet water quality standards. Federal regulations at 40 CFR 122.4(d) require that the conditions in NPDES permits ensure compliance with the water quality standards of all affected States. A State's water quality standards are composed of use classifications, numeric and/or narrative water quality criteria, and an anti-degradation policy. The use classification system designates the beneficial uses (such as drinking water supply, contact recreation, and aquatic life) that each water body is expected to achieve. The numeric and/or narrative water quality criteria are the criteria deemed necessary by the State to support the beneficial use classification of each water body. The anti-degradation policy represents a three-tiered approach to maintain and protect various levels of water quality and uses.

Idaho

For Idaho, the State water quality standards are found at IDAPA 58.01.02. The Clearwater and Snake Arms of Lower Granite Pool are protected by the State of Idaho for the following uses: domestic water supply, cold water biota, and primary and secondary contact recreation. Water quality criteria designed to protect these beneficial uses appear in Sections 210, 250, and 251 of the Idaho Water Quality Standards.

In addition, the Idaho Water Quality Standards state that all waters of the State of Idaho are protected for industrial and agricultural water supply (Section 100.03.b and c), wildlife habitats (100.04) and aesthetics (100.05). The WQS state, in Sections 252.02, 252.03, and 253 that these uses are to be protected by narrative criteria which appear in Section 200. These narrative criteria state that all surface waters of the State shall be free from hazardous materials; toxic substances; deleterious materials; radioactive materials; floating, suspended or submerged matter; excess nutrients; oxygen-demanding materials; and sediment in concentrations which would impair beneficial uses. The WQS also state, in Section 252.02 that the criteria from *Water Quality Criteria 1972*, also referred to as the "Blue Book" (EPA-R3-73-033) can be used to determine numeric criteria for the protection of the agricultural water supply use.

[1] According to the response to comments for the 2005 reissuance of the permit, the diffuser is 191 meters upstream from the Washington State line.

Washington

Because Potlatch's discharge is immediately upstream from the State of Washington, their standards were also considered to ensure that Washington's waters quality standards were not violated by the discharge, as required by 40 CFR 122.4(d). Washington's water quality standards are found in the Washington Administrative Code at WAC 173-201A.

According to Table 602 of the Washington water quality standards, the Snake River from the mouth to the Washington-Idaho-Oregon border is designated for the following uses: Salmonid spawning and rearing, primary contact recreation, domestic, industrial and agricultural water supply, stock watering, wildlife habitat, harvesting, commerce and navigation, boating and aesthetics.

B. Pollutant of Concern

For this modification, the only pollutant of concern is five-day biochemical oxygen demand (BOD_5) and its effect upon dissolved oxygen concentrations in the receiving water.

V. Effluent Limitations

A. Basis for Effluent Limitations

In general, the CWA requires that the effluent limits for a particular pollutant be the more stringent of either technology-based limits or water quality-based limits. Technology-based limits are set according to the level of treatment that is achievable using available technology. A water quality-based effluent limit is designed to ensure that the water quality standards applicable to a waterbody are being met and may be more stringent than technology-based effluent limits.

The June – November effluent limits for BOD_5 that EPA proposes to modify are water quality-based effluent limits. The BOD_5 effluent limits that apply from December – May are technology-based effluent limits. EPA is not proposing to modify the technology-based BOD_5 effluent limits that apply from December – May, or any permit conditions other than the water quality-based June – November BOD_5 effluent limits.

B. Proposed Modification to Effluent Limits

EPA proposes to modify the water quality-based effluent limits for BOD_5, in effect from June through November, as shown in Table 1, below. Modeling that considers the revised information regarding the BOD oxidation rate, atmospheric reaeration rate and sediment oxygen demand rate shows that the modified BOD_5 effluent limits will ensure compliance with both Idaho's and Washington's water quality standards. The basis for the proposed modified effluent limits is discussed in detail in Appendix C.

Table 1: Proposed Effluent Limits			
Parameter	**Units**	**Effluent Limits**	
		Average Monthly Limit	**Maximum Daily Limit**
Five-Day Biochemical Oxygen Demand (BOD_5) Existing	lb/day	5,100	9,800
Five-Day Biochemical Oxygen Demand (BOD_5) Proposed		**9,700**	**18,240**

C. Anti-Backsliding

Sections 303(d)(4) and 402(o) of the Clean Water Act (CWA) generally prohibit the establishment of water quality-based effluent limits in a reissued NPDES permit that are less stringent than the corresponding limits in the previous permit, with some exceptions.

