United States Environmental Protection Agency
Region 10
1200 Sixth Avenue
Seattle, Washington 98101

Authorization to Discharge Under the National Pollutant Discharge Elimination System

In compliance with the provisions of the Clean Water Act, 33 U.S.C. §1251 *et seq*., as amended by the Water Quality Act of 1987, P.L. 100-4, the "Act",

Potlatch Corporation
803 Mill Road
Lewiston, Idaho

is authorized to discharge from its pulp, paper, and woodproducts facility located at Lewiston, Idaho, at the following locations:

Outfall	Receiving Water	Latitude	Longitude
001	Snake River	46° 25' 31" N	117° 02' 15" W
Pond Seepage	Clearwater River		

in accordance with discharge point(s), effluent limitations, monitoring requirements and other conditions set forth herein.

This permit shall become effective **May 1, 2005.**

This permit and the authorization to discharge shall expire at midnight, **April 30, 2010.**

The permittee must reapply for a permit reissuance on or before **November 1, 2009**, 180 days before the expiration of this permit, if the permittee intends to continue operations and discharges at the facility beyond the term of this permit.

Signed this **8th** day of **March, 2005**.

/s/ Robert R. Robichaud for
Michael F. Gearheard, Director
Office of Water and Watersheds

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I. Limitations and Monitoring Requirements

A. Discharge Authorization. During the effective period of this permit, the permittee is authorized to discharge from outfall 001 to the Snake River and seepage from the secondary treatment pond to the Clearwater River, within the limits and subject to the conditions set forth herein. This permit authorizes the discharge of only those pollutants resulting from facility processes, waste streams, and operations that have been clearly identified in the permit application process. This permit does not authorize the discharge of pollutants to groundwater or soil, or any waste streams, including spills and other unintentional or non-routine discharges of pollutants, that are not part of the normal operation of the facility as disclosed in the permit application, or any pollutants that are not ordinarily present in such waste streams.

B. Effluent Limitations and Monitoring.

1. The permittee must not discharge any floating solids, visible foam in other than trace amounts, or oily wastes that produce a sheen on the surface of the receiving water.

2. The permittee must not use chemical agents containing trichlorophenol, pentachlorophenol, or zinc at the facility.

3. The permittee must limit and monitor discharges from outfall 001 as specified in Table 1. The permittee must comply with the effluent limits in Table 1 at all times unless otherwise indicated, regardless of the frequency of monitoring or reporting required by other provisions of this permit.

4. For all effluent monitoring, the permittee must use methods that can quantify the effluent limitation unless otherwise specified in Table 1. For parameters that do not have effluent limitations, the permittee must use methods that can achieve method detection levels less than or equal to those specified in Table 8.

Table 1. Outfall 001 Effluent Limitations and Monitoring Requirements

Parameter	Units	Effluent Limitations		Monitoring Requirements	
		Maximum Daily	Average Monthly [note 1]	Sample Frequency	Sample Type
BOD_5 (December - May)	mg/L	---	---	3/week	24-hour Composite
	lb/day	55,100	28,800		Calculated [note 3]
BOD_5 [note 2] (June - November)	mg/L	---	---	Daily	24-hour Composite
	lb/day	9,800	5,100		Calculated [note 3]
TSS [notes 14 & 16]	mg/L	---	---	Daily	24-hour Composite
	lb/day	94,400	50,600		Calculated [note 3]
2,3,7,8-TCDD [note 4]	pg/L	note 5		Quarterly [note 13]	24-hour Composite
	mg/day	0.22 [note 5]	0.15 [note 5]		Calculated [note 6]
Temperature (October - June)	°C	33	---	Continuous	Recording
Temperature [note 2] (July)	°C	32	---	Continuous	Recording
Temperature [note 2] (August - September)	°C	31	---	Continuous	Recording
pH [note 7]	s.u.	within the range of 5.5 to 9.0		Continuous	Recording
Adsorbable Organic Halides (AOX) [notes 4 & 8]	mg/L	---	---	Daily	24-hour Composite [note 15]
	lb/day	3,950	2,590		Calculated [note 3]
Effluent Flow	mgd	---	---	Continuous	Recording
Production [note 9]	tons per day	---	---	Monthly [note 10]	Calculated
Phosphorus, Total	mg/L	---	---	Monthly	24-hour Composite
Ammonia, Total as N	mg/L	---	---	Monthly	24-hour Composite
Nitrite+Nitrate Nitrogen	mg/L	---	---	Monthly	24-hour Composite
Chemical Oxygen Demand (COD)	mg/L	---	---	Daily	24-hour Composite
Whole Effluent Toxicity [note 11]	TU_c	---	---	Quarterly [notes 12, 13]	24-hour Composite

Footnotes:

1. The average monthly limit is determined as the arithmetic average of all the samples collected within the month. For the purpose of calculating the monthly average, the permittee must use all values greater than the method detection level; however, zeros may be used for values less than the method detection level.
2. See Section I.D. (Interim Effluent Limitations for Outfall 001)
3. To calculate the maximum daily loading in lb/day, multiply the concentration (mg/L) by a conversion factor of 8.34 lb·L/mg·gal and the daily average effluent flow rate (mgd). For BOD_5 and AOX, 3 mgd must be added to the daily average effluent flow rate to account for pond seepage.
4. See Section III.G. (Twenty-four Hour Notice of Noncompliance Reporting)
5. This effluent limit is not quantifiable using EPA approved analytical methods. The permittee will be in compliance with the effluent limit provided the measured concentration is at or below the compliance evaluation level of 10 pg/L and the calculated quantity is < 0.72 mg/day using EPA Method 1613.
6. To calculate the maximum daily loading in mg/day, multiply the measured concentration (pg/L) by a conversion factor of 0.003786 mg·L/pg·gal·10^6 and the daily effluent flow rate (in mgd or 10^6 gallons per day) plus 3 mgd for pond seepage. If the measured concentration is not detectable, then use one half the detection level as the concentration in the calculation and report as "< {calculated value}" on the DMR.
7. See paragraph I.B.5.
8. AOX must be analyzed using EPA method 1650. Both the suspended and dissolved fractions of the wastewater must be included in the analysis.
9. See definition of Production in Part VI.
10. Monthly production information is to be submitted in an annual report by the 31st of January of the following year. The bleaching shrinkage factor and total operating days per year must be included in the report.
11. See Section I.E. (Whole Effluent Toxicity Testing)
12. Monitoring is required only during the first, second and fourth years of the permit.

13. Quarters are January through March, April through June, July through September, and October through December. Results must be reported on the DMR for the last month of the quarter, which must be postmarked by the 10th day of the following month. See Section III.B.
14. By May 1, 2008 the permittee will reduce TSS by 25% determined by comparing a 12-month rolling average to the 2002 annual average discharge level.
15. See paragraphs I.B.7 and 8.
16. During the first year of the permit, the permittee must analyze TSS once per quarter for dioxins and furans using Method 1613 and for CPOCs using Method 1653. Quarters are January through March, April through June, July through September, and October through December. Results must be reported on the DMR for the last month of the quarter. See also the attached Monitoring Plan Summary.

5. The permittee must maintain the pH of the effluent within the range specified in Table 1, except excursions from the range are permitted subject to the following limitations:

   a. The total time during which the pH values are outside the required range of pH values shall not exceed 7 hours and 26 minutes in any calendar month; and

   b. No individual excursion from the range of pH values shall exceed 60 minutes.

6. The permittee must submit an annual biocides report to the Director, Office of Compliance and Enforcement, by January 10th. The report must include the amounts and types of biocides used at the facility during the previous calendar year and a certification statement that the facility does not use chemical agents containing trichlorophenol, pentachlorophenol, or zinc at the facility.

7. The permittee must utilize the following sample collection methods for AOX in wastewaters from the treatment system:

   a. Samples to be analyzed for AOX may be collected as 24-hour manual composites, by collecting 1.5 liters of sample every 4 hours for 24 hours. Alternatively, they may be collected as continuous automatic composites.

   b. Prior to the sample collection of manual composites, the following equipment should be set up at the sampling point:

      (1) A sump or other container (e.g., a bucket under the tap/valve from which the sample is collected) to dispose of sample that is purged from the tap/valve prior to sample collection;

(2) A locked cooler that is double-lined with large plastic bags and contains a specially-cleaned 10-liter storage jar in which the sample will be composited, a specially-cleaned 1-liter glass jar with which sample aliquots will be collected (the jar should be marked to show the half-full level), a specially-cleaned 500-milliliter glass jar with which field measurements will be obtained, a VOA block, and fifteen 40-milliliter pre-reserved glass vials;

(3) Plastic zip-lock freezer bags and labels for each pair of glass vials;

(4) A pH meter or four-color pH paper, a temperature probe or thermometer, and a wash bottle filled with deionized water;

(5) A sampling log containing field data sheets;

(6) A box in which to store sampling equipment between the collection of sample aliquots during the 24-hour compositing period; and

(7) Ice.

c. Manual composite samples should be collected as follows:

(1) A 1-liter specially-cleaned glass jar is required to collect the sample aliquots for the composite sample. A 500-milliliter specially-cleaned glass jar is required to collect a sample to measure the pH and temperature of the sample. Use bottles that are certified clean by the manufacturer. Do not touch the inside of the bottle or the lined bottle cap.

(2) Fill the 500-milliliter glass jar approximately ¾ full and use the pH meter or pH paper to measure the pH. Use a temperature probe or thermometer to measure the temperature of the sample. Record this information on the field data sheet and discard the sample into a sump. The sampler should also measure and record the pH and temperature of the final composite sample.

(3) Fill the 1-liter glass jar with the sample and pour this sample into the 10-liter glass storage jar. Do not touch the

inside of the glass storage jar. Repeat, only filling the 1-liter glass jar halfway full (to the mark) this second time and turn off the tap/valve. Seal the glass storage jar by screwing on the lid.

(4) Put the lids on the 1-liter amber glass jar and the 500-milliliter glass jar and place them in plastic zip-lock freezer bags. Seal the bags and place them back in the cooler.

(5) Place ice in the cooler, outside the double lining of plastic bags. Arrange the bags of ice around the 10-liter glass storage jar. More ice should be used when temperatures are very high. Check the ice in the cooler periodically and replace it as necessary.

(6) Close and lock the cooler.

(7) Rinse the pH probe in deionized water before its next use. Discard the rinsate into a sump.

(8) Repeat the above 7 steps for each sample aliquot. Aliquots will be collected every 4 hours during the 24-hour compositing period, for a total of six sample aliquots. At the end of the 24-hour compositing period, the cooler should contain approximately 9 liters of sample in the 10-liter glass storage jar.

(9) Take the cooler containing the samples to the staging area. Mix the contents of the 10-liter glass storage jar using a glass stirring rod. Alternatively, carefully screw on the lid of the glass storage jar and invert it several times to thoroughly mix the contents. After the sample is thoroughly mixed, pour it from the storage jar into seven 1-liter amber glass bottles and one 500-milliliter amber glass bottle using the following procedure:

- Swirl and shake the storage jar to re-suspend settled solids;
- Fill each sample jar to about ¼ of its empty volume;
- Mix the remaining volume in the storage jar;
- In reverse order, add another ¼ volume aliquot to each sample jar; and

- Repeat until the sample jars have been filled.

(10) Follow the preservation procedures discussed in Section I.K if samples are to be shipped to an off-site laboratory.

8. The permittee must collect AOX effluent samples in accordance with Table 2.

Table 2. AOX Effluent Sampling Collection Methods

Parameter	Container	Preservative [Note 1]	Sample Volume	Collection Method
AOX	Amber glass bottle with Teflon lid liner	$Na_2S_2O_3$, H_2SO_4 to pH 2-3, 4°C	500 mL	·Grab (1 every 4 hours) or continuous automatic composite ·24-hour composite

Footnote:
1. Note: sodium thiosulfate ($NA_2S_2O_3$) is required only if free chlorine is present in the wastewater.

9. The permittee must operate the flow augmentation system from the Clearwater River to the ASB discharge pipe from May 15 through September 30 each year, beginning not later than May 15, 2006 (see part I.C.I.b, below).

C. Compliance Schedule for Outfall 001.

1. Temperature.

a. By May 1, 2007, the permittee must achieve compliance with the temperature effluent limitations effective from July through September listed in Section I.B for Outfall 001 (Table 1).

b. By May 15, 2006, the permittee must complete construction and testing of a pumping system to add up to seven million gallons per day (mgd) of Clearwater River water to the ASB discharge pipe (see part I.B.9, above).

c. By May 1, 2006, the permittee must report on progress toward achieving compliance with the final effluent limits, including the implementation of past actions and the effect of those actions, and provide any additional recommended actions the facility will undergo in order to meet the final effluent limitations.

2. Five-day Biochemical Oxygen Demand (BOD_5).

a. 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 (Table 1).

b. By May 1, 2006, the permittee must conduct and submit to the Director, Office of Compliance and Enforcement, an engineering study to identify feasible alternatives to meet effluent limitations.

c. By November 1, 2006, the permittee must determine feasible alternatives to meet effluent limitations, select preferred alternative(s), and notify the Director, Office of Compliance and Enforcement, in writing, of the preferred alternative(s).

d. By May 1, 2007 the permittee must report on progress toward implementation of preferred alternative(s) and begin implementation of preferred alternative(s) to meet effluent limitations.

e. By May 1, 2008, the permittee must report on progress toward implementation of preferred alternative(s).

f. By May 1, 2009, the permittee must report on progress toward implementation of preferred alternative(s).

g. By November 1, 2009 the permittee must complete implementation of preferred alternative(s) to meet effluent limitations and notify the Director, Office of Compliance and Enforcement, in writing, that implementation is complete.

D. Interim Effluent Limitations and Monitoring for Outfall 001. Until the dates of compliance indicated in Section I.C, the permittee must limit discharges from outfall 001 as specified in Table 3 at all times unless otherwise indicated, regardless of the frequency of monitoring or reporting required by other provisions of this permit. All numerical values represent maximum effluent limits unless otherwise indicated.

