

UPDATED FACT SHEET FOR NPDES PERMIT WA-000080-9

FACILITY NAME: WEYERHAEUSER NR COMPANY, COSMOPOLIS MILL

Permit Modification for Reduced Monitoring during Mill Closure Phase

September 18, 2009

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INTRODUCTION

Weyerhaeuser NR Company’s Cosmopolis pulp mill is closed pending sale. Once the facility has been sold, the reduced monitoring requirements will cease, and the mill will be required to comply with the original permit. The permit is being amended to include reduced monitoring requirements while the requirements for monitoring. Please see page 27 for details.

The Federal Clean Water Act (FCWA, 1972, and later modifications, 1977, 1981, and 1987) established water quality goals for the navigable (surface) waters of the United States. One of the mechanisms for achieving the goals of the Clean Water Act is the National Pollutant Discharge Elimination System permits (NPDES permits), which is administered by the Environmental Protection Agency (EPA). The EPA has delegated responsibility to administer the NPDES permit program to the State of Washington on the basis of Chapter 90.48 RCW which defines the Department of Ecology's authority and obligations in administering the wastewater discharge permit program.

The regulations adopted by the State include procedures for issuing permits (Chapter 173-220 WAC), water quality criteria for surface and ground waters (Chapters 173-201A and 200 WAC), and sediment management standards (Chapter 173-204 WAC). These regulations require that a permit be issued before discharge of wastewater to waters of the state is allowed. The regulations also establish the basis for effluent limitations and other requirements which are to be included in the permit. One of the requirements (WAC 173-220-060) for issuing a permit under

the NPDES permit program is the preparation of a draft permit and an accompanying fact sheet. Public notice of the availability of the draft permit is required at least thirty days before the permit is issued (WAC 173-220-050). The fact sheet and draft permit are available for review (see Appendix A--Public Involvement of the fact sheet for more detail on the Public Notice procedures).

The fact sheet and draft permit have been reviewed by the Permittee. Errors and omissions identified in this review have been corrected before going to public notice. After the public comment period has closed, the Department will summarize the substantive comments and the response to each comment. The summary and response to comments will become part of the file on the permit and parties submitting comments will receive a copy of the Department's response. The fact sheet will not be revised. Comments and the resultant changes to the permit will be summarized in Appendix E--Response to Comments.

<u>GENERAL INFORMATION</u>									
Applicant	Weyerhaeuser NR Company								
Name and Address	Cosmopolis Pulp Mill, 1701 First Street, Cosmopolis, Washington 98537								
Type of Facility:	Magnesium based sulfite pulp mill								
SIC Code	2611								
Discharge Locations	<table style="width: 100%; border: none;"> <tr> <td style="width: 50%; text-align: center;">Outfall 001</td> <td style="width: 50%; text-align: center;">Outfall 002</td> </tr> <tr> <td style="text-align: center;">Waterbody's Name: Grays Harbor</td> <td style="text-align: center;">Chehalis River</td> </tr> <tr> <td style="text-align: center;">Latitude: 46° 57' 15" N.</td> <td style="text-align: center;">46° 57' 32" N.</td> </tr> <tr> <td style="text-align: center;">Longitude: 123° 51' 00" W.</td> <td style="text-align: center;">123° 45' 20" W.</td> </tr> </table>	Outfall 001	Outfall 002	Waterbody's Name: Grays Harbor	Chehalis River	Latitude: 46° 57' 15" N.	46° 57' 32" N.	Longitude: 123° 51' 00" W.	123° 45' 20" W.
Outfall 001	Outfall 002								
Waterbody's Name: Grays Harbor	Chehalis River								
Latitude: 46° 57' 15" N.	46° 57' 32" N.								
Longitude: 123° 51' 00" W.	123° 45' 20" W.								
Water Body ID Number	WA-22-0030 WA-22-4010								

BACKGROUND INFORMATION

DESCRIPTION OF THE FACILITY

HISTORY

The mill is located in Cosmopolis, Washington adjacent to the Chehalis River. The mill was constructed by Weyerhaeuser NR Company (Weyerhaeuser) in 1957 as a paper grade sulfite-processed pulp mill. In 1962, Weyerhaeuser began converting the mill to dissolving and specialty grade sulfite pulp. With the way that Weyerhaeuser operated the mill including the types of pulp produced, the mill was capable of producing 500 metric tons per day of dissolving and paper grade sulfite pulp. Weyerhaeuser announced the mill's pending closure in 2005, and stopped production in September 2006.