The water quality-based effluent limits for BOD_5 which EPA proposes to modify do not take effect until June 1st, 2010.[2] The permit contains interim effluent limits (Part I.D.), which are currently in effect. The proposed effluent limits are more stringent than the currently effective interim effluent limits. Because the proposed modified effluent limits for BOD_5 are more stringent than the currently effective effluent limits in the existing permit, the proposed modification is not backsliding.

D. Antidegradation

Idaho

The State of Idaho has made a finding in its draft Clean Water Act Section 401 certification of this proposed modification that the proposed modified effluent limits comply with the State's antidegradation policy (IDAPA 58.01.02.051).

The Idaho Water Quality Standards provide that existing uses and the water quality necessary to protect the existing uses shall be maintained and protected (IDAPA 58.01.02.051.01). In addition, where water quality exceeds levels necessary to support uses, that quality shall be maintained and protected unless the Idaho Department of Environmental Quality finds, after intergovernmental coordination and public participation, that allowing lower water quality is necessary to accommodate important economic or social development in the area in which the waters are located (IDAPA 58.01.02.051.02).

The biological oxygen demand (BOD) limits in the proposed permit modification for Clearwater Paper Lewiston Mill are set at levels which ensure the state's numeric and narrative criteria will be met. The numeric and narrative criteria are set at levels which protect and maintain applicable designated and existing uses. Therefore, the limits in the proposed permit modification protect and maintain designated and existing uses in the Snake River in accordance with IDAPA 58.01.02.051.01.

[2] According to Part I.C.2.a of the permit, "by April 1, 2010, the permittee must achieve compliance with the BOD_5 effluent limitations for June through November listed in Section I.B for Outfall 001." However, because these are seasonal effluent limits that only apply from June through November, the effluent limits do not actually take effect until June 1st, 2010.

Furthermore, the limits in the proposed permit modification are more stringent than the interim limits which are currently in effect in the existing permit. Therefore, the modified effluent limitations ensure that the existing level of water quality in the Snake River is maintained, and the analysis necessary to lower water quality set forth in IDAPA 58.01.02.051.02 is not triggered.

Finally, even if the modified effluent limits are compared to a hypothetical situation in which the discharge did not exist, Clearwater Paper's discharge of BOD_5 has a negligible impact upon dissolved oxygen concentrations in waters of the State of Idaho.[3]

Washington

In addition to ensuring compliance with the State of Washington's water quality criteria for dissolved oxygen, the draft modified permit ensures compliance with the State of Washington's antidegradation requirements (WAC 173-201A-300 – 330).

As explained above, the only pollutant of concern in this case is five-day biochemical oxygen demand and its effect upon dissolved oxygen concentrations in the receiving water. As explained in Appendix C, the revised effluent limits ensure compliance with Washington's water quality criteria for dissolved oxygen. Washington's EPA-approved water quality criteria for these dissolved oxygen ensures that existing and designated uses are maintained and protected, thereby ensuring compliance with Washington's Tier I antidegradation requirements (WAC 173-201A-310).

The proposed effluent limits for BOD_5 are less stringent than those scheduled to go into effect on June 1, 2010. EPA has evaluated the proposed revised effluent limits to determine if the increased limits result in a measurable change to dissolved oxygen concentrations in waters of the State of Washington. Clearwater Paper's proposed effluent limits for BOD_5, when combined with the BOD_5 effluent limits of the City of Lewiston, City of Clarkston, and City of Asotin, result in a 95^{th} percentile dissolved oxygen decrease, relative to zero discharge, of 0.10 mg/L[4].

The dissolved oxygen change relative to the effluent limits that are scheduled to go into effect on June 1, 2010 would be less than this amount. The State of Washington's antidegradation policy defines a "measurable change" for dissolved oxygen, to be a "dissolved oxygen decrease of 0.2 mg/L or greater." Because the proposed modification will decrease dissolved oxygen concentrations in the State of Washington by less than 0.10 mg/L, the proposed modification will not cause a measurable change in water quality in the State of Washington. Thus Tier II review is not required under Washington's antidegradation policy (WAC 173-201A-320).

The Snake River has not been designated an outstanding resource water. Therefore, the Tier III antidegradation protections of WAC 173-201A-330 do not apply to the Snake River.

[3] The 95^{th} percentile DO sag, resulting from the Clearwater Paper discharge, at its proposed new limits, in addition to permitted BOD_5 loading from the City of Lewiston, City of Clarkston, and City of Asotin, in the model segment immediately downstream from the discharge (representing waters of the State of Idaho) is 0.003 mg/L DO.