Table 3. Outfall 001 Interim Effluent Limitations

Parameter	Units	Effluent Limitations		Monitoring Requirements	
		Average Monthly	Maximum Daily	Sample Frequency	Sample Type
BOD_5 (June-November) [Note 1] River flow [Note 2] ≥ 22,000 cfs	lb/day	22,800	43,800	3/week	24-hour composite
BOD_5 (June-November) [Note 1] 20,000 cfs ≤River flow < 22,000 cfs		18,900	36,300		
BOD_5 (June-November) [Note 1] 18,000 cfs ≤ River flow < 20,000 cfs		15,100	29,000		
BOD_5 (June-November) [Note 1] 16,000 cfs ≤ River flow < 18,000 cfs		12,800	24,600		
BOD_5 (June-November) [Note 1] 14,000 cfs ≤ River flow < 16,000 cfs		10,600	20,400		
BOD_5 (June-November) [Note 1] River flow < 14,000 cfs		9,800	18,800		
Temperature [Note 3]	°C	---	33	Continuous	Recording
Net Heat [Note 4]	BTU/day	---	Note 5		

Footnotes:

1. The interim limitations and monitoring requirements for BOD_5 apply from June through November for the duration of the compliance schedule as specified in section I.C. From December through May, the permittee must comply with the December through May effluent limits for BOD_5 in Table 1.
2. River flow is the sum of the flows of the Snake River at the USGS Anatone gauge (#13334300) and Clearwater River at the USGS Spaulding gauge (#13342500).
3. This limit applies when the Snake River temperature at the USGS Anatone gauge (#13334300) is less than 19.7°C (67.5°F) for the previous day.
4. This limit applies when the Snake River temperature at the USGS Anatone gauge (#13334300) is equal to or greater than 19.7°C (67.5°F) for the previous day.
5. The heat discharge rate shall not exceed the following: the sum of the flows of the Snake River at the USGS Anatone gauge (#13334300) and Clearwater River at the USGS Spaulding gauge (#13342500) multiplied by 593,000 BTU/cfs·day.

E. Whole Effluent Toxicity Testing

1. The permittee must conduct a static-renewal test, conducted on three 24-hour composite samples of effluent (collected on days one, three, and five). In addition, a split of the first sample collected for each test must be analyzed for the chemical and physical parameters required in Table 1. When the timing of sample collection coincides with that of the sampling required in Table 1, analysis of the split sample may fulfill the requirements of Table 1.

2. The permittee must conduct short-term tests with the water flea, *Ceriodaphnia dubia* (survival and reproduction test), and the fathead minnow, *Pimephales promelas* (larval survival and growth test).

3. The permittee must conduct tests on each organism using a series of five test dilutions and a control. The series must include the instream waste concentration (IWC) of 1.8 percent effluent, two dilutions greater than 1.8 percent effluent, and two dilutions less than 1.8 percent effluent.

4. The permittee must use EPA's guidance manual *Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms*, Fourth Edition, EPA-821-R-02-013, October 2002 to:

   a. estimate the presence of chronic toxicity;

   b. conduct all quality assurance criteria and protocols; and

   c. ensure toxicity test results include all relevant information required by Section 10, Report Preparation, of this method.

5. The permittee must report the results in TU_c, where $TU_c = 100/NOEC$. The permittee must use the highest NOEC calculated in TU_c for the applicable survival, growth, or reproduction endpoints. If in the calculation of a no observed effect concentration (NOEC), two tested concentrations causes statistically significant effects but an intermediate concentration does not cause statistically significant effects, the permittee must either repeat the test or use the lowest concentration to calculate the NOEC.

6. In addition to toxicity test results, the permittee must report:

   a. dates of sample collection and initiation of each test;

   b. type of production;

   c. flow rate at the time of sample collection; and

   d. the results of the monitoring required in paragraph I.E.1.

7. In addition to the quality assurance measures specified in the methodology cited in paragraph I.E.4, the permittee must observe the following quality assurance procedures:

   a. To the extent practicable, control and dilution water must be receiving water. If the dilution water used is different from the culture water, a second control, using culture water must also be used. For purposes of this paragraph, "receiving water" means water collected from the Snake River upstream from the permittee's discharge. In no case shall water that has not met test acceptability criteria be used for either dilution or control.

   b. If organisms are not cultured in-house, the permitte must ensure that concurrent testing with reference toxicants shall be conducted. Where organisms are cultured in-house, monthly reference toxicant testing is sufficient. Reference toxicant tests must be conducted using the same test conditions as the effluent toxicity tests.

   c. If either of the reference toxicant tests or the effluent tests do not meet all test acceptability criteria as specified in the test methods manual, the permittee must re-sample and re-test within 14 days of receipt of the test results.

8. Within two weeks (14 calendar days) of receipt of the test results that indicate the reported toxicity level (100/NOEC) exceeds a chronic toxicity trigger of 15 TU_c, the permittee must:

   a. Submit a written notice to the Director, Office of Compliance and Enforcement and IDEQ with the following information:

      (1) a description of any actions the permittee has taken or will take to investigate and correct the cause(s) of the toxicity in accordance with the TRE Work Plan;

      (2) where no actions have been taken, a discussion of the reasons for not taking action; and

      (3) a copy of the sample results that indicated the reported toxicity level exceeds the chronic toxicity triggers.

   b. Initiate the following special monitoring requirements:

(1) If the permittee is able to adequately demonstrate through an evaluation of facility operations that the cause of the exceedence is known and corrective actions have been implemented, then the permittee is required to conduct one additional test. If this test indicates toxicity greater than 15 TU_c, the permittee must conduct a toxicity reduction evaluation (TRE) or toxicity identification evaluation (TIE) in accordance with Section II.A of this permit. If no toxicity is indicated, the permittee may return to the normal testing frequency.

(2) If the permittee is not able to adequately demonstrate through an evaluation of facility operations that the cause of the exceedence is known, the permittee is required to conduct four biweekly tests over an eight week period. If any of these tests indicates toxicity greater than 15 TU_c, the permittee must conduct a TRE or TIE in accordance with Section II.A of this permit. If none of the four tests indicates toxicity greater than 15 TU_c, the permittee may return to the normal testing frequency.

(3) If a TIE is initiated prior to completion of the accelerated testing, the accelerated testing schedule may be terminated or used as necessary in performing the TIE.

9. Within four weeks (28 calendar days) of receipt of the test results that indicate the reported toxicity level (100/NOEC) exceeds a chronic toxicity trigger of 15 TU_c, the permittee must submit a full written report to the Director, Office of Compliance and Enforcement and IDEQ containing the following information:

a. a description of any actions the permittee has taken or will take to investigate and correct the cause(s) of the toxicity;

b. a description of the actions the permittee has taken or will take to further prevent the cause(s) of toxicity;

c. where no actions have been taken, include the reason(s) for not taking action;

d. a status report on action(s) provided in paragraphs a and b, with a schedule for action not yet completed; and

e. a copy of the test results from the special monitoring required under paragraph I.E.8.b.

F. Fiber Line Limitations and Monitoring.

1. The permittee must limit discharges from each fiber line (the chip line and the sawdust line) as specified in Table 4. The permittee must comply with the following effluent limits in Table 4 at all times unless otherwise indicated, regardless of the frequency of monitoring or reporting required by other provisions of this permit.

Table 4. Fiber Line Limitations and Monitoring Requirements

Parameter	Units	Limitations		Monitoring Requirements	
		Maximum Daily	Monthly Average	Sample Frequency	Sample Type
2,3,7,8-TCDD	pg/L	<10[note 1]	---	Monthly	24-hour Composite
2,3,7,8-TCDF	pg/L	31.9	---	Monthly	24-hour Composite
Chloroform	lb/day	28.8	17.2	Weekly	24-hour Composite
Trichlorosyringol	µg/L	<2.5[note 2]	---	Monthly	24-hour Composite
3,4,5-trichlorocatechol	µg/L	<5.0[note 2]	---	Monthly	24-hour Composite
3,4,6-trichlorocatechol	µg/L	<5.0[note 2]	---	Monthly	24-hour Composite
3,4,5-trichloroguaiacol	µg/L	<2.5[note 2]	---	Monthly	24-hour Composite
3,4,6-trichloroguaiacol	µg/L	<2.5[note 2]	---	Monthly	24-hour Composite
4,5,6-trichloroguaiacol	µg/L	<2.5[note 2]	---	Monthly	24-hour Composite
2,4,5-trichlorophenol	µg/L	<2.5[note 2]	---	Monthly	24-hour Composite
2,4,6-trichlorophenol	µg/L	<2.5[note 2]	---	Monthly	24-hour Composite
Tetrachlorocatechol	µg/L	<5.0[note 2]	---	Monthly	24-hour Composite
Tetrachloroguaiacol	µg/L	<5.0[note 2]	---	Monthly	24-hour Composite
2,3,4,6-tetrachlorophenol	µg/L	<5.0[note 2]	---	Monthly	24-hour Composite
Pentachlorophenol	µg/L	<5.0[note 2]	---	Monthly	24-hour Composite
Flow	mgd	---	---	Continuous	Recording

Footnotes:

1. The permittee must use EPA Method 1613 for the analysis of this parameter. The permittee must achieve a minimum level equal to or less than this concentration. For purposes of reporting on the DMR, if a value is less than the minimum level but greater than the method detection level, the permittee must report the actual value. If a value is less than the method detection level, the permittee must report "less than {numerical method detection limit}" on the DMR.
2. The permittee must use EPA Method 1653 for the analysis of this parameter. The permittee must achieve a minimum level equal to or less than this concentration. For purposes of reporting on the DMR, if a value is less than the minimum level but greater than the method detection level, the permittee must report the actual value. If a value is less than the method detection level, the permittee must report "less than {numerical method detection limit}" on the DMR.

2. The permittee must monitor the total discharge of process wastewaters from each physical bleach line of the bleach plant operated at the mill. The permittee must monitor in accordance with the following:

   a. The monitoring locations must be designated 011 (chip line) and 021 (sawdust line) and must be at the effluent from each line prior to commingling with any other waste streams.

   b. Discharges from each separate acid and alkaline bleaching stage must be monitored after the sewers have collected all of the acid or alkaline bleaching stage discharges and before they are mixed with other mill wastewaters. The acid and alkaline monitoring locations should be at the point as close as possible to where bleach plant wastewater is discharged from process equipment. Figure 1 illustrates appropriate monitoring locations for separate acid and alkaline streams.

   c. Chloroform must be monitored in the separate acid and alkaline streams at the point closest to where bleach plant wastewater is discharged from process equipment.

   d. At each bleach line, grab composite samples should be collected from both the acid and alkaline sewers. Each composite should be collected every four hours, for 24-hours, from the appropriate monitoring location. The permittee may use a continuous automated sampling device, except for chloroform samples, if it can be operated reliably at the appropriate monitoring location. Alternatively, one flow-proportioned composite of the acid and alkaline sewer samples (i.e., one bleach plant effluent sample) may be collected for all parameters except chloroform.

   e. Chloroform samples must be collected separately from the acid and alkaline bleach plant filtrates. Samples to be analyzed for chloroform must be collected every four hours, for 24-hours. The permittee must never collect chloroform samples using a continuous automated sampling device. The permittee must adhere to the following sampling procedures:

      (1) Samples must be cooled during collection to reduce trapped air bubbles in the sample container;

      (2) Samples must be collected as grabs (6 pairs of samples per 24 hours), 40 millilieters each from acid and alkaline

stream (one set is back-up), which will be composited at the laboratory; and

(3) Samples must not contain air bubbles.

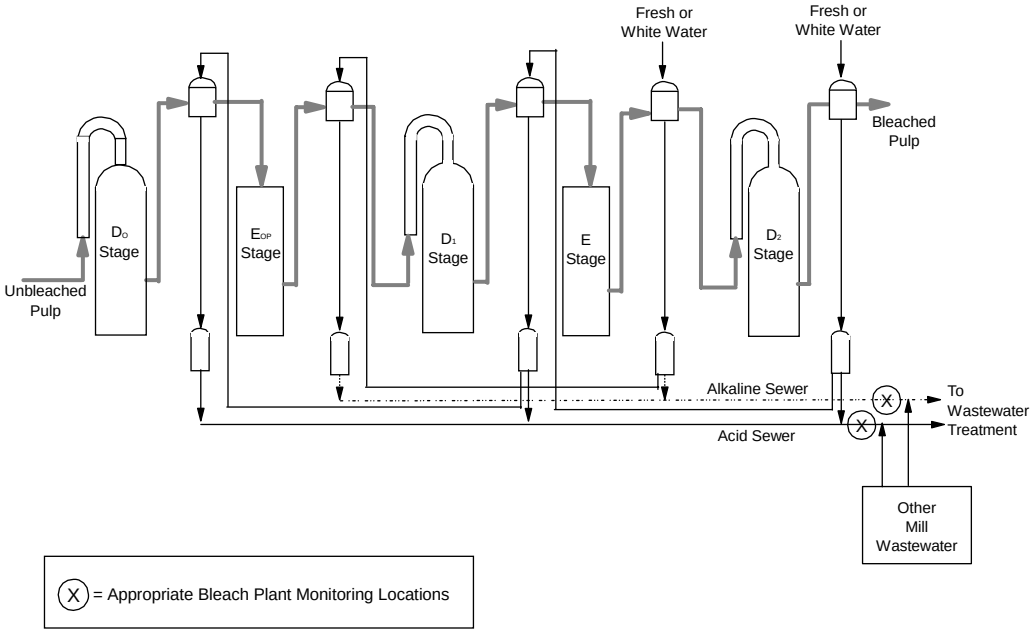

Figure 1. Sampling Locations for Acid and Alkaline Sewer Streams

3. The permittee must utilize the following sample collection methods for Bleach Plant Wastewater:

a. Six pairs of 40 milliliter vials will be filled with bleach plant wastewater during each 24-hour compositing period. Samples to be analyzed for TCDD, TCDF, and chlorinated phenolic compounds (CPs) may be collected as 24-hour manual composites, by collecting 1.5 liters of sample every 4 hours for 24 hours or as continuous automatic composites.

b. Prior to sample collection, the following equipment should be set up at the sampling point:

(1) A sample cooling system, consisting of Teflon® tubing attached to a valve at one end and coiled and placed in a tub of ice and water at the other;

(2) A sump or other container (e.g., bucket under the tap/valve from which the sample is collected) in which to dispose of sample that is purged from the tap/valve prior to sample collection;

(3) A locked cooler that is double-lined with large plastic bags and contains a specially-cleaned 10-liter glass storage jar in which the sample will be composited, a specially-cleaned 1-liter glass jar with which sample aliquots will be collected (the jar should be marked to show the half-full level), a specially-cleaned 500-milliliter glass jar with which field measurements will be obtained, a holder for 40 milliliter glass vials, and fifteen 40-milliliter glass vials;

(4) Large plastic bags, twist-ties, plastic zip-lock freezer bags, and labels for each pair of glass vials;

(5) A pH meter or four-color pH paper, a temperature probe or thermometer, and a wash bottle filled with deionized water;

(6) A test kit for free chlorine (consists of a disposable pipette or eyedropper, a 40-millileter clear glass vial, latex gloves, 1.0 N sodium thiosulfate solution, potassium iodide crystals, starch solution, and concentrated acetic acid);

(7) A sampling log containing field data sheets;

(8) A box in which to store sampling equipment between the collection of sample aliquots during the 24-hour compositing period; and

(9) Ice.

c. The permittee must collect samples as follows:

(1) The sample to be analyzed for chloroform will be collected first.