The mill was mothballed during the shutdown period through part of 2007. During 2006, a group of investors explored a venture to purchase the mill. The new purchasers of the mill have named the Cosmopolis mill "Cocidus High Purity Cellulos (Cocidus)." The Cocidus mill's owners are expected to restart operations in July 2007.

PROPOSED PERMIT AND FACTSHEET

We divided the descriptions within the factsheet into two sections where appropriate. Section one describes the operations and gives the historical view of how Weyerhaeuser operated the mill and what requirements the existing laws and the permit(s) imposed upon the mill's operations. Section two describes the operations and requirements that will apply to Cocidus. Weyerhaeuser submitted the permit application as part of the agreement in the Cocidus' offer. The permit will be issued to Weyerhaeuser. After the parties execute sale contract, Weyerhaeuser will notify us of the sale and the need to transfer the NPDES permit to Cocidus (the new Permittee). Ecology will change the name on the permit and Cocidus will become the Permittee of record.

INDUSTRIAL PROCESS

Section 1, Weyerhaeuser

The mill used a magnesium bisulfite cooking acid with free sulfur dioxide to produce the pulp in the past. The mill averaged 445 air dried metric tons per day (ADMTD) off of the machine products in the period from July 1, 2005 through June 30, 2006. The wood chips used in the pulping process were trucked from both company owned and privately-owned timberland. The mill used approximately 365,000 tons of hemlock, alder, and fir to make 191,000 short tons of paper and dissolving grade pulps.

A versatile bleaching process enabled the mill to produce a wide range of specialty pulps. The bleaching stages consisted of chlorine dioxide, oxygen, caustic soda, and hydrogen peroxide. Weyerhaeuser sold the pulp to manufacturers of such things as photographic paper, plastic molding compounds, acetate yarns, cigarette filters, air laid towels, and sanitary products. About

half of the mill production was sold to buyers outside of North America. The mill employed 282 people.

Since 1966 the mill has had secondary wastewater treatment. Weyerhaeuser expanded their secondary wastewater treatment system in 1972 and again in 1980. With the addition of the oxygen bleaching stage in 1990, the mill accepted a dioxin limit of 0.28 mg/day. In 1996, the mill applied for a notice of construction to build the Concentrated Oxygen Extraction Liquor (COEL) project. The project reduced VOC emissions to the air by 129 tons per year and reduced the influent biochemical oxygen demand (BOD₅) by 40,000 pounds per day into the secondary wastewater treatment system. This reduction of BOD₅ enhanced Weyerhaeuser's ability to maintain higher oxygen levels within the aeration basins of the secondary activated sludge system.

Section 2, Cocidus

The Cocidus mill will use the same process as described above with the same type of chemicals that Weyerhaeuser used to produce pulp during its tenure. The Cocidus mill's operators expect to produce 100 percent acetate grade pulp which they will sell to customers who will use the chemical pulp to make cigarette filter.

The acetate-grade pulp is the high end of the types of pulp that the Cocidus pulp mill is capable of making at the Cosmopolis Pulp mill. The Cocidus mill's operators plan to use a similar feed stock of wood chips (The chip supply is being negotiated at present.) The Cocidus mill's wastewater treatment system will be basically the same, but the operators plan to install more aerators or another type of aeration -- to augment the need for higher level oxygen needed to treat the load due to the increased production. The purchasers of the COEL liquor when Weyerhaeuser operated the mill may not be available to Cocidus. Weyerhaeuser is searching for taker of the COEL liquors for Cocidus mill. If no new purchaser or new ways to treat the COEL liquors can be found, the Cocidus mill will have to treat its COEL liquors on site -- putting a strain on the secondary wastewater treatment system. The Cocidus mill will also have to modify the secondary treatment system to accommodate the higher BOD load.

DISCHARGE OUTFALL

Section 1, Weyerhaeuser

Weyerhaeuser had two outfalls: one discharged the treated process wastewater (Outfall 001) and the other discharged stormwater, fresh water-treatment-system backwash, and freshwater overflow (Outfall 002). Outfall 001 discharged into the upper part of the south channel of Grays Harbor. The other outfall, Outfall 002, discharged into the Chehalis River upstream of the mill.