[4] The 95^{th} percentile DO sag resulting from the Clearwater Paper discharge, at its proposed new limits, in addition to permitted BOD_5 loading from the City of Lewiston, City of Clarkston, and City of Asotin, is 0.14 mg/L at times when the dissolved oxygen concentration is less than 8.0 mg/L. However, considering all results, regardless of the actual DO concentration, the 95^{th} percentile sag is 0.10 mg/L.

VI. Other Permit Conditions

EPA proposes to modify only the water quality-based June – November BOD_5 effluent limits at this time. All other permit conditions will remain unchanged.

VII. Other Legal Requirements

A. Endangered Species Act

The Endangered Species Act (ESA) requires federal agencies to consult with National Oceanic and Atmospheric Administration Fisheries (NOAA Fisheries) and the U.S. Fish and Wildlife Service (USFWS) if their actions could beneficially or adversely affect any threatened or endangered species.

USFWS completed a biological opinion (BO) for this permit on March 5, 2004, and NOAA Fisheries completed a BO for this permit on April 2, 2004, thus concluding formal ESA consultation on this project. The permit was issued in March 2005. The federal regulation 50 CFR 402.16 states that formal consultation under the Endangered Species Act shall be re-initiated if: a) the amount or extent of taking specified in the incidental take statement is exceeded, b) new information reveals effects of the action that may affect listed species or critical habitat in a manner or to an extent not previously considered, c) the identified action is subsequently modified in a manner that causes an effect to the listed species or critical habitat that was not considered in the biological opinion, or d) a new species is listed or critical habitat designated that may be affected by the identified action. Only 50 CFR 402.16(c) (modification of the action) is potentially applicable in this case.

At the time the permit was issued and the biological opinion was prepared, water quality modeling showed that a discharge of 5,100 lb/day of BOD_5 from the Clearwater facility could cause a decrease in dissolved oxygen (DO) of 0.2 mg/L (which is the maximum decrease allowed by the Washington water quality standards) and that the interim BOD effluent limits could decrease dissolved oxygen by 0.5 – 1.5 mg/L (see the BO at Page 74), which would violate Washington's water quality standards. In the BO, NOAA considered the < 0.2 mg/L decrease in DO expected to result from the final BOD_5 effluent limits (5,100 lb/day) to be "insignificant" and "indistinguishable from ambient" (see the NOAA BO at Pages 188 and 193).

As explained in Appendix C, revised modeling shows that the DO decrease resulting from a discharge of 9,800 lb/day BOD_5 (100 lb/day more than the proposed average monthly effluent limit) from Clearwater, in addition to 1,930 lb/day of BOD_5 from nearby municipal discharges (from the Cities of Lewiston, Clarkston, and Asotin) would only decrease dissolved oxygen concentrations in the Snake River by 0.14 mg/L. Therefore, the actual DO impact of the requested revised effluent limits is less than the DO impact expected to result from the effluent limits that are scheduled to go into effect (0.2 mg/L), which was considered to be "insignificant" and "indistinguishable from ambient" in the 2004 NOAA BO. Therefore, EPA believes the modification would not cause any effects to listed species or critical habitat that were not considered in the biological opinion, and the requested modification to the permit does not require a re-initiation of ESA consultation.

EPA has provided copies of the draft modified permit and fact sheet to NOAA Fisheries and the US Fish and Wildlife Service. EPA will consider any comments made by the Services on the draft modification prior to issuing a final modification.

B. Essential Fish Habitat

Essential fish habitat (EFH) is the waters and substrate (sediments, etc.) necessary for fish to spawn, breed, feed, or grow to maturity. The Magnuson-Stevens Fishery Conservation and Management Act (January 21, 1999) requires EPA to consult with NOAA Fisheries when a proposed discharge has the potential to adversely affect (reduce quality and/or quantity of) EFH. As stated above, the proposed modified BOD_5 effluent limits will not measurably decrease dissolved oxygen concentrations downstream from the discharge. Therefore, the proposed modification will have no effect on EFH.

C. State Certification

Section 401 of the CWA requires EPA to seek State certification before issuing a final permit. As a result of the certification, the State may require more stringent permit conditions or additional monitoring requirements to ensure that the permit complies with water quality standards, or treatment standards established pursuant to any State law or regulation.