(2) Two 40-milliliter glass vials are required. Use bottles that are certified clean by the manufacturer. If chemical preservation is required at this sampling point, make sure

that the vials have been pre-preserved in the staging area. Do not touch the inside of the bottle or the lined bottle cap.

(3) Turn on the tap/valve and allow the sample to flow through the cooling system into a sump (or bucket) for 2 to 3 minutes, to purge the line.

(4) Insert the Teflon® tubing into the bottom of a vial and fill it with sample while slowly withdrawing the tubing from the vial. Fill the vial to overflowing.

(5) Seal the vial by placing the septum (Teflon® side down) on the convex sample meniscus and screwing down the cap. To ensure that the sample has been properly sealed, invert the sample: the absence of air bubbles indicates a proper seal.

(6) If air bubbles are present, discard the vial and fill a new one. Seal the vial and test that it is hermetically sealed, as described above. (Note: if the fial was preserved with chemicals, use another pre-preserved vial to collect the sample a second time.)

(7) Collect sample in the second vial in the same manner as used for the first vial. Close the tap/valve.

(8) Place both vials in one plastic zip-lock freezer bag, along with a label identifying the pair of aliquots. Place the plastic zip-lock freezer bag in the double-lined cooler.

(9) Record the date and time of sample collection on the field data sheet.

(10) The remaining sample fractions must NOT be collected through the Teflon® tubing. If a three way valve has not been installed in the sample line, remove the tubing from the tap/valve and place a small plastic bag around the tip of the tubing. Then place the tubing in a large plastic bag. Close the bag with a twist-tie and place it in a box near the cooler.

(11) A specially-cleaned 1-liter glass jar is required to collect the sample aliquots for the composite sample. A 500-milliliter specially-cleaned glass jar is required to collect sample to measure the pH and temperature of the sample. Use jars that are certified clean by the manufacturer. Do not touch the inside of the jar or the lined jar cap.

(12) Test the acid stage filtrate for free chlorine as follows:

- Fill the 40-milliliter clear vial to the bottom of the neck with sample;
- If the sample is not acidic (pH 3 to 4), add a few drops of acetic acid, cover the vial with a gloved hand, and mix by inverting the vial a few times;
- Add a few potassium iodide crystals and repeat the mixing step;

If the sample turns black or blue/black, residual chlorine is present and the following steps are required:

- Add one- or two-drop increments of sodium thiosulfate to the vial with mixing between additions;
- Record the number of drops of sodium thiosulfate required to clear the sample of the blue color on the field measurements data sheet. Two milliliters of sodium thiosulfate will be added to the composite for every drop required to clear the sample.

(13) Fill the 500-milliliter glass jar approximately 3/4 full and use the pH meter or pH paper to measure the pH. Use a temperature probe or thermometer to measure the temperature of the sample. Record this information on the field data sheet and discard the sample into a sump. The sample should also measure and record the pH and temperature of the final composite sample.

(14) Fill the 1-liter amber glass jar with sample and add 1.0 N sodium thiosulfate solution to the glass storage jar; 2 milliliters of sodium thiosulfate should be used for every drop required for the titration described in step (12). Pour this sample into the 10-liter glass storage jar. Do not touch the inside of the glass storage jar. Next, fill the 1-liter glass

jar halfway full of sample (to the mark) and turn off the tap/valve. Record the volume of sodium thiosulfate added to the composite in the field measurements data sheet. Seal the glass storage jar by screwing on the lid.

(15) Put the lids on the 1-liter amber glass jar and the 500-milliliter glass jar and place them in plastic zip-lock freezer bags. Seal the bags and place them back in the cooler.

(16) Place ice in the cooler, outside the double lining of plastic bags. Arrange the bags of ice around the 10-liter glass storage jar. More ice should be used when temperatures are very high. Check the ice in the cooler periodically and replace it as necessary.

(17) Close and lock the cooler.

(18) Rinse the pH probe in deionized water before its next use. Discard rinsate into a sump.

(19) Repeat the above 18 steps for each sample aliquot. Aliquots will be collected every 4 hours during the 24-hour period, for a total of six sample aliquots. At the end of the 24-hour compositing period, the cooler should contain approximately 9 liters of sample in the 10-liter glass storage jar and twelve 40-milliliter vials in the VOA block.

(20) Take the cooler containing the samples to the staging area. Mix the contents of the 10-liter glass storage jar using a glass stirring rod. Alternatively, carefully screw on the lid of the glass storage jar and invert it several times to thoroughly mix the contents. After the sample is thoroughly mixed, pour it from the storage jar into five 1-liter amber glass bottles using the following procedure:

- Swirl and shake the storage jar to re-suspend settled solids;
- Fill each sample jar to about ¼ of its empty volume;
- Mix the remaining volume in the storage jar;
- In reverse order, add another ¼ volume aliquot to each sample jar; and
- Repeat until the sample jars have been filled.

(21) Follow the preservation procedures discussed in Section I.K if samples are to be shipped to an off-site laboratory.

4. The permittee must collect bleach plant effluent samples in accordance with Table 5.

Table 5. Bleach Plant Effluent Sampling Collection Methods

Parameter	Container	Preservative [Note 1]	Sample Volume	Collection Method
Chloroform	Glass vial with Teflon septum	3 granules (10 mg) $Na_2S_2O_3$ per vial, 2 drops HCl per vial, 4°C	12 x 40 mL each	·Grab (2 vials every 4 hours) ·24-hour composite prepared by lab
2,3,7,8-TCDD and 2,3,7,8-TCDF	Amber glass bottle with Teflon lid liner	$Na_2S_2O_3$, 4°C	2 x 1,000 mL	·Grab (1 every 4 hours) or continuous automatic composite ·24-hour composite
Chlorinated Phenolic Compounds	Amber glass bottle with Teflon lid liner	$Na_2S_2O_3$, H_2SO_4 to pH 2-3, 4°C	3 x 1,000 mL	

Footnote:
1. Note: sodium thiosulfate ($NA_2S_2O_3$) is required only if free chlorine is present in the wastewater.

G. Pond Seepage.

1. During the first and second years of the permit, the permittee must monitor seepage from the secondary treatment pond as specified in Table 6.

2. The permittee must conduct pond seepage monitoring activities within the same 24-hour period as effluent monitoring activities, to the extent possible.

3. The permittee must collect samples at the following groundwater monitoring wells: MW-1 MW-2, MW-2D, MW-3, MW-3D, MW-5, MW-10 and MW-12.

4. The permittee must monitor groundwater as specified in Table 6.

Table 6. Groundwater Monitoring Requirements note 1

Parameter	Units	Sample Frequency	Sample Type
2,3,7,8-TCDD	pg/L	Quarterly note 2	Grab
BOD_5	mg/L	Quarterly note 2	Grab
TSS	mg/L	Quarterly note 2	Grab
Ammonia, Total as N	mg/L	Quarterly note 2	Grab
Chloroform	µg/L	Quarterly note 2	Grab
Nitrate + Nitrite Nitrogen	mg/L	Quarterly note 2	Grab
AOX	mg/L	Quarterly note 2	Grab
Phosphorus, Total	mg/L	Quarterly note 2	Grab

Footnotes:
1. Monitoring must be conducted according to test procedures specified in Table 8 or approved under 40 CFR Part 136.
2. Quarters are January through March, April through June, July through September, and October through December.

5. The permittee must submit an annual report summarizing the results of the previous year's groundwater monitoring to the Director, Office of Compliance and Enforcement, and IDEQ by January 10th. The report must include a discussion of sampling and laboratory methods, including QA/QC, data handling, and a revised estimate of the seepage for the secondary treatment pond.

6. During the first and second years of the permit, the permittee must sample BOD_5, pH, temperature, and TSS in the Clearwater River upstream and downstream of the ASB pond. The sampling points must be approved by IDEQ prior to initiation of the sampling regime.

7. If the State determines, based on the monitoring results, that pollutants significant to designated uses can or will result in a reduction of the ambient water quality in the Clearwater River, the permittee shall prepare a seepage reduction/control program for surface impoundments at the facility. A draft plan must be submitted within 180 days of notification by the State that seepage control is necessary. The draft plan shall include a proposed schedule for implementation of seepage control measures. The permittee shall implement the schedule upon approval by the State.

H. Influent Monitoring. Beginning on the effective date of this permit, the permittee must conduct daily monitoring of the influent to the wastewater treatment system in accordance with the following procedures:

1. The permittee must collect 24-hour composite samples and analyze the samples for a measure of organic content (e.g., Chemical Oxygen Demand (COD) or total organic carbon (TOC)). Alternatively, the permittee may use a measure related to spent pulping liquor losses measured continuously and averaged over 24 hours (e.g., specific conductivity or color).

2. Monitoring must be conducted at the point influent enters the wastewater treatment system. For the purposes of this requirement, the permittee may select alternate monitoring point(s) in order to isolate possible sources of spent pulping liquor, soap, or turpentine from other possible sources of organic wastewaters that are tributary to the wastewater treatment facilities (e.g., bleach plants, paper machines and secondary fiber operations).

I. Receiving Water Monitoring.

1. The permittee must monitor the receiving water as specified in the following sections as well as the attached Monitoring Plan approved by NOAA Fisheries, and USFWS.

2. Surface Water-Column Monitoring.

   a. The permittee must monitor the receiving water as specified in Table 7.

   b. The permittee must monitor the receiving water during the first and second years of the permit from July 1 through October 31.

   c. The permittee must conduct receiving water monitoring activities within the same 24-hour period as effluent monitoring activities, to the extent possible.

   d. The permittee must conduct all surface water-column monitoring at the locations identified in the Sampling Plan required by Part II.D. of this permit. Surface water-column sampling locations must include at least one upstream location in both the Snake and Clearwater rivers, and at least five downstream locations between

the outfall and the Lower Granite Dam.

e. The permittee must submit an annual report summarizing the results of the water column monitoring. The report must be submitted by January 10th each year. At a minimum, the report must include:

(1) a discussion of sampling and laboratory methods, including quality assurance/quality control (QA/QC), data handling, and the results of the study;

(2) dates of sample collection and analyses;

(3) analysis methods used and MDLs; and

(4) a profile at each station for the parameters listed in Table 7.

Table 7. Surface Water Monitoring Requirements note 1

Parameter	Units	Sample Frequency	Sample Type
Dissolved Oxygen	mg/L	weekly	depth/spacially integrated
Velocity	m/s	weekly	depth/spacially integrated
Temperature	°C	weekly	depth/spacially integrated
pH	s.u.	weekly	depth/spacially integrated
2,3,7,8-TCDD	pg/L	weekly	depth/spacially integrated
2,3,7,8-TCDF	pg/L	weekly	depth/spacially integrated
Ammonia, Total as N	mg/L	weekly	depth/spacially integrated
Nitrate + Nitrite Nitrogen	mg/L	weekly	depth/spacially integrated
Kjeldahl Nitrogen, Total	mg/L	weekly	depth/spacially integrated
Phosphorus, Total	mg/L	weekly	depth/spacially integrated
Orthophosphate	mg/L	weekly	depth/spacially integrated
BOD_5	mg/L	weekly	depth/spacially integrated

Footnotes:
1 Monitoring must be conducted according to test procedures specified in Table 8 or approved under 40 CFR Part 136.

3. Sediment Monitoring. The permittee must conduct sediment monitoring in accordance with the requirements specified in the attached Endangered Species Act (ESA) Monitoring Plan approved by NOAA Fisheries and USFWS. Sampling locations, numbers of samples, analytical methods, and timing of sampling will be specified in the Sampling Plan for ESA Monitoring.

J. Human Health Bioaccumulation Study

1. The permittee must conduct a bioaccumulation study of dioxin and furan accumulation in fish tissues.

   a. The permittee must collect adult fish for this study.

   b. The permittee must obtain scientific collection permits from the Idaho Department of Fish and Game (IDFG) and Washington Department of Fish and Wildlife (WDFW) for collection of fish. If the permittee's request is denied by IDFG or WDFW or is not granted in time to implement sampling activities as scheduled through no fault of its own, the permittee will not be in violation of the permit requirements. If the permittee's request is denied, the permittee must coordinate with EPA, IDFG and WDFW to develop alternative methods to acquire information germane to the protection of resident species from dioxin and furan accumulation and submit the alternative methods developed to the Regional Director, Office of Water and Watersheds. The permittee must comply with all terms and conditions of the scientific collection permits.

   c. The permittee must coordinate with the U.S. Fish and Wildlife Service and NOAA Fisheries to ensure that the incidental take statements applicable to the Endangered Species Act (ESA) monitoring portion of this permit also apply to this human health bioaccumulation study. The permittee must comply with all terms and conditions of the incidental take statements.

   d. The permittee must coordinate with EPA, the Confederated Tribes of the Umatilla, and the Nez Perce Tribe to determine appropriate sampling locations and representative species for fish collection. This coordination is to ensure that the species of fish chosen for collection are species commonly consumed by Tribal and recreational fishers. The permittee must collect fish from locations both upstream and downstream of the outfall. The permittee must prepare a sampling plan for the human health bioaccumulation study and submit the plan to EPA for approval by November 1, 2005.

   e. The permittee will analyze composite fish tissue samples from each sampling site. The sampling strategy for this study must be consistent with guidance provided in the document entitled:

Guidance for Assessing Chemical Contaminant Data for Use in Fish Advisories, Volume I: Fish Sampling and Analysis, Third Edition (EPA-823-B-00-007) or the most recent available edition of this document. For all fish species three replicate composite samples will be measured from each collection site. If sufficient numbers of fish cannot be collected from a sampling station to prepare the above composite samples, the permittee will consult with EPA to develop an alternative sampling or compositing scheme.

f. The permittee must analyze both whole body and fillet with skin composite sample tissues for percent lipids and the congeners of dioxins and furans listed in EPA Method 1613, Table 1.

2. The permittee must submit the bioaccumulation study report to the Director, Office of Water and Watersheds by January 10, 2007. The report must include:

a. a summarization of the fish tissue analytical results,

b. a discussion of sampling and laboratory methods, including QA/QC and data handling,

c. a human health risk assessment of the dioxin and furan congener concentrations observed in fish, to be performed using a Toxicity Equivalency Factor (TEF) methodology. In a TEF approach, the total concentrations of individual dioxin and furan congeners found in fish tissue samples are expressed as the toxic equivalent of the most toxic dioxin congener, which is 2,3,7,8-tetrachlorodibenzo-p-dioxin (2,3,7,8-TCDD). In general, the TEF approach involves the following steps:
   1. Measurement of the dioxin and furan congener concentrations in the fish samples.
   2. Multiplication of dioxin and furan congener concentrations in the tissue sample by the TEF developed by the World Health Organization (Van den Berg, 1998) for each congener to express the concentration in terms of 2,3,7,8-TCDD equivalents (TEQs).
   3. Addition of all of the TEQs calculated in step 2 to obtain the total TEQ concentration in the sample.
   4. Determination of the human exposure to dioxins and furans in the fish tissues, expressed in terms of TEQs. Human exposure is determined using the following equation:

Dose (mg/kg/day)= C x CR x ED/BW x AT
Where:
C = Concentration as TEQ (mg/kg)
CR = consumption rate (g/day)
EF = exposure frequency (days per year)
ED = exposure duration (years)
BW = body weight (kg)
AV = averaging time (years)

The permittee must use a consumption rate, exposure frequency, exposure duration, body weight and averaging time which are representative of subsistence fishing populations. If population-specific data are not available, the permittee must use the default values found in *Methodology for Deriving Water Quality Criteria for the Protection of Human Health* (EPA-822-B-00-004) and its companion technical support documents, including the default subsistence consumption rate of 142.4 g/day.