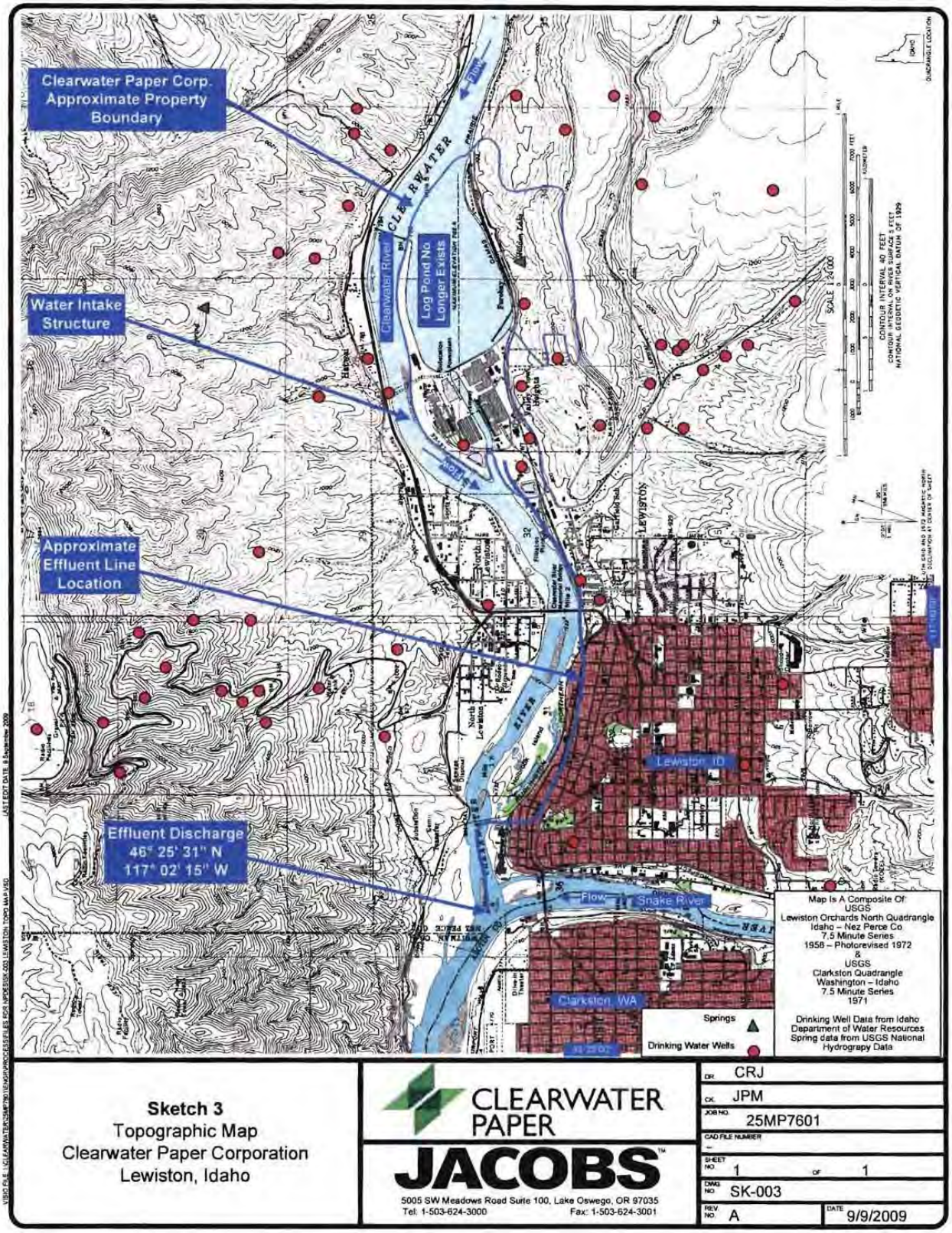
D. Permit Expiration

The proposed modification does not change the expiration date of the current permit. The permit will expire on April 30, 2010. If EPA receives a timely and complete application for renewal of this permit, EPA will administratively continue the permit as provided for in 40 CFR 122.6.

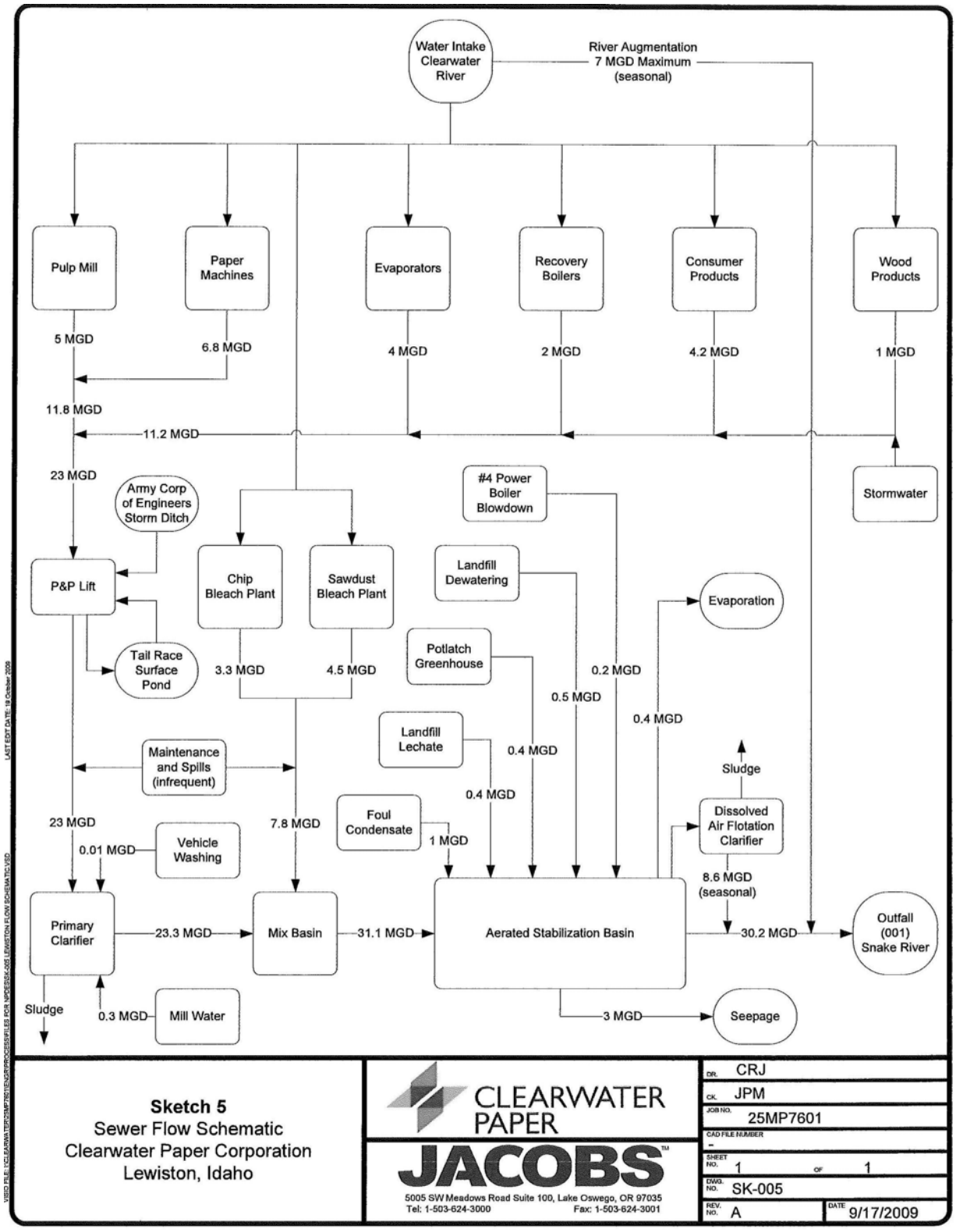
VIII. References

NOAA. 2004. *Endangered Species Act Section 7 Consultation Biological Opinion and Magnuson-Stevens Fishery Conservation and Management Act Essential Fish Habitat Consultation.* Potlatch Pulp and Paper Mill, Lewiston, Idaho. National Pollution Discharge Elimination System (NPDES) Permit No.: ID-000116-3 for the discharge of effluents into the Snake River, Nez Perce County, Idaho and Asotin County, Washington. April 2, 2004.

Appendix A: Facility Map



Appendix B: Flow Diagram



Appendix C: Basis for Revised BOD_5 Effluent Limits

A. Overview

As explained in the fact sheet (EPA 2003) and the response to comments (EPA 2005) for the current permit for this facility, the June – November effluent limits for five-day biochemical oxygen demand (BOD_5) are water quality-based effluent limits. The current June – November BOD_5 effluent limits are based on Washington's water quality standards, applied under the authority of 40 CFR 122.4(d), which states that "no permit may be issued…when the imposition of conditions cannot ensure compliance with the applicable water quality requirements of all affected States." The current BOD_5 effluent limits for December – May (which EPA does not propose to modify) are technology-based limits (see the 2003 fact sheet at Pages 9-10).