5. Combination of exposure from step 4 with EPA-verified toxicity information for 2,3,7,8-TCDD to estimate human health risks associated with consumption of fish.

d. a comparison of the sum of the individual dioxin and furan congener TEQs to the maximum allowable 2,3,7,8-TCDD equivalents (TEQs) of 6.2×10^{-5} µg/kg.

3. The permittee must complete up to three additional annual bioaccumulation studies if EPA determines that such studies are necessary.

a. Potlatch and EPA will meet on or before March 31, 2007 to discuss data collected during the initial study. EPA will evaluate the results of the initial study to determine whether and how many additional annual bioaccumulation studies are necessary.

b. For the additional studies, the permittee must collect fish species for which TEQ concentrations that exceed the maximum allowable TEQ of 6.2×10^{-5} µg/kg are observed in the initial study. EPA will determine if any additional species should be collected in the subsequent studies.

c. To the extent practicable, the permittee must collect fish from the same locations used for the initial study.

d. The permittee must submit the annual study reports to the Director,

Office of Water and Watersheds by January 10th of each year.

e. The final report, to be submitted by January 10, 2010, must include a trend analysis that compares annual average effluent concentrations and fish tissue concentrations at each sampling site.

K. Analytical Testing. For effluent parameters that do not have limitations in Table 1 and all surface water parameters in Table 7, the permittee must use analytical methods that can achieve the method detection limits (MDLs) provided in Table 8. The permittee may submit a written request for different MDLs than those provided in Table 8. The permittee may not use MDLs greater than those specified in Table 8 unless approved by EPA Region 10.

Table 8. Analytical Testing Requirements

Parameter	Units	MDL
Ammonia, Total as N	mg/L	1
Kjeldahl Nitrogen, Total	µg/L	50
Nitrate + Nitrite Nitrogen	µg/L	10
Orthophosphate	µg/L	10
Phosphorus, Total	µg/L	10
Chloroform	µg/L	1.6

L. Sample Preservation. The permittee must utilize the following sample preservation procedures for samples to be shipped to an off-site laboratory.

1. After collection, all samples will be stored and shipped in coolers packed with ice to maintain the sample at 4°C. Additional chemical preservation requirements are discussed below for each analytical parameter. Reagent grade chemicals will be used for preservation. Due to the corrosivity of these chemicals, personnel should always wear gloves when chemically preserving these samples. The amount of preservative added to each sample should be documented on a Preservation Log Sheet.

2. Chloroform.

   a. Samples of acid stage filtrate may require dechlorination using sodium thiosulfate. The acid stage filtrate is assumed to contain

free chlorine, at least intermittently. These samples will be dechlorinated by adding a few sodium thiosulfate crystals (10 mg) to each 40-milliliter vial prior to sample collection. Document the amount of preservative added in a preservation log book.

b. By pre-preserving the vial, rather than adding preservatives after the sample has been collected, a hermetic seal can be maintained on each vial after sample collection. Some samples to be analyzed for volatile organics will have to be poured out and collected in a new vial because they were not hermetically sealed. For this reason, plan to have extra pre-preserved vials at each sampling point, rather than taking preservatives to each sampling point.

3. Chlorinated Dioxins and Furans. Samples of acid stage filtrate may require dechlorination using sodium thiosulfate. Mill personnel will monitor the free chorine content of the acid stage filtrate prior to the collection of each sample aliquot. If the aliquot contains free chlorine, 1.0 N sodium thiosulfate solution will be added to 1 liter of the sample aliquot before pouring the aliquot into the glass storage jar. The determination for free chlorine and the volume of sodium thiosulfate to use is discussed in item 2.c.12 of Section I.F.

4. Chlorinated Phenolic Compounds.

a. Samples to be analyzed for chlorinated phenolic compounds will be preserved with sulfuric acid. Samples of acid stage filtrate may also require dechlorination using sodium thiosulfate. Mill personnel will monitor the free chlorine content of the acid stage filtrate prior to the collection of each sample aliquot. If the aliquot contains free chlorine, 1.0 N sodium thiosulfate solution will be added to 1 liter of the sample aliquot before pouring the aliquot into the glass storage jar. The volume of thiosulfate used will be determined by an on-site test.

b. After sample collection for the 24-hour compositing period is complete, the sampler will take the glass storage jar to the staging area, mix the contents of the jar, and pour the sample from the storage jar into the appropriate sample containers.

c. To preserve a sample to be analyzed for chlorinated phenolic compounds, use a Pasteur pipette to add a few drops of sulfuric acid to each 1-liter amber glass bottle. Document the amount of preservative added in the preservation log book. Mix the acid with

the sample by drawing the sample into a second pipette and expelling this volume back into the sample jar, repeating this several times. Alternatively, the acid may be mixed with the sample by stirring with the pipette or capping the sample jar and inverting it.

d. After the acid is mixed with the sample, test the pH of the mixture by drawing a small volume into the pipette and placing a drop of sample on the 4-color pH test paper. Record the pH. If the pH is not between 2 and 3, add a larger dose of acid, document the amount of preservative added, mix the acid with the sample, and test and record the pH again. Repeat this procedure until either the pH is adjusted to between 2 to 3 or the volume of preservative added to the sample jar equals 5% of the sample volume (50 milliliters for a 1-liter jar).

e. Alternatively, samples may be preserved with sulfuric acid by adding a fixed volume of acid to the appropriate sample containers. The volume of acid to be added would be predetermined weekly, based on a titration of the composite sample with sulfuric acid. After adding the fixed volume of sulfuric acid to the sample containers, the sampler should verify that the pH of the acidified sample is between 2 to 3 and add additional sulfuric acid if needed. As discussed above, the sample should be acidified until either the pH is adjusted to between 2 to 3, or the volume of preservative added to the sample jar equals 5% of the sample volume.

5. Adsorbable Organic Halides (AOX).

a. Samples to be analyzed for AOX will be preserved with nitric acid. Samples of the acid stage filtrate may also require dechlorination using sodium thiosulfate. Mill personnel will monitor for the free chlorine content of the acid stage filtrate prior to the collection of each sample aliquot. If the aliquot contains free chlorine, 1.0 N soidium thiosulfate solution will be added to 1 liter of the sample aliquot before pouring the aliquot into the glass storage jar. The volume of sodium thiosulfate used will be determined by an on-site test.

b. After sample collection for the 24-hour compositing period is complete, the sampler will take the glass storage jar to the staging area, mix the contents of the jar, and pour the sample from the storage jar into the appropriate sample containers.

c. To preserve a sample to be analyzed for AOX, use a Pasteur pipette to add a few drops of nitric acid to each 500-milliliter amber glass bottle. Document the amount of preservative added in the preservation log book. Mix the acid with the sample by drawing the sample into a second pipette and expelling this volume back into the sample jar, repeating this several times. Alternatively, the acid may be mixed with the sample by stirring with the pipette or capping the sample jar and inverting it.

d. After the acid is mixed with the sample, test the pH of the mixture by drawing a small volume into the pipette and placing a drop of sample on the 4-color pH test paper. Record the pH. If the pH is not between 2 to 3, add a larger dose of acid, document the amount of preservative added, mix the acid with the sample, and test and record the pH again. Repeat this procedure until either the pH is adjusted to between 2 to 3 or the volume of preservative added to the sample jar equals 5% of the sample volume (25 milliliters for a 500-milliliter jar).

e. Alternatively, samples may be preserved with nitric acid by adding a fixed volume of acid to the appropriate sample containers. The volume of acid to be added would be predetermined weekly, based on a titration of the composite sample with nitric acid. After adding the fixed volume of nitric acid to the sample containers, the sampler should verify that the pH of the acidified sample is between 2 to 3 and add additional nitric acid if needed. As discussed above, the sample should be acidified until either the pH is adjusted to between 2 to 3, or the volume of preservative added to the sample jar equals 5% of the sample volume.

II. Special Conditions

A. Toxicity Reduction Evaluation (TRE) Requirements

1. The permittee must develop an initial investigation Toxicity Reduction Evaluation (TRE) Work Plan. The permittee must notify the Director, Office of Compliance and Enforcement in writing, that the TRE Work Plan is complete by July 1, 2005.

2. The TRE Work Plan must describe the steps the permittee intends to follow if toxicity is detected above the chronic toxicity trigger. The permittee must use EPA's guidance manual *Generalized Methodology for*

Conducting Industrial Toxicity Reduction Evaluations (TREs), EPA/600/2-88/070, in developing a TRE Work Plan for this facility. The TRE Work Plan must include, at a minimum, the following steps for conducting a TRE:

a. Information and Data Acquisition. Collect one sample approximately every two weeks over an eight-week period. Testing must commence within two weeks of receipt of the sample results that indicated the exceedance of the chronic toxicity trigger. These testing requirements may be modified based on consultation with the Director. If none of the additional tests indicates toxicity, then the permittee may return to the normal testing frequency specified in Table 1.

b. Performance Evaluation. Identify the facility's methods of maximizing in-house treatment efficiency of the effluent and good housekeeping practices.

c. Toxicity Identification Evaluation. Identify any investigation and evaluation techniques or actions that may be used to identify potential causes/sources of toxicity, effluent variability, and treatment system efficiency. Any TIE must be performed in accordance with EPA guidance manuals *Toxicity Identification Evaluation; Characterization of Chronically Toxic Effluents, Phase I* (EPA/600/6-91/005F), *Methods for Aquatic Toxicity Identification Evaluations, Phase II: Toxicity Identification Procedures for Samples Exhibiting Acute and Chronic Toxicity* (EPA/600/R-92/080), and *Methods for Aquatic Toxicity Identification Evaluations, Phase III: Toxicity Confirmation Procedures for Samples Exhibiting Acute and Chronic Toxicity* (EPA-600/R-92/081).

d. Toxicity Control. Develop actions that will be taken to mitigate the impact of the discharge and to prevent the recurrence of toxicity.

e. Schedule. Develop a schedule for the TRE.

B. Quality Assurance Plan (QAP) Requirements.

1. The permittee must develop a quality assurance plan (QAP) for all monitoring required by this permit. The plan must be completed and implemented by August 1, 2005. Any existing QAPs may be modified for use under this section. The permittee must submit a copy of the completed QAP to the Director, Office of Compliance and Enforcment by August 1, 2005.

2. The QAP must be designed to assist in planning for the collection and analysis of effluent and receiving water samples in support of the permit and in explaining data anomalies when they occur.

3. Throughout all sample collection and analysis activities, the permittee must use the EPA-approved QA/QC and chain-of-custody procedures described in *Requirements for Quality Assurance Project Plans* (EPA/QA/R-5) *and Guidance for Quality Assurance Project Plans* (EPA/QA/G-5). The QAP must be prepared in the format which is specified in these documents.

4. The permittee must address all appropriate required water monitoring in the QAP. At a minimum, the following information must be provided in the QAP:

    a. Sample locations (map and physical description, which includes station identification number, latitude, and longitude);

    b. Sample frequency;

    c. Sample handling, storage, transport, and Chain-of-Custody procedures;

    d. Parameters, preparation and analysis methods, detection and quantitation limits for each parameter, and volume of sample required for each analyte in each medium (i.e., water);

    e. Type and number of QC samples, spikes and replicates required for analysis (for precision accuracy);

    f. Retention or holding time;

g. QA/QC procedures for test methods;

h. Number of samples collected;

i. Volume of each sample collected;

j. Field test blanks;

k. Organizational responsibilities - who is responsible for QA/QC activities (i.e., who takes samples, who reviews the data analysis, etc.); and

l. Qualification and training of personnel conducting QA/QC activities;

m. Name(s), address(es), and telephone number(s) of the laboratories used or proposed to be used by the permittee.

5. The permittee is responsible for ensuring all material in the QAP is current and applicable. The permittee must amend the QAP whenever there is a modification in the sample collection, sample analysis, or conditions or requirements of the QAP.

6. The permittee must keep copies of the most current QAP on site and must make the QAP available to the Director, Office of Compliance and Enforcement and IDEQ upon request.

C. Best Management Practices (BMP) Plan Requirements.

1. Requirement to Develop a BMP Plan.

a. The permittee must prepare and implement a BMP Plan as soon as possible, but not later than November 1, 2005. The permittee must notify the Director, Office of Compliance and Enforcment, in writing, when the BMP plan is completed and implemented at the facility.

b. The permittee must base the BMP plan on a detailed engineering review as described in paragraphs c and d, below. The BMP plan must specify the procedures and the practices required for the mill to meet the requirements of paragraph II.C.2, the construction the mill determines is necessary to meet those requirements, including

a schedule for such construction, and the monitoring program (including statistically derived action levels) that will be used to meet the requirements of paragraph II.C.7. The BMP Plan must also specify the period of time that the mill determines the action levels established under paragraph II.C.6 may be exceeded without triggering the responses specified in paragraph II.C.7.

c. The permittee must conduct a detailed engineering review of the pulping and chemical recovery operations that includes, but is not limited to, process equipment, storage tanks, pipelines and pumping systems, loading and unloading facilities, and other appurtenant pulping and chemical recovery equipment items in spent pulping liquor, soap, and turpentine service, for the purpose of determining the magnitude and routing of potential leaks, spills, and intentional diversions of spent pulping liquors, soap, and turpentine during the following periods of operation:

(1) Process start-ups and shut downs;

(2) Maintenance;

(3) Production grade changes;

(4) Storm or other weather events;

(5) Power failures; and

(6) Normal operations.

d. As part of the engineering review, the permittee must determine whether the existing spent pulping liquor containment facilities are of adequate capacity for collection and storage of anticipated intentional liquor diversions with sufficient contingency for collection and containment of spills. The engineering review must also consider:

(1) The need for continuous, automatic monitoring systems to detect and control leaks and spills of spent pulping liquor, soap, and turpentine;

(2) The need for process wastewater diversion facilities to protect the wastewater treatment system from adverse

effects of spills and diversions of spent pulping liquors, soap, and turpentine;

(3) The potential for contamination of storm water from the immediate process areas; and

(4) The extent to which segregation and/or collection and treatment of contaminated storm water from the immediate process areas is appropriate.