The current water quality-based BOD_5 effluent limits were based on an application of the RBM10 1-dimensional mathematical model, which provides a dynamic simulation of both temperature and dissolved oxygen (DO) (see the 2003 fact sheet at Page D-1). The proposed modified water quality-based effluent limits are also based on the RBM10 model; however, certain parameters have been changed based on new information, as explained below.

B. Changes to the Modeling Parameters

BOD Decay Rate

As stated on Page D-2 of the 2003 fact sheet, the modeling that the current water quality-based BOD_5 limits are based upon used a BOD decay (deoxygenation) rate of 0.08 day^{-1}. This decay rate was based on only six samples taken from the receiving water (see HydroQual 2009a at Page 1). In 2005 and 2006, 60 independent river samples were analyzed for long-term (90-day) BOD. These 60 samples had an average BOD decay rate of 0.043 day^{-1} (see HydroQual 2009a at Page 2). Furthermore, five of the six samples used to calculate the BOD decay rate for the previous modeling had initial DO concentrations above saturation values, which is contrary to proper sample preparation procedures and may have created a bias toward higher BOD decay rates (see HydroQual 2009a at Page 3).

Given that 60 samples show a substantially lower average BOD decay rate than the six samples used to calculate the BOD decay rate, which was in turn used to calculate the current limits, and given that the earlier samples used to calculate the current limits may have been biased by improper sample preparation, EPA believes that the lower BOD decay rate shown by the sampling performed in 2005 and 2006 constitutes "new information" under 40 CFR 122.62(a)(2).

Atmospheric Reaeration Rate

As stated on Page D-2 of the 2003 fact sheet, the modeling that the current water quality-based effluent limits for BOD_5 are based on used the O'Connor-Dobbins formulation to calculate the atmospheric reaeration rate. Measurements were not previously used for the reaearation rate.

In 2008, HydroO2 measured the atmospheric reaeration rate using the diffusion dome method (HydroO2, 2008). Wind is an important factor in the transfer of oxygen from air to water. The measurements showed an oxygen transfer coefficient (which is the atmospheric reaeration rate

multiplied by the water depth) between about 0.6 – 4.6 m/day, depending on wind speed. In contrast, the O'Connor-Dobbins formulation used in the modeling supporting the current BOD_5 effluent limits calculated an average oxygen transfer coefficient of 0.27 m/day.

EPA believes the measurements of atmospheric reaeration rate constitute "new information" under 40 CFR 122.62(a)(2).

The relationship between wind speed and the atmospheric reaeration rate was addressed in the modeling in two different ways: First, by running the model with a constant oxygen transfer coefficient of 2.5 m/day, which is somewhat less (more conservative) than the 2.9 m/day coefficient expected to correspond to the average wind speed in Lewiston, Idaho (HydroQual 2009a), and second, by running the model with a variable oxygen transfer coefficient computed from the actual wind speed and a linear regression of the relationship between measured wind speed and measured oxygen transfer coefficient (HydroQual 2009b). The use of a constant oxygen transfer coefficient of 2.5 m/day was more conservative, that is, modeling that used the constant oxygen transfer coefficient predicted a marginally greater DO sag from the Clearwater effluent. The more conservative constant oxygen transfer coefficient modeling was used as the basis for the modified effluent limits.

Sediment Oxygen Demand

The modeling that the current BOD_5 effluent limits are based on did not consider the effect of sediment oxygen demand upon dissolved oxygen. Sediment oxygen demand was measured at three locations along the Snake River by HydroO2 in 2008. HydroQual subsequently modified the RBM10 model to include a term for sediment oxygen demand (HydroQual 2009a). The measured sediment oxygen demand rates ranged from 1.07 to 2.80 g O_2/m^2/day. EPA believes the measurements of sediment oxygen demand constitute "new information" under 40 CFR 122.62(a)(2).

Other Modeling Parameters and Post-Processing

All other modeling parameters and inputs not specifically discussed in this fact sheet (e.g. river flow rates, temperature, etc.) were identical to those used to calculate the water quality-based BOD_5 effluent limits in the previous permit, as was the post-processing of the model results.

C. Water Quality Standards

Idaho

The Idaho water quality standards do not specifically state a maximum receiving water concentration for BOD, however, the State standard does require that surface waters of the United States within Idaho shall be free from oxygen-demanding materials in concentrations that would result in an anaerobic water condition (IDAPA 58.01.02.200.07). In Idaho, the most restrictive water quality standard for dissolved oxygen that applies to this segment of the Snake River is for the protection of cold water biota. This standard establishes a minimum dissolved oxygen concentration of 6 mg/l (IDAPA 58.01.02.250.02.a.).