2. Requirement to Implement BMPs. The permittee must implement the BMP Plan as soon as possible, but not later than November 1, 2005. The BMPs must be developed according to best engineering practices and must be implemented in a manner that takes into account the specific circumstances at the mill. The permittee must implement the following BMPs:

a. Return spilled or diverted spent pulping liquors, soap, and turpentine to the process to the maximum extent practicable as determined by the mill, recover such materials outside the process, or discharge spilled or diverted material at a rate that does not disrupt the receiving wastewater treatment system.

b. Establish a program to identify and repair leaking equipment items. This program must include:

(1) Regular visual inspections (e.g., once per day) of process areas with equipment items in spent pulping liquor, soap, and turpentine service;

(2) Immediate repairs of leaking equipment items, when possible. Leaking equipment items that cannot be repaired during normal operations must be identified, temporary means for mitigating the leaks must be provided, and the leaking equipment items repaired during the next maintenance outage;

(3) Identification of conditions under which production will be curtailed or halted to repair leaking equipment items or to prevent pulping liquor, soap, and turpentine leaks and spills; and

(4) A means for tracking repairs over time to identify those equipment items where upgrade or replacement may be warranted based on frequency and severity of leaks, spills, or failures.

c. Operate continuous, automatic monitoring systems that the mill determines are necessary to detect and control leaks, spills, and intentional diversions of spent pulping liquor, soap, and turpentine. These monitoring systems should be integrated with the mill process control system and may include, e.g., high level monitors and alarms on storage tanks; process area conductivity (or pH) monitors and alarms; and process area sewer, process wastewater, and wastewater treatment plant conductivity (or pH) monitors and alarms.

d. Establish a program of initial and refresher training of operators, maintenance personnel, and other technical and supervisory personnel who have responsibility for operating, maintaining, or supervising the operation and maintenance of equipment items in spent pulping liquor, soap, and turpentine service. The refresher training must be conducted at least annually and the training program must be documented.

e. Prepare a brief report that evaluates each spill of spent pulping liquor, soap, or turpentine that is not contained at the immediate area and any intentional diversion of spent pulping liquor, soap, turpentine, or other toxic substance that is not contained at the immediate area of the spill. The report must describe the equipment items involved; the circumstances leading to the incident; the effectiveness of the corrective actions taken to contain and recover the spill or intentional diversion; and plans to develop changes to equipment and operating and maintenance practices as necessary to prevent recurrence. Discussion of the spill reports must be included as part of the annual refresher training.

f. Establish a program to review any planned modifications to the pulping and chemical recovery facilities and any construction activities in the pulping and chemical recovery areas before these activities commence. The purpose of such review is to prevent leaks and spills of spent pulping liquor, soap and turpentine during the planned modifications, and to ensure that construction and supervisory personnel are aware of possible liquor diversions and

to prevent leaks and spills of spent pulping liquors, soap and turpentine during construction.

g. Install and maintain secondary containment (i.e., containment constructed of materials impervious to pulping liquors) for spent pulping liquor bulk storage tanks equivalent to the volume of the largest tank plus sufficient freeboard for precipitation. An annual tank integrity testing program, if coupled with other containment or diversion structures, may be substituted for secondary containment for spent pulping liquor bulk storage tanks.

h. Install and maintain secondary containment for turpentine bulk storage tanks.

i. Install and maintain curbing, diking or other means of isolating soap and turpentine processing and loading areas from the wastewater treatment facilities.

j. Conduct wastewater monitoring to detect leaks and spills, to track the effectiveness of the BMPs, and to detect trends in spent pulping liquor losses. Such monitoring must be performed in accordance with paragraph II.C.7.

k. Operate the primary clarifier as a continuous, rather than intermittent, dewatering operation to increase capture of TSS.

l. Add low dosages of chemicals (polymers) at a rate of 1-2 mg/L to enhance the capture of TSS in the primary clarifier.

m. Optimize nitrogen and phosphorous levels in the ASB to increase TSS capture in the ASB and reduce TSS discharged to the Snake River.

n. Implement the following three heat recovery projects in the Lewiston mill:

(1) Foul Condensate Heat Exchanger at No. 4 Power Boiler;

(2) Mill Water through No. 4 Turbine Generator Condenser; and

(3) Wood Products and Lurgi Condensate Return.

3. Amendment of BMP Plan.

   a. The permittee must amend the BMP plan within 90 days whenever there is a change in mill design, construction, operation, or maintenance that materially affects the potential for leaks or spills of spent pulping liquor, turpentine, or soap from the immediate process areas.

   b. The permittee must complete a review and evaluation of the BMP Plan five years after the first BMP Plan is prepared and, except as provided in paragraph B.3.a of this Section, once every five years thereafter. As a result of this review and evaluation, the permittee must amend the BMP Plan within 90 days of the review if the mill determines that any new or modified management practices and engineered controls are necessary to reduce significantly the likelihood of spent pulping liquor, soap, and turpentine leaks, spills, or intentional diversions from the immediate process areas, including a schedule for implementation of such practices and controls.

4. Review and Certification of BMP Plan. The BMP Plan, and any amendments, must be reviewed by the senior technical manager at the mill and approved and signed by the mill manager. Any person signing the BMP Plan or its amendments must certify to the Director under penalty of law that the BMP Plan (or its amendments) has been prepared in accordance with good engineering practices and in accordance with 40 CFR 430.03. The mill is not required to obtain approval from the Director of the BMP Plan or any amendments.

5. Record Keeping Requirements.

   a. The permittee must maintain on its facility premises a complete copy of the current BMP Plan and the records specified in paragraph C.5.b of this Section, and must make such BMP plan and records available to the Director, Office of Compliance and Enforcement or his or her designee or IDEQ for review upon request.

   b. The mill must maintain the following records for three years from the date they are created:

(1) Records tracking the repairs performed in accordance with the repair program described in paragraph C.1.b of this Section;

(2) Records of initial and refresher training conducted in accordance with paragraph C.1.d of this Section;

(3) Reports prepared in accordance with paragraph C.1.e of this Section; and

(4) Records of monitoring required by paragraphs C.1.i of this Section.

6. Establishment of Wastewater Treatment System Influent Action Levels.

a. The permittee must conduct a monitoring program, described in Section I.H, for the purpose of defining wastewater treatment system influent characteristics (or action levels), described in paragraph C.6.b of this Section, which will trigger requirements to initiate investigations on BMP effectiveness and to take corrective action.

b. By the date prescribed in paragraph C.8.b. of this Section, the permittee must complete an initial six-month monitoring program using the procedures specified in Section I.H and must establish initial action levels based on the results of that program. A wastewater treatment influent action level is a statistically determined pollutant loading determined by a statistical analysis of six months of daily measurements. The action levels must consist of a lower action level, which if exceeded will trigger the investigation requirements described in paragraph II.C.7, and an upper action level, which if exceeded will trigger the corrective action requirements described in paragraph II.C.7.

c. By the date prescribed in paragraph C.8.e. of this Section, the permittee must complete a second six-month monitoring program using the procedures specified in Section I.H and must establish revised action levels based on the results of that program. The initial action levels shall remain in effect until replaced by revised action levels.

d. Action levels developed under this paragraph must be revised using six months of monitoring data after any change in mill design, construction, operation, or maintenance that materially affects the potential for leaks or spills of spent pulping liquor, soap, or turpentine from the immediate process areas.

7. Monitoring, Corrective Action, and Reporting Requirements.

a. The permittee must conduct the monitoring required in Section I.H for the purpose of detecting leaks and spills, tracking the effectiveness of the BMPs, and detecting trends in spent pulping liquor losses.

b. Whenever monitoring results exceed the lower action level for the period of time specified in the BMP Plan, the permittee must conduct an investigation to determine the cause of such exceedance. Whenever monitoring results exceed the upper action level for the period of time specified in the BMP Plan, the permittee must complete corrective action to bring the wastewater treatment system influent mass loading below the lower action level as soon as practicable.

c. Although exceedances of the action levels will not constitute violations of an NPDES permit, failure to take the actions required by paragraph II.C.7.b as soon as practicable will be a violation.

d. The permittee must report to the Director, Office of Compliance and Enforcement the results of the daily monitoring conducted pursuant to paragraph II.C.7.a. Such reports must include a summary of the monitoring results, the number and dates of exceedances of the applicable action levels, and brief descriptions of any corrective actions taken to respond to such exceedances. Beginning in 2006, the permittee must submit an annual report by January 10th.

8. Compliance Deadlines. The permittee is required to meet the following deadlines:

a. Implement all BMPs specified in paragraph II.C.2 that do not require the construction of containment or diversion structures or the installation of monitoring and alarm systems not later than the effective date of this permit;

b. Establish initial action levels required by paragraph II.C.6.b not later than December 1, 2005;

c. Commence operation of any new or upgraded continuous, automatic monitoring systems that the mill determines to be necessary under paragraph II.C.2.c (other than those associated with construction of containment or diversion structures) not later than November 1, 2005;

d. Complete construction and commence operation of any spent pulping liquor, collection, containment, diversion, or other facilities, including any associated continuous monitoring systems, necessary to fully implement BMPs specified in paragraph II.C.2 not later than November 1, 2005;

e. Establish revised action levels required by paragraph II.C.6.c as soon as possible after fully implementing the BMPs specified in paragraph II.C.2, but not later than June 1, 2006.

D. Sampling Plan.

1. The permittee must develop a sampling plan for the monitoring studies in the attached Monitoring Plan and the surface water monitoring requirements of section I.I of this permit that are to be conducted in the first year and submit them to the Director, Office of Water by May 15, 2005.

2. Each calendar year, beginning in 2006, the permittee must develop and submit a sampling plan for the monitoring studies in the attached Monitoring Plan and the surface water monitoring requirements of section I.I of this permit that are to be conducted that year to the Director, Office of Water by January 10th.

3. At a minimum, the sampling plan must include:

   a. Sample collection protocols.

      (1) Sample locations (map and physical description, which includes station identification number, latitude, and longitude);

      (2) Sampling frequency;

(3) Sample handling, storage, transport, and Chain-of-Custody procedures;

(4) Number of samples to be collected;

(5) Volume of each sample to be collected; and

(6) Field test blanks.

c. Analytical protocols.

(1) Parameters, preparation and analysis methods, detection and quantitation limits for each parameter, and volume of sample required for each analyte in each medium (i.e., water);

(2) Type and number of QC samples, spikes and replicates required for analysis (for precision accuracy);

(3) Retention or holding time; and

(4) QA/QC procedures for test methods.

III. General Monitoring, Recording and Reporting Requirements

A. Representative Sampling (Routine and Non-Routine Discharges).

1. The permittee must ensure that samples and measurements taken for the purpose of monitoring are representative of the monitored activity.

2. In order to ensure that the effluent limits set forth in this permit are not violated at times other than when routine samples are taken, the permittee shall collect additional samples whenever any discharge occurs that may reasonably be expected to cause or contribute to a violation that is unlikely to be detected by a routine sample. The permittee shall analyze the additional samples for those parameters limited in Section I.B. of this permit that are likely to be affected by the discharge.

3. The permittee must collect such additional samples as soon as the spill, discharge, or bypassed effluent reaches the outfall. The samples shall be analyzed in accordance with Section III.C (“Monitoring Procedures”). The

permittee shall report all additional monitoring in accordance with Section III.D ("Additional Monitoring by Permittee").

B. Reporting of Monitoring Results.

1. If the monitoring result is greater than the method detection limit (MDL), the permittee must report the actual value on the DMR. If a value is less than the MDL, the permittee must report "less than [MDL value]" on the DMR. For the purposes of calculating monthly averages, zero may be used for values less than the MDL.

2. The permittee must submit the full report required under Section I.E. for each toxicity test, including the dates of sample collection and initiation of each test, the applicable toxicity trigger (see paragraph I.E.8), and the flow rate at the time of sample collection, to the Director, Office of Compliance and Enforcement with the DMR for the last month of the quarter (i.e., March, June, September, and December).

3. The permittee must submit surface water monitoring results (see paragraph I.I.2.e.) to the Director, Office of Compliance and Enforcement by January 10th each year.

4. The permittee must summarize monitoring results each month on the DMR form (EPA No. 3320-1) or equivalent. The permittee must submit these reports monthly, postmarked by the 10th day of the following month. The permittee must sign and certify all DMRs, and all other reports, in accordance with the requirements of Section V.E. ("Signatory Requirements") of this permit. The permittee must submit the legible originals of these documents to the Director, Office of Compliance and Enforcement, with copies to IDEQ at the following addresses:

United States Environmental Protection Agency, Region 10
Attn: PCS Data Entry Team
1200 Sixth Avenue, OCE-133
Seattle, Washington 98101

Idaho Department of Environmental Quality
Lewiston Regional Office
1118 F Street
Lewiston, Idaho 83501

C. Monitoring Procedures. The permittee must conduct monitoring according to test procedures approved under 40 CFR 136, unless other test procedures have been specified in this permit.

D. Additional Monitoring by Permittee.

1. If the permittee monitors any pollutant more frequently than required by this permit, using test procedures approved under 40 CFR 136 or as specified in this permit, the permittee must include the results of this monitoring in the calculation and reporting of the data submitted in the DMR.

2. Upon request by EPA Region 10, the permittee must submit results of any other sampling, regardless of the test method used.

E. Records Contents. The permittee must ensure that records of monitoring information include:

1. the date, exact place, and time of sampling or measurements;

2. the name(s) of the individual(s) who performed the sampling or measurements;

3. the date(s) analyses were performed;

4. the name(s) of the individual(s) who performed the analyses;

5. the analytical techniques or methods used; and

6. the results of such analyses.

F. Retention of Records. The permittee must retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this permit, copies of DMRs, a copy of this NPDES permit, and records of all data used to complete the application for this permit, for a period of at least five years from the date of the sample, measurement, report or application, or for the term of this permit, whichever is longer. This period may be extended by request of EPA Region 10 or IDEQ at any time.

G. Twenty-four Hour Notice of Noncompliance Reporting.

1. The permittee must report to EPA Region 10 at (206) 553-1846 and IDEQ at (208) 799-4370 the following occurrences of noncompliance by telephone within 24 hours from the time the permittee becomes aware of the circumstances:

   a. any noncompliance that may endanger health or the environment;

   b. any unanticipated bypass that exceeds any effluent limitation in the permit (See Section IV.F., "Bypass of Treatment Facilities");

   c. any upset that exceeds any effluent limitation in the permit (See Section IV.G., "Upset Conditions"); or

   d. any violation of a maximum daily discharge limitation for any of the pollutants in Table 1 of the permit requiring 24-hour reporting.

2. The permittee must also provide a written submission to EPA Region 10 at the address in paragraph III.B.4 within five days of the time that the permittee becomes aware of any event required to be reported under paragraph G.1 of this Section. The written submission must contain:

   a. a description of the noncompliance and its cause;

   b. the period of noncompliance, including exact dates and times;

   c. the estimated time noncompliance is expected to continue if it has not been corrected; and

   d. steps taken or planned to reduce, eliminate, and prevent recurrence of the noncompliance.

3. The Director of the office of Compliance and Enforcement may waive the written report on a case-by-case basis if the oral report has been received within 24 hours by the NPDES Compliance Hotline in Seattle, Washington, by telephone, at (206) 553-1846.

4. The permittee must submit reports to the addresses in Section III.B ("Reporting of Monitoring Results").

H. Other Noncompliance Reporting. The permittee must report all instances of noncompliance not required to be reported within 24 hours, at the time that monitoring reports for Section III.B ("Reporting of Monitoring Results") are

submitted. The reports must contain the information listed in Section III.G ("Twenty-four Hour Notice of Noncompliance Reporting") of this permit.

I. Changes in Discharge of Toxic Substances.

1. The permittee must notify the Director, Office of Water and Watersheds, and IDEQ as soon as it knows, or has reason to believe:

   a. That any activity has occurred or will occur that would result in the discharge, on a **routine or frequent** basis, of any toxic pollutant that is not limited in the permit, if that discharge may reasonably be expected to exceed the highest of the following "notification levels":

      (1) One hundred micrograms per liter (100 µg/l);

      (2) Two hundred micrograms per liter (200 µg/l) for acrolein and acrylonitrile; five hundred micrograms per liter (500 ug/l) for 2,4-dinitrophenol and for 2-methyl-4, 6-dinitrophenol; and one milligram per liter (1 mg/l) for antimony;

      (3) Five (5) times the maximum concentration value reported for that pollutant in the permit application in accordance with 40 CFR 122.21(g)(7); or

      (4) The level established by EPA Region 10 in accordance with 40 CFR 122.44(f).

   b. That any activity has occurred or will occur that would result in any discharge, on a **non-routine or infrequent** basis, of any toxic pollutant that is not limited in the permit, if that discharge may reasonably be expected to exceed the highest of the following "notification levels":

      (1) Five hundred micrograms per liter (500 µg/l);

      (2) One milligram per liter (1 mg/l) for antimony;

      (3) Ten (10) times the maximum concentration value reported for that pollutant in the permit application in accordance with 40 CFR 122.21(g)(7); or

(4) The level established by EPA Region 10 in accordance with 40 CFR 122.44(f).

2. The permittee must submit the notification to the Director, Office of Water and Watersheds, at the following address:

United States Environmental Protection Agency, Region 10
Attn: NPDES Permits Unit Manager
1200 Sixth Avenue, OWW-130
Seattle, Washington 98101

IV. Compliance Responsibilities

A. Duty to Comply. The permittee must comply with all conditions of this permit. Any permit noncompliance constitutes a violation of the Act and is grounds for enforcement action, for permit termination, revocation and reissuance, or modification, or for denial of a permit renewal application.

B. Penalties for Violations of Permit Conditions.

1. Civil Penalties. Pursuant to 40 CFR 19 and the Act, any person who violates Section 301, 302, 306, 307, 308, 318, or 405 of the Act, or any permit condition or limitation implementing any such Sections in a permit issued under Section 402, or any requirement imposed in a pretreatment program approved under Sections 402(a)(3) or 402(b)(8) of the Act is subject to a civil penalty not to exceed the maximum amounts authorized by Section 309(d) of the Act and the Federal Civil Penalties Inflation Adjustment Act (28 U.S.C. § 2461 note) as amended by the Debt Collection Improvement Act (31 U.S.C. § 3701 note) [currently $32,500 per day for each violation].

2. Administrative Penalties. Any person may be assessed an administrative penalty by the Administrator for violating Section 301, 302, 306, 307, 308, 318, or 405 of the Act, or any permit condition or limitation implementing any of such Sections in a permit issued under Section 402 of the Act. Pursuant to 40 CFR 19 and the Act, administrative penalties for Class I violations are not to exceed the maximum amounts authorized by Section 309(g)(2)(A) of the Act and the Federal Civil Penalties Inflation Adjustment Act (28 U.S.C. § 2461 note) as amended by the Debt Collection Improvement Act (31 U.S.C. § 3701 note) [currently $11,000 per violation, with the maximum amount of any Class I penalty assessed not to exceed $32,500]. Pursuant to 40 CFR 19 and the Act, penalties for

Class II violations are not to exceed the maximum amounts authorized by Section 309(g)(2)(B) of the Act and the Federal Civil Penalties Inflation Adjustment Act (28 U.S.C. § 2461 note) as amended by the Debt Collection Improvement Act (31 U.S.C. § 3701 note) [currently $11,000 per day for each day during which the violation continues, with the maximum amount of any Class II penalty not to exceed $157,500].

3. Criminal Penalties.

a. Negligent Violations. The Act provides that any person who negligently violates Section 301, 302, 306, 307, 308, 318, or 405 of the Act, or any condition or limitation implementing any of such Sections in a permit issued under Section 402 of the Act, or any requirement imposed in a pretreatment program approved under Section 402(a)(3) or 402(b)(8) of the Act, is subject to criminal penalties of $2,500 to $25,000 per day of violation, or imprisonment of not more than one year, or both. In the case of a second or subsequent conviction for a negligent violation, a person shall be subject to criminal penalties of not more than $50,000 per day of violation, or by imprisonment of not more than two years, or both.

b. Knowing Violations. The Act provides that any person who knowingly violates Section 301, 302, 306, 307, 308, 318, or 405 of the Act, or any condition or limitation implementing any of such Sections in a permit issued under Section 402 of the Act, or any requirement imposed in a pretreatment program approved under Section 402(a)(3) or 402(b)(8) of the Act, is subject to criminal penalties of $5,000 to $50,000 per day of violation, or imprisonment for not more than three years, or both. In the case of a second or subsequent conviction for a knowing violation, a person shall be subject to criminal penalties of not more than $100,000 per day of violation, or imprisonment of not more than six years, or both.

c. Knowing Endangerment. The Act provides that any person who knowingly violates Section 301, 302, 303, 306, 307, 308, 318, or 405 of the Act, or any condition or limitation implementing any of such Sections in a permit issued under Section 402 of the Act, and who knows at that time that he thereby places another person in imminent danger of death or serious bodily injury, shall, upon conviction, be subject to a fine of not more than $250,000 or imprisonment of not more than 15 years, or both. In the case of a

second or subsequent conviction for a knowing endangerment violation, a person shall be subject to a fine of not more than $500,000 or by imprisonment of not more than 30 years, or both. An organization, as defined in Section 309(c)(3(B)(iii) of the Act, shall, upon conviction of violating the imminent danger provision, be subject to a fine of not more than $1,000,000 and can be fined up to $2,000,000 for a second or subsequent convictions.

d. False Statements. The Act provides that any person who falsifies, tampers with, or knowingly renders inaccurate any monitoring device or method required to be maintained under this permit shall, upon conviction, be punished by a fine of not more than $10,000, or by imprisonment for not more than two years, or both. If a conviction of a person is for a violation committed after a first conviction of such person under this paragraph, punishment is a fine of not more than $20,000 per day of violation, or by imprisonment of not more than four years, or both. The Act further provides that any person who knowingly makes any false statement, representation, or certification in any record or other document submitted or required to be maintained under this permit, including monitoring reports or reports of compliance or non-compliance shall, upon conviction, be punished by a fine of not more than $10,000 per violation, or by imprisonment for not more than six months per violation, or by both.

C. Need to Halt or Reduce Activity not a Defense. It shall not be a defense for the permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with this permit.

D. Duty to Mitigate. The permittee must take all reasonable steps to minimize or prevent any discharge in violation of this permit that has a reasonable likelihood of adversely affecting human health or the environment.

E. Proper Operation and Maintenance. The permittee must at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) that are installed or used by the permittee to achieve compliance with the conditions of this permit. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems only when the operation is necessary to achieve compliance with the conditions of the permit.

F. Bypass of Treatment Facilities.

1. Bypass not exceeding limitations. The permittee may allow any bypass to occur that does not cause effluent limitations to be exceeded, but only if it also is for essential maintenance to assure efficient operation. These bypasses are not subject to the provisions of paragraphs F.2 and F.3 of this Section.

2. Notice.

   a. Anticipated bypass. If the permittee knows in advance of the need for a bypass, it must submit prior notice, if possible at least 10 days before the date of the bypass.

   b. Unanticipated bypass. The permittee must submit notice of an unanticipated bypass as required under Section III.G ("Twenty-four Hour Notice of Noncompliance Reporting").

3. Prohibition of bypass.

   a. Bypass is prohibited, and the Director, Office of Compliance and Enforcement, may take enforcement action against the permittee for a bypass, unless:

      (1) The bypass was unavoidable to prevent loss of life, personal injury, or severe property damage;

      (2) There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate back-up equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass that occurred during normal periods of equipment downtime or preventive maintenance; and

      (3) The permittee submitted notices as required under paragraph F.2 of this Section.

   b. The Director, Office of Compliance and Enforcement, may approve an anticipated bypass, after considering its adverse effects, if the Director determines that it will meet the three conditions listed above in paragraph F.3.a of this Section.

G. Upset Conditions.

1. Effect of an upset. An upset constitutes an affirmative defense to an action brought for noncompliance with such technology-based permit effluent limitations if the permittee meets the requirements of paragraph G.2 of this Section. No determination made during administrative review of claims that noncompliance was caused by upset, and before an action for noncompliance, is final administrative action subject to judicial review.

2. Conditions necessary for a demonstration of upset. To establish the affirmative defense of upset, the permittee must demonstrate, through properly signed, contemporaneous operating logs, or other relevant evidence that:

   a. An upset occurred and that the permittee can identify the cause(s) of the upset;

   b. The permitted facility was at the time being properly operated;

   c. The permittee submitted notice of the upset as required under Section III.G ("Twenty-four Hour Notice of Noncompliance Reporting"); and

   d. The permittee complied with any remedial measures required under Section IV.D ("Duty to Mitigate").

3. Burden of proof. In any enforcement proceeding, the permittee seeking to establish the occurrence of an upset has the burden of proof.

H. Toxic Pollutants. The permittee must comply with effluent standards or prohibitions established under Section 307(a) of the Act for toxic pollutants within the time provided in the regulations that establish those standards or prohibitions, even if the permit has not yet been modified to incorporate the requirement.

I. Planned Changes. The permittee must give notice to the Director, Office of Water and Watersheds, at the address specified in paragraph III.I.2, and IDEQ as soon as possible of any planned physical alterations or additions to the permitted facility whenever:

1. The alteration or addition to a permitted facility may meet one of the criteria for determining whether a facility is a new source as determined in 40 CFR 122.29(b); or

2. The alteration or addition could significantly change the nature or increase the quantity of pollutants discharged. This notification applies to pollutants that are subject neither to effluent limitations in the permit, nor to notification requirements under Section III.I ("Changes in Discharge of Toxic Substances").

J. Anticipated Noncompliance. The permittee must give advance notice to the Director, Office of Compliance and Enforcement, and IDEQ of any planned changes in the permitted facility or activity that may result in noncompliance with this permit.

K. Removed Substances. Solids, sludges, or other pollutants removed in the course of treatment or control of water and wastewaters must be disposed of in a manner such as to prevent any pollutant from such materials from entering navigable waters.

V. General Provisions

A. Permit Actions. This permit may be modified, revoked and reissued, or terminated for cause as specified in 40 CFR 122.62, 122.64, or 124.5. The filing of a request by the permittee for a permit modification, revocation and reissuance, termination, or a notification of planned changes or anticipated noncompliance, does not stay any permit condition.

B. Duty to Reapply. If the permittee intends to continue an activity regulated by this permit after the expiration date of this permit, the permittee must apply for and obtain a new permit. In accordance with 40 CFR 122.21(d), and unless permission for the application to be submitted at a later date has been granted by the Regional Administrator, the permittee must submit a new application at least 180 days before the expiration date of this permit.

C. Duty to Provide Information. The permittee must furnish to the EPA Region 10 and IDEQ, within any reasonable time specified in the request, any information that the EPA Region 10 or IDEQ may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit, or to determine compliance with this permit. The permittee must also furnish to the EPA Region 10 or IDEQ, upon request, copies of records required to be kept by this permit.

D. Other Information. When the permittee becomes aware that it failed to submit any relevant facts in a permit application, or that it submitted incorrect information in a permit application or any report to the EPA Region 10 or IDEQ, it shall promptly submit such facts or information.

E. Signatory Requirements. All applications, reports or information submitted to the EPA Region 10 and IDEQ must be signed and certified as follows:

1. All permit applications must be signed as follows:

   a. For a corporation: by a responsible corporate officer.

   b. For a partnership or sole proprietorship: by a general partner or the proprietor, respectively.

   c. For a municipality, state, federal, or other public agency: by either a principal executive officer or ranking elected official.

2. All reports required by the permit and other information requested by the Director, Office of Compliance and Enforcement, the Director, Office of Watersheds,or IDEQ must be signed by a person described above or by a duly authorized representative of that person. A person is a duly authorized representative only if:

   a. The authorization is made in writing by a person described above;

   b. The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity, such as the position of plant manager, operator of a well or a well field, superintendent, position of equivalent responsibility, or an individual or position having overall responsibility for environmental matters for the company; and

   c. The written authorization is submitted to the Director and IDEQ.

3. Changes to authorization. If an authorization under paragraph V.E.2 of this Section is no longer accurate because a different individual or position has responsibility for the overall operation of the facility, a new authorization satisfying the requirements of paragraph V.E.2 must be submitted to the Director, Office of Compliance and Enforcement, and IDEQ prior to or together with any reports, information, or applications to be signed by an authorized representative.

4. Certification. Any person signing a document under this Section shall make the following certification:

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

F. Availability of Reports. In accordance with 40 CFR 2, information submitted to EPA Region 10 pursuant to this permit may be claimed as confidential by the permittee. In accordance with the Act, permit applications, permits and effluent data are not considered confidential. Any confidentiality claim must be asserted at the time of submission by stamping the words "confidential business information" on each page containing such information. If no claim is made at the time of submission, EPA Region 10 may make the information available to the public without further notice to the permittee. If a claim is asserted, the information will be treated in accordance with the procedures in 40 CFR 2, Subpart B (Public Information) and 41 Fed. Reg. 36924 (September 1, 1976), as amended.