Washington

In 2008, EPA approved revised water quality standards for surface waters of the State of Washington. Washington's water quality criterion for dissolved oxygen, for waters designated for salmonid spawning, rearing and migration, is 8.0 mg/L (WAC 173-201A, Table 200(1)(d)). However, WAC 173-201A-200(1)(d)(i) states that "when a waterbody's D.O. is lower than the criteria in Table 200(1)(d) (or within 0.2 mg/L of the criteria) and that condition is due to natural conditions, then human actions considered cumulatively may not cause the D.O. of that water body to decrease more than 0.2 mg/L."

The subject discharge is immediately upstream from the Washington state line. Modeling shows that the discharge exerts a negligible oxygen demand in waters of the State of Idaho.[1] Furthermore, Washington's water quality standards for dissolved oxygen are more stringent than those of the State of Idaho. Therefore, effluent limits for BOD_5 which ensure a level of water quality that is derived from and complies with Washington's water quality standards for DO as required by 40 CFR 122.44(d)(1)(vii)(A) will also ensure compliance with Idaho's water quality standards for DO.

The water quality-based BOD_5 effluent limits in the current permit were calculated such that Clearwater Paper's discharge of BOD_5 would not, by itself, cause more than a 0.2 mg/L decrease in dissolved oxygen, when the model predicted a DO concentration of 8.0 mg/L or less, with zero discharge from the Clearwater Paper facility. However, because the revised Washington water quality standards require that "human actions considered cumulatively may not cause the DO…to decrease more than 0.2 mg/L," the revised modeling considers the impact of BOD_5 discharged by other nearby point sources, specifically, the Cities of Lewiston, Clarkston and Asotin (HydroQual 2009a).

D. Requested Modification and Modeling Results

Clearwater Paper has requested that EPA modify the permit such that the June – November BOD_5 effluent limits are an average monthly limit of 9,700 lb/day and a maximum daily limit of 18,240 lb/day (see letter from Kevin J. Beaton, Stoel Rives LLP to Mike Bussell, EPA Region 10 dated September 11, 2009). These effluent limits are somewhat more stringent than the most stringent of the flow-tiered interim effluent limits (see the permit at Table 3). The ratio between the requested maximum daily limit average monthly limit and the requested maximum daily limit is 1.88:1, which is similar to the ratio between the current maximum daily and average monthly limits (1.9:1).

One of the modeling scenarios performed by HydroQual (Scenario 3, see HydroQual 2009a at Page 6) simulated the impact of a discharge of 9,800 lb/day of BOD_5 from the Clearwater Paper facility (100 lb/day more than requested) and an additional 1,930 lb/day of BOD_5 from the Cities of Lewiston, Idaho and Clarkston and Asotin, Washington. Using the revised model parameters described above, and the more conservative steady state treatment of atmospheric reaeration rate, the RBM10 model predicts that this amount of BOD_5 (a total of 11,730 lb/day) would result in a 95^{th} percentile DO decrease of 0.14 mg/L, when the DO concentration with zero discharge of BOD from all of these sources is less than 8.0 mg/L.

[1] The 95^{th} percentile DO sag, resulting from the Clearwater Paper discharge, at its proposed new limits, in addition to permitted BOD_5 loading from the City of Lewiston, City of Clarkston, and City of Asotin, in the model segment immediately downstream from the discharge (representing waters of the State of Idaho) is 0.003 mg/L DO.

This is less than the 0.2 mg/L decrease allowed by the Washington water quality standards (WAC 173-201A-200(1)(d)(i)). Therefore, EPA proposes to modify the June – November BOD_5 effluent limits to an average monthly limit of 9,700 lb/day and a maximum daily limit of 18,240 lb/day, as requested by Clearwater Paper. While a less stringent limit could potentially comply with the Washington water quality standards (i.e. cause no more than a 0.2 mg/L cumulative decrease in dissolved oxygen), EPA believes it is appropriate to impose the 9,700 lb/day average monthly limit proposed by Clearwater. The fact that these limits are predicted to result in less than a 0.2 mg/L decrease in dissolved oxygen, considered cumulatively with other permitted sources of BOD, compensates for remaining uncertainty in the modeling, including the potential impact of any non-point sources of oxygen-demanding pollution that are not simulated by the model.

E. References

EPA. 2003. *Fact Sheet for Draft NPDES Permit for Potlatch Corporation.* June 19, 2003.

EPA. 2005. *Response to Comments.* Potlatch Corporation – Lewiston Mill. NPDES Permit No. ID0001163. March 8, 2005.

HydroO2. 2008. *Snake River Oxygen Dynamics Assessments.* Athens, GA.

HydroQual. 2009a. *Revised Snake River RBM10 Model Application for BOD for Clearwater Paper Corporation's Discharge.* September 10, 2009.

HydroQual. 2009b. Memorandum from Thomas Gallagher and Christhian Mancilla, HydroQual to Ben Cope and Brian Nickel, EPA and Bill Hoesman, Clearwater Paper. Subject: Reaeration Rate Computation – Sensitivity Analysis. October 13, 2009.

Appendix D: Draft Clean Water Act Section 401 Certification

Idaho Department of Environmental Quality

DRAFT §401 Water Quality Certification

January 26, 2010

NPDES Permit Number: **ID-000116-3** Clearwater Paper NPDES Permit Modification

Pursuant to the provisions of Section 401(a)(1) of the Federal Water Pollution Control Act (Clean Water Act), as amended, 33 USC Section 1341 (a)(1), the State of Idaho Department of Environmental Quality (DEQ) has authority to review National Pollution Discharge Elimination System (NPDES) permits and issue a water quality certification decision.

DEQ has reviewed the facts and the figures presented in the permit and fact sheet for the above-referenced discharge. DEQ has also reviewed and considered other material and information related to the proposed discharge, including but not limited to the following: *Revised Snake River RBM10 Model Application for BOD for Clearwater Paper Corporation's Discharge*[1], RBM10 model results for the Idaho portion of the Snake River, and a permit modification request letter to EPA from Kevin Beaton, Stoel Rives LLP (September 11, 2009).

Based upon its review and consideration of the information listed above, DEQ certifies that if the permittee complies with the terms and conditions imposed by the above-referenced permit, with its proposed modifications along with the conditions set forth in the original 401 Certification (February 15, 2005), then there is reasonable assurance the discharge will comply with the applicable requirements of Sections 301, 302, 303, 306, and 307 of the Clean Water Act, including the Idaho Water Quality Standards (WQS) (IDAPA 58.01.02) and other appropriate water quality requirements of State law.

This certification does not constitute authorization of the permitted activities by any other state or federal agency or private person or entity. This certification does not excuse the permit holder from the obligation to obtain any other necessary approvals, authorizations or permits.

ANTIDEGRADATION

The WQS provide that existing uses and the water quality necessary to protect the existing uses shall be maintained and protected (IDAPA 58.01.02.051.01). In addition, where water quality exceeds levels necessary to support uses, that quality shall be maintained and protected unless DEQ finds, after intergovernmental coordination and public participation, that allowing lower water quality is necessary to accommodate

[1] Gallagher, T.W. and C.A. Mancilla Alarcon. September 10, 2009. Hydroqual, Inc.

important economic or social development in the area in which the waters are located (IDAPA 58.01.02.051.02).

The biological oxygen demand (BOD) limits in the proposed permit modification for Clearwater Paper Lewiston Mill are set at levels which ensure the state's numeric and narrative criteria will be met. The numeric and narrative criteria are set at levels which protect and maintain applicable designated and existing uses. Therefore, the limits in the proposed permit modification protect and maintain designated and existing uses in the Snake River in accordance with IDAPA 58.01.02.051.01.

Furthermore, the limits in the proposed permit modification are more stringent than the interim limits which are currently in effect in the existing permit. Therefore, the modified effluent limitations ensure that the existing level of water quality in the Snake River is maintained, and the analysis necessary to lower water quality set forth in IDAPA 58.01.02.051.02 is not triggered.

OTHER CONDITIONS

The certification is conditioned upon the requirement that any material modification of this permit or the permitted activities including without limitation, any modifications of the permit to reflect new or modified TMDL waste load allocations or other new information, shall first be provided to DEQ for review to determine compliance with state Water Quality Standards and to provide additional certification pursuant to section 401.

RIGHT TO APPEAL FINAL CERTIFICATION

The final Section 401 Water Quality Certification may be appealed by submitting a petition to initiate a contested case, pursuant to Idaho Code § 39-107(5), and the Rules of Administrative Procedure Before the Board of Environmental Quality, IDAPA 58.01.23, within thirty-five (35) days of the date of the final certification.

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Gwen P. Fransen
Regional Administrator, Lewiston