G. Inspection and Entry. The permittee must allow the Director, Office of Compliance and Enforcement, IDEQ, or an authorized representative (including an authorized contractor acting as a representative of the Administrator), upon the presentation of credentials and other documents as may be required by law, to:

1. Enter upon the permittee's premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of this permit;

2. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;

3. Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this permit; and

4. Sample or monitor at reasonable times, for the purpose of assuring permit compliance or as otherwise authorized by the Act, any substances or parameters at any location.

H. Property Rights. The issuance of this permit does not convey any property rights of any sort, or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, nor any infringement of federal, state or local laws or regulations.

I. Transfers. This permit is not transferable to any person except after notice to the Director, Office of Water and Watersheds. The Director may require modification or revocation and reissuance of the permit to change the name of the permittee and incorporate such other requirements as may be necessary under the Act. (See 40 CFR 122.61; in some cases, modification or revocation and reissuance is mandatory.)

J. State Laws. Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities, or penalties established pursuant to any applicable state law or regulation under authority preserved by Section 510 of the Act.

K. Reopener. This permit may be reopened to modify the final BOD5 effluent limits that apply from June through November in accordance with the procedures of 40 CFR 122.62 should the Region be provided with sufficient information to substantiate the modification of these limits.

VI. Definitions

Act - The Clean Water Act.

Action level - A daily pollutant loading that, when exceeded, triggers investigative or corrective action. The permittee will determine action levels by a statistical analysis of six months of daily measurements collected at the mill. For example, the lower action level may be the 75th percentile of the running seven-day averages (that value exceeded by 24 percent of the running seven-day averages) and the upper action level may be the 90th percentile of the running seven-day averages (that value exceeded by 10 percent of the running seven-day averages).

Administrator - The Administrator of the EPA, or an authorized representative.

Adsorbable organic halides (AOX) - A bulk parameter that measures the total mass of chlorinated organic matter in water and wastewater. At pulp and paper mills, almost all of the AOX results from bleaching processes. Since dioxin, furan, chloroform, and the 12 regulated chlorinated phenolic pollutants are not measurable in effluent, AOX is used as a surrogate measure of the mass of dioxin, furan, and other chlorinated organic pollutants discharged by this industry.

Average monthly limit (AML) - The highest allowable average of "daily discharges" over a calendar month, calculated as the sum of all "daily discharges" measured during a calendar month divided by the number of "daily discharges" measured during that month.

Best management practices (BMP) - Schedules of activities, prohibitions or practices, maintenance procedures, and other management practices to prevent or reduce the pollution of waters of the United States. BMPs also include treatment requirements, operating procedures, and practices to control plant site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage areas.

Biocide - Toxic material for microbiological control.

Black liquor - Spent pulping liquor from the digester prior to its incineration in the recovery furnace of a sulfate (kraft) recovery process. It contains dissolved organic wood substances and residual active alkali compounds from the pulping process.

Bleach plant - All process equipment used for bleaching beginning with the first application of bleaching agents (e.g., chlorine, chlorine dioxide, ozone, sodium or calcium hypochlorite, or peroxide), each subsequent extraction stage, and each subsequent stage where bleaching agents are applied to the pulp. For mills producing specialty grades of pulp, the bleach plant includes process equipment used for the hydrolysis or extraction states prior to the first application of bleaching agents. Process equipment used for oxygen delignification prior to the application of bleaching agents is not part of the bleach plant.

Bleach sequence - The sequence in which chemicals are used to bleach pulp.

Bleached pulp - Pulp that has been purified or whitened by chemical treatment to alter or remove coloring matter and has taken on a higher brightness.

Bleaching - The process of further delignifying and whitening pulp by chemically treating it to alter the coloring matter in to impart a higher brightness.

Bleaching chemicals - A variety of chemicals used in the bleaching of pulp such as chlorine (Cl_2), sodium hypochorite (NaOCl), calcium hypochorite ($Ca(OCl)_2$), chlorine dioxide (ClO_2), peroxide (H_2O_2), oxygen (O_2), ozone (O_3), and others.

Bleaching stage - One of the unit process operations in which a bleaching chemical or combination of chemicals is added in the sequence of a continuous system of bleaching pulp.

BOD_5 - Five-day biochemical oxygen demand.

Bypass - The intentional diversion of waste streams from any portion of a treatment facility.

Chemical agent - Biocides or slimicides.

Chemical oxygen demand (COD) - A bulk parameter that measures the oxygen-consuming capacity of organic and inorganic matter present in water or wastewater. It is expressed as the amount of oxygen consumed from a chemical oxidant in a specific test.

Chronic toxic unit (TU_c) - A measure of chronic toxicity. TUc is the reciprocal of the effluent concentration that causes no observable effect on the test organisms by the end of the chronic exposure period (i.e., 100/NOEC).

Continuous monitoring - Successive, uninterrupted, discrete measurements at very short time intervals (e.g., less than one minute) as to constitute virtually an unbroken series such that the measurements appear continuous, except when undergoing automatic cleaning and calibration routines. Continuous monitoring is not intermittent or occasional measurements.

Daily discharge - The discharge of a pollutant measured during a calendar day or any 24-hour period that reasonably represents the calendar day for purposes of sampling. For pollutants with limitations expressed in units of mass, the "daily discharge" is calculated as the total mass of the pollutant discharged over the day. For pollutants with limitations expressed in other units of measurement, the "daily discharge" is calculated as the average measurement of the pollutant over the day.

Defoamer - Surface-active agent that inhibits the formation of foam or acts on foam or entrapped air to cause bubbles to break and allow air to escape.

Depth/spacially integrated - Collection of samples using an equal-width-increment (EWI) sampling method. The EWI method usually results in a composite sample that represents the discharge-weighted concentrations of the stream cross section being sampled. The EWI method is used to divide a selected cross section of a stream into increments having a specified width. The term vertical refers to that location within the increment at which the sampler is lowered and raised through the water column. EWI verticals are located at the midpoint of each width increment.

Dioxin - The dioxin congener 2,3,7,8-TCDD.

Director, Office of Compliance and Enforcement - The Director of the Office of Compliance and Enforcement, EPA Region 10, or an authorized representative.

Director, Office of Water and Watersheds - The Director of the Office of Water and Watersheds, EPA Region 10, or an authorized representative.

DMR - Discharge monitoring report.

EPA - The United States Environmental Protection Agency.

Equipment Items in Spent Pulping Liquor, Soap, and Turpentine Service - Any process vessel, storage tank, pumping system, evaporator, heat exchanger, recovery furnace or boiler, pipeline, valve, fitting, or other device that contains, processes, transports, or comes into contact with pulping liquor, soap, or turpentine. Sometimes referred to as “equipment items.”

Excursion - An unintentional and temporary incident in which the pH value of discharge wastewater exceeds the range set forth in this permit.

Fiber line - A series of operations employed to convert wood or other fibrous raw material into pulp. If the final product is bleached pulp, the fiber line encompasses pulping, de-knotting, brownstock washing, pulp screening, centrifugal cleaning, and multiple bleaching and washing stages.

Furan - The furan congener 2,3,7,8-TCDF.

Grab sample - An individual sample collected over a period of time not exceeding 15 minutes.

IDEQ - The Idaho Department of Environmental Quality.

Immediate process area - The location at the mill where pulping, screening, knotting, pulp washing, pulping liquor concentration, pulping liquor processing, and chemical recovery facilities are located, generally the battery limits of the aforementioned processes. The “immediate process area” includes spent pulping liquor storage and spill control tanks located at the mill, whether or not they are located in the immediate process area.

Influent - Mill wastes, water, and other liquids, which can be raw or partially treated, flowing into a treatment plant, reservoir, basin, or holding pond.

Intentional diversion - The planned removal of spent pulping liquor, soap, or turpentine from equipment items in spent pulping liquor, soap, or turpentine service by the permittee for any purpose including, but not limited to, maintenance, grade changes, or process shutdowns.

lb/day - Pounds per day.

Market pulp - Bleached or unbleached pulp in the form of bales or sheets for transfer or sale off site.

Maximum daily limit - The highest allowable "daily discharge."

Method Detection Limit (MDL) - The minimum concentration of a substance (analyte) that can be measured and reported with 99 percent confidence that the analyte concentration is greater than zero and is determined from analysis of a sample in a given matrix containing the analyte.

mgd - Million gallons per day.

µg/L - Micrograms per liter.

mg/L - Milligrams per day.

mg/day - Milligrams per day.

Mill - The owner or operator of a direct or indirect discharging pulp, paper, or paperboard manufacturing facility subject to this section.

Minimum level (ML) - the level (concentration) at which the entire analytical system gives recognizable signals and an acceptable calibration point.

NOEC – (no observed effect concentration). The NOEC is the highest concentration of toxicant (e.g., effluent) to which organisms are exposed in a chronic toxicity test [full life-cycle or partial life-cycle (short-term) test], that causes no observable adverse effects on the test organisms (i.e., the highest concentration of effluent in which the values for the observed responses are not statistically significantly different from the controls).

Outfall - The mouth of conduit drains and other conduits from which a mill effluent discharges into receiving waters.

Oxygen delignification - An extended delignification process used after pulping and brown stock washing and prior to bleaching. In this process, which can be used on both kraft and

sulfite pulps, oxygen gas is used in an alkaline environment to delignify pulp. Because oxygen delignification typically precedes the application of chlorine, oxygen delignification wastewaters can be rerouted to the pulping liquor recovery cycle.

pg/l – picograms per liter.

Pico – 10^{-12}

Pollutant or **pollutants -** Refers to any substance listed as toxic under Section 307(a)(1) of the Act, oil, as defined in Section 311(a)(1) of the Act, and any substance listed as hazardous under Section 311 of the Act.

Process wastewater - Process wastewater is any water that, during manufacturing or processing, comes into direct contact with or results from the production or use of any raw material, intermediate product, finished product, byproduct, or waste product. Process wastewater includes boiler blowdown; wastewaters from water treatment and other utility operations; blowdowns from high rater (e.g., greater than 98 percent) recycled non-contact cooling water systems to the extent they are mixed and co-treated with other process wastewaters; wastewater, including leachates, from landfills owned by pulp and paper mills if the wastewater is commingled with wastewater from the mill's manufacturing or processing facility; and storm waters from the immediate process Areas to the extent they are mixed and co-treated with other process wastewaters. Contaminated groundwaters from on-site or off-site groundwater remediation projects are not process wastewater.

Process water - Water used to dilute, wash, or carry raw materials, pulp, and any other materials used in the manufacturing process.

Production - (1) For TSS, the annual off-the machine production divided by the number of operating days during that year. Paper and paperboard production shall be measured at the off-the-machine moisture content. Market pulp shall be measured in air-dry tons (10% moisture); and (2) for AOX and chloroform, the annual unbleached pulp production entering the first stage of the bleach plant divided by the number of operating days during that year. Unbleached pulp production shall be measured in air-dried-metric tons (10% moisture) of brownstock pulp entering the bleach plant at the stage during which chlorine or chlorine-containing compounds are first applied to the pulp.

Pulp - A fibrous material produced by mechanically or chemically reducing woody plants into their component parts from which pulp, paper, and paperboard sheets are formed after proper slushing and treatment, or used for dissolving purposes (dissolving pulp or chemical cellulose) to make rayon, plastics, and other synthetic products.

QA/QC - Quality assurance/quality control.

Regional Administrator - the EPA Region 10 Regional Administrator or an authorized representative of the Regional Administrator.

Senior technical manager - The person designated by the mill manager to review the BMP Plan. The senior technical manager shall be the chief engineer at the mill, the manager of pulping and chemical recovery operations, or other such responsible person designated by the mill manager who has knowledge of and responsibility for pulping and chemical recovery operations.

Severe property damage - Substantial physical damage to property, damage to the treatment facilities which causes them to become inoperable, or substantial and permanent loss of natural resources which can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production.

Soap - The product of reaction between the alkali in kraft pulping liquor and fatty acid portions of the wood, which precipitate out when water is evaporated from the spent pulping liquor.

Spent pulping liquor - For kraft and soda mills, means black liquor that is used, generated, stored, or processed at any point in the pulping and chemical recovery processes.

Statistically significant increase - For the purposes of this permit, is a detected 25% change (increase) in the assimilative capacity between annual sampling events with a statistical Type I error (α) no greater than 0.05 and a statistical Type II error (β) no greater than 0.25.

s.u. - Standard units.

Trend Analysis - A comparison of one years data to previous years data. For example, the first trend analysis report would only contain the baseline information from the first year's data; the second trend analysis report would compare the first year's data with the second year's data; etc.

Turpentine - A mixture of terpenes, principally pinene, obtained by the steam distillation of pine gum recovered from the condensation of digester relief gases from the cooking of softwoods by the kraft pulping process.

Upset - An exceptional incident in which there is unintentional and temporary noncompliance with technology-based permit effluent limitations because of factors beyond the reasonable control of the permittee. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation.

Waste stream - Any non-de minimus stream of pollutants within the permitee's facility that enters any permitted outfall or navigable waters. This includes spills and other unintentional, non-routine or unanticipated discharges.

2,3,7,8-TCDD - 2,3,7,8-tetrachlorodibenzo-p-dioxin.

2,3,7,8-TCDF - 2,3,7,8-tetrachlorodibenzo-p-furan.

24-hour composite sample - a combination of discrete sample aliquots, collected at periodic intervals from the same location, during the operating hours of the facility over a 24-hour period. The sample aliquots must be collected and stored in accordance with procedures prescribed in this permit or the most recent edition of *Standard Methods for the Examination of Water and Wastewater*. For chloroform sampling, a 24-hour composite sample is defined as 6 grab samples collected every four hours in a 24-hour period and composited as recommended in EPA's *Kraft Pulp Mill Compliance Assessment Guide* (EPA/310-B-99-001). Alternatively, each chloroform grab sample may be analyzed separately and the results averaged to determine compliance with the daily maximum limit.

Attachment A: Endangered Species Act (ESA) Monitoring Plan Summary

The goal of monitoring requirements for ESA special studies is to provide data necessary to assist the U.S. Fish and Wildlife Service (USFWS) and NOAA's National Marine Fisheries Service (NOAA Fisheries), collectively termed the Services, in confirming the conclusions in their Biological Opinions (BOs) that the Mill's discharge does not jeopardize the continued existence of the listed species and/or adversely modify or destroy their critical habitat. Among the reasonable and prudent measures (RPMs) set forth in the BOs are ESA monitoring requirements designed to determine whether the actual effects on listed fish or wildlife species (if any) exceed the anticipated and authorized level of take.

"Take" means "to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct." In this context "harm" means an act (e.g. discharge of effluents) which actually kills or injures listed species. Such acts may include significant habitat modification or degradation when it actually kills or injures wildlife by significantly impairing essential behavioral patterns including breeding, feeding or sheltering. An RPM is a non-discretionary measure to minimize take that may or may not be part of the description of the proposed action. The ESA at Section 7(o)(2) removes the prohibition from any incidental taking that is in compliance with the terms and conditions specified in a Section 7(b)(4) incidental take statement. RPMs must be implemented as binding conditions for the exemption in Section 7(o)(2) to apply.

The terms and conditions associated with reasonable and prudent measure 3 in the NOAA Fisheries BO call for implementation of Conservation Measure 12 of EPA's Biological Evaluation of the Potlatch pulp and paper mill in Lewiston, Idaho along with some additional monitoring. Conservation Measure 12 is EPA's March 1, 2004 "Monitoring and Assessment Plan for Exposure and Effects of Effluents from the Potlatch Pulp and Paper Mill to ESA Listed Salmonids and their Habitats", hereinafter called the ESA Monitoring Plan. The full text of the ESA Monitoring Plan is Appendix 5 of the NOAA Fisheries BO and Appendix 6 includes NOAA's addendum to ESA Monitoring Plan

Neither this monitoring plan summary nor the ESA Monitoring Plan itself are intended to be a detailed sampling plan that describes all sampling locations, the number of samples to be collected, or a detailed schedule of monitoring tasks. It is the responsibility of Potlatch to prepare a sampling plan that provides the technical details of implementing the tasks described in this summary, as well as a schedule for performing the work. The contents of the sampling plan for ESA monitoring are specified in the NPDES permit for the facility. This more detailed sampling plan is required to be submitted to EPA by May 15, 2005.

This monitoring plan summary lists the studies EPA, NOAA Fisheries, and USFWS believes are necessary to meet the above goals, as well as providing a recommended approach and sequence for performing the various listed monitoring tasks. This sequencing includes modifications in tasks assigned to Tiers 1 and 2 agreed to by EPA

and Potlatch subsequent to the publication of the ESA Monitoring Plan in the NOAA Fisheries BO. The EPA, NOAA Fisheries, and USFWS all recognize that not all tasks discussed in this monitoring plan can or should be performed concurrently within the first year of the reissued NPDES permit, nor is that the intent. However, it is required that all Phase I monitoring will be completed within 2-3 years of Permit issuance and any Phase II monitoring deemed necessary by results of Phase I monitoring will be completed within the 5 year term of this NPDES permit.

The primary change between this monitoring plan summary and the more detailed monitoring plan previously provided to Potlatch by EPA is that benthic community structure studies have been switched from Tier 2 to Tier 1 of the ESA monitoring plan, while benthic invertebrate tissue analysis have been switched from Tier 1 to Tier 2 of the ESA studies. This switch was made to make the ESA monitoring plan consistent with the RPMs in the NOAA Fisheries BO on this NPDES permit, and Potlatch has agreed to these changes. Several studies discussed in the ESA monitoring plan that are more associated with Clean Water Act (CWA) (as opposed to ESA) monitoring activities, such as sampling of resident non-ESA listed fish for contaminants, have been removed from this summary.

The ESA specific monitoring tasks to be performed by Potlatch are listed in Table 1 of this summary, and are outlined below. The scheduling of tasks outlined in Table 1 is recommended, however, the final scheduling of tasks will be determined after discussions between EPA and Potlatch during the development of the ESA monitoring sampling plan to be submitted by Potlatch to EPA 30 days after the effective date of the final permit. The initial draft of the ESA monitoring sampling plan submitted to EPA should focus on, but not be limited to, the sediment deposition area delineation task described in Tier 1 of the ESA monitoring plan.

Tier 1 ESA Studies

1. ***High volume water analyses*** – Collection of large (e.g. 400 liter) water samples from effluent and downstream locations, with subsequent filtration and passing of the filtered water through a resin column, to permit detection of organic contaminants in water at concentrations below toxicity benchmarks for surface water.
2. ***TSS Characterization Study*** – The concentration of total suspended solids (TSS) in the final effluent will be measured daily as a Clean Water Act requirement, implemented by the Cluster Rule (40 CFR Part 430) and the NPDES permit. The special ESA monitoring includes further analysis of the physical and chemical characteristics of effluent TSS, including particle size distribution, density and organic carbon content. These data will be used in combination with the high volume/low detect limit sampling to determine the total concentration of dioxins and furans, chlorinated phenolic organic compounds (CPOCs) retine, resin acids, and phytosterols.
3. ***Sediment deposition area identification*** – Identification of bedded sediment depositional areas with relatively high amounts of fine-grained sediment, with a

relatively high organic carbon content. Information from this task will be used to define areas for subsequent benthic community analyses and those areas likely to contain elevated chemical contaminant concentrations. Findings from this task may also identify areas where deposition of suspended solids released in the effluent is sufficient to alter critical habitat and adversely impact prey sources for the listed species.

4. ***Sediment chemistry analyses*** – Chemical analysis of sediments to measure magnitude and downstream extent of elevated sediment concentrations of effluent contaminants.
5. ***Benthic community composition study*** – Evaluation of benthic macroinvertebrate community composition and structure, to identify effluent related shifts in fish species prey item abundance and species composition.
6. ***Juvenile salmon exposure and health study*** – Direct evaluation of potential bioaccumulation of contaminants and associated measures of exposure and fish health in sub-yearling outmigrating chinook salmon.
7. ***Caged mussel bioaccumulation study*** – Measure of effluent chemical bioaccumulation by invertebrates in the water column, and a measure of direct effluent effects on mussel growth.

After completion of the Tier 1 studies, their results will be evaluated to determine whether some or all of the following Tier 2 studies are required to further evaluate whether Potlatch's effluent discharge results in take of ESA listed species in excess of the authorized level of take. An interpretive framework for the Tier 1 studies, using a multiple lines of evidence approach to be agreed upon by EPA and Potlatch, will be used to determine which, if any, Tier 2 studies are performed, as well as the reaches of river in which Tier 2 studies will be performed. Lines of evidence to be evaluated include frequency and magnitude of exceedance of toxicity benchmarks in water, sediment and biological tissue, significant differences in monitored parameters upstream and downstream of the Potlatch outfall, and any direct observations or measures of adverse effects to monitored species. The interpretive framework for the ESA studies is intended to provide an adaptive management approach for evaluation of the ESA monitoring results, permitting the ESA monitoring tasks, sequencing and schedule to be modified as appropriate and agreed to by EPA, the Services and Potlatch based on the findings and conclusions of the earlier ESA monitoring studies. Potlatch, the Services and EPA will meet annually on or before March 31 each year of the permit to discuss data collected in the previous year and to determine the further studies necessary to complete Phase I and any Phase II studies that are deemed necessary by EPA.

Tier 2 ESA Studies

1. ***Adult steelhead exposure and health study*** – Chemical analyses of tissues and selected biomarker evaluations of the returning adult steelhead that tend to hold in the vicinity of the Snake-Clearwater confluence for 3-5 months prior to spawning, and which may be exposed to effluent contaminants. Triggered if Tier 1 juvenile salmon, caged mussels and/or resident adult fish of non-ESA species (sampled

primarily for human health concerns, not ESA related issues) show effluent chemicals in tissues above toxicity benchmarks.

2. ***Benthic invertebrate tissue analyses*** – Chemical analyses of benthic macroinvertebrates for effluent chemicals, triggered if either Tier 1 benthic community analysies and/or juvenile salmon tissue residues are significantly impacted by effluent chemicals.
3. ***Modified whole effluent toxicity (WET) testing*** – Longer term (i.e. greater than the standard 7-day duration) WET testing with fathead minnows. Triggered if studies of either juvenile salmon or adult steelhead indicate direct adverse effects of effluent.
4. ***Food web study*** – Model to evaluate potential for bioaccumulation of effluent related chemicals in ESA listed salmonids to levels that exceed toxicity benchmarks. Triggered if direct adverse effects to juvenile salmon and/or caged mussels are identified in Tier 1, or if chemical analyses of juvenile salmon and/or caged mussels from Tier 1 exceed toxicity benchmarks.
5. ***Sediment toxicity testing and sediment toxicity identification evaluation*** – Performed with the amphipod *Hyalella azteca* if benthic community composition study from Tier 1 shows alterations of the benthic invertebrate community potentially attributable to Potlatch effluent.

Several of the ESA monitoring tasks require comparison of the results of chemical analyses of water, sediment and tissues to toxicological benchmarks listed in Table 9 of the NOAA Fisheries Biological Opinion on the Potlatch NPDES permit. For ease of reference, Table 9 of the NOAA Fisheries Biological Opinion is recreated as Table 2 of this ESA monitoring summary.

Several other ESA related RPMs or Terms and Conditions are also presented in the NOAA Fisheries Biological Opinion. Some of these relate to water temperature, total suspended solids, biochemical oxygen demand and chemical oxygen demand. Other RPMs and Terms and Conditions relate to seepage of contaminants from the aeration and stabilization basin (ASB pond) into the Clearwater River. Monitoring required to meet these RPMs and Terms and Conditions is described in the main text of the NPDES permit and EPA's Biological Evaluation for the mill, and will not be discussed further in this ESA monitoring summary.

A potential confounding factor for some of the ESA monitoring tasks is proposed dredging of the navigation channel and other areas of the Snake and Clearwater Rivers by the U.S. Army Corps of Engineers during the course of the ESA studies. Potlatch, EPA, NOAA Fisheries and USFWS are all in agreement that if dredging of the Snake and Clearwater Rivers occurs during the ESA monitoring studies, monitoring tasks likely to be adversely impacted by dredging should be suspended.

EPA, NOAA Fisheries and the USFWS have jointly determined that if dredging does occur during the course of the ESA monitoring, the following ESA monitoring tasks should be suspended for one year.

ESA Monitoring Tier 1 Tasks Suspended for One Year Due to Dredging:

- Benthic invertebrate community survey
- Caged mussel bioaccumulation study
- Juvenile salmon exposure and health study

ESA Monitoring Tier 2 Tasks Suspended for One Year Due to Dredging:

- Benthic invertebrate tissue analysis
- Adult steelhead exposure and health
- Sediment toxicity studies
- Portions of the food web modeling study requiring field collections and chemical analyses of sediment and aquatic biota tissues

Collection of resident non-ESA fish species for evaluation of human health concerns from consumption of fish containing effluent chemicals would also be suspended for one year post dredging.

As of the issuance date of this NPDES permit, the date the dredging will take place is unknown. However, it is known that it will not take place during the winter of 2004-2005. The dredging is scheduled to take place between December and March whenever it does finally occur. This length of ESA monitoring task suspension and the rationale for the one year duration were provided to Potlatch in a letter from EPA dated December ??, 2004, with concurrence from NOAA Fisheries and the USFWS.

As noted earlier in this summary, not all of the Tier 1 ESA Monitoring Plan tasks can be performed concurrently. However, given the uncertainty regarding the dates the Corps of Engineers will actually perform the dredging and its potential confounding impact on some of the ESA Monitoring Plan tasks, EPA strongly recommends that as many Tier 1 monitoring tasks as possible be completed during the first year of the NPDES permit.

Table 1. Summary of ESA monitoring plan tasks.

Tier	Task	Task Duration and Evaluation Notes	Measurement Frequency	
			Temporal	Spatial
ESA Monitoring Special Studies – Tier 1 Studies				
1	Sediment deposition area identification	1st year of permit	One time	Snake-Clearwater confluence area to Lower Granite Dam
1	TSS characterization study	1st year of permit	Quarterly	Effluent
1	Effluent and receiving water high volume/low detection limit sampling	1st two years of permit, unless Tier 2 studies must be conducted.	Quarterly	Effluent, 6 downstream stations, 2 upstream stations
1	Sediment chemistry	To be completed within the first two years of permit, unless Tier 2 studies must be conducted.	One time	15-20 stations with 4 replicate samples at each station.
1	Benthic community composition study	1st or 2nd year of permit	One time	6 downstream stations 2 upstream stations
1	Juvenile salmon exposure and health	2nd year of permit	One time	LG Dam and hatchery are reference area
1	Caged bivalve study	1st year of permit	One time	6 downstream stations 2 upstream stations
ESA Monitoring Special Studies – Tier 2 Studies				
2	Adult steelhead exposure and health	3rd year of permit, assuming no significant difference between fall and late winter samples	October and February	Confluence area
2	Benthic invertebrate tissue analyses	2nd year of permit	One time	6 downstream stations 2 upstream stations
2	Modified WET (long-term salmonid or fathead minnow)	3rd and 4th years of permit	Quarterly	Effluent
2	Food web (benchmark) study	3rd and 4th years of permit	One time	Action Area
2	Sediment toxicity testing and toxicity identification	4th year of permit	One time	Likely locations are same as those used for benthic tissue analyses

Table 2. Toxicity benchmarks for Potlatch pulp mill chemicals.

Chemical	Water – Direct µg/L	Water – Indirect µg/L	Tissue mg/kg wbww	Sediment µg/kg OC	Effluent Baseline µg/L	Toxic Units in Water Unitless
Chloroform	12.4	27			710	57
2,4,5-Trichlorophenol	3.4	4.2	0.3	11,281	0.91	0.27
2,4,6-Trichlorophenol	7.3	2.7	0.3	39,722	0.91	0.12
2,3,4,6-Tetrachlorophenol	3.3	1.0	0.3	69,823	1.8	0.55
Pentachlorophenol	0.18	0.02	0.3	113,567	1.8	10
3,4,5-Trichlorocatechol	3.4	3.4	0.3	11,281	1.8	0.53
3,4,6-Trichlorocatechol	3.4	4.2	0.3	11,281	1.8	0.53
Tetrachlorocatechol	11.0	1.3	0.3	148,004	1.8	0.16
3,4,5-Trichloroguaiacol	7.5	4.5	0.3	80,471	1.8	0.24
3,4,6-Trichloroguaiacol	3.4	4.2	0.3	17,739	0.91	0.27
4,5,6-Trichloroguaiacol	3.4	0.5	0.3	1,471	0.91	0.27
Tetrachloroguaiacol	2.0	1.0	0.3	66,545	1.8	0.90
Trichlorosyringol	3.4	4.2	0.3	34,983	0.91	0.27
Chlorophenol toxic unit sum						14.1
Phytosterols	1.0					
Resin acids	1.0					
Retene	0.5			987,250		
Dioxins/Furans	pg/L		ng/kg wbww	ng/kg OC	pg/L	
2,3,7,8-TCDD	0.63		9 (TEQ)	381	3.65	58
2,3,7,8-TCDF	29.8		9 (TEQ)	955	11.6	0.4

OC = organic carbon. TEQ = Toxic EQuivalent for dioxins and furans. wbww = whole body wet weight. Fish tissue benchmarks are 0.3 mg/kg for direct effects and 1.6 mg/kg wet weight for indirect effects. Sum of toxic units must be used for chlorophenols. Sum of toxic units for chlorophenols = 14.1 for exposure to effluent. Value for phytosterols is based on β-sitosterol.