The mill pumped the process wastewater (from the pulping and washing processes) to four earthen aeration basins and to an unaerated storage lagoon when the pulp being produced measured high in BOD. The water from the four aerated basins discharged into two secondary clarifiers, where the secondary sludge settled. Weyerhaeuser either wasted the sludge and sent it to the recovery furnaces or returned it to the aeration basins. The effluent, about four million gallons per day (MGD), was disinfected and was mixed with the bleach plant effluent. The total

flow at this point was about 24 MGD. The treated wastewater was pumped via a 42 inch i.d. wood stave pipe to the Pond A pumping station located three miles west of the mill. The treated effluent was discharged into Grays Harbor through a diffuser system near Pond D.

Section 2, Cocidus

The Cocidus mill will use both outfalls and treat the wastewater, using the same treatment system.

SANITARY WASTEWATERS

All of the sanitary wastewater was and will be discharged into the City of Cosmopolis' collection system. The sanitary wastewater from the City of Cosmopolis' collection system was and will be discharged into the City of Aberdeen's collection system and treated by the City of Aberdeen's secondary wastewater treatment system. The sanitary wastewater discharges under the City of Aberdeen's NPDES permit.

PERMIT STATUS

The Department of Ecology issued the previous permit for this facility on September 30, 2003 and modified it on November 12, 2003. The previous permit placed effluent limitations on biochemical oxygen demand (BOD₅), total suspended solids (TSS), fecal coliform, and pH; on 2,3,7,8-tetrachlorodibenzo-p-dioxin (TCDD) and on absorbable organic halide (AOX); and it prescribed WET limits for outfall 001; and it limited the twelve chlorinated organics, 2,3,7,8-tetrachlorodibenzo-p-furan (TCDF), and 2,3,7,8-tetrachlorodibenzo-p-dioxin (TCDD) at the bleach plant prior to discharge into the outfall 001 train; and placed limits on BOD₅, Oil and Grease, pH, and fecal coliform discharged from outfall 002. The previous permit required Weyerhaeuser to monitor and record wastewater flows from outfalls 001 and 002.

An application for permit renewal was submitted to the Department on March 15, 2007 and accepted by the Department.

SUMMARY OF COMPLIANCE WITH THE PREVIOUS PERMIT

Ecology conducted a Class I inspection in August 2006 and a Class II inspection on March 28, 2006.

During the history of the previous permit, the Permittee had generally remained in compliance with its NPDES permit based on Discharge Monitoring Reports (DMRs) submitted to the Department. We verified compliance through inspections conducted by the Department. Weyerhaeuser exceeded their permit on few occasions when the mill limitations for total suspended solids (TSS), biochemical oxygen demand (BOD), and bioassays.

The mill had two daily maximum limit excursions for TSS in the past four years. One was noted in June 2004 and the other was in April 2005. The June 2004 excursion was due to biological growth in the sample line. The mill revised its schedule for cleaning the line and no further exceptions were noted. The April 2005 excursion occurred during a mill planned shut down when they overloaded the ash clarifier with respect to flow. Phone calls were made to the Permittee. No further action was taken due to the nature of these excursions. The mill had two

BOD exceedances in August 2005. One of these exceptions was from outfall 001 and the other was from outfall 002. The mill exceeded their BOD limit from outfall 002 in April 2004. Penalties for these exceedances were issued. Weyerhaeuser found toxicity in their effluent during the whole effluent toxicity (WET) characterization study.

WASTEWATER CHARACTERIZATION

The proposed wastewater discharge was characterized for the following regulated parameters from the revised permit application:

Table 1: Wastewater Characterization

	Outfall 001	Outfall 002
Parameter	Concentration	Concentration
Color	1,400 Alpha Color units	-
Fecal Coliform	19,069 #/100 ml	3700 #/100 ml
Sulfates	650 mg/L	-
Aluminum	0.69 mg/L	-
Barium	0.04 mg/L	-
Boron	0.07 mg/L	-
Iron	1.26 mg/L	-
Magnesium	98.6 mg/L	-
Manganese	1.26 mg/L	-
Titanium	0.04 mg/L	-
Copper	11.8 µg/L	1.2 µg/L
Chromium	7.7 µg/L	-
Lead	0.8 µg/L	-
Zinc	20.0 µg/L	-
Nickel	4.0 µg/L	0.6 µg/L

SEPA COMPLIANCE

There are no SEPA requirements related to issuance of the proposed permit.

PROPOSED PERMIT LIMITATIONS

Federal and State regulations require that effluent limitations set forth in a NPDES permit must be either technology-based or water quality-based. Technology-based limitations are based upon the treatment methods available to treat specific pollutants. Technology-based limitations are set

by regulations or developed on a case-by-case basis (40 CFR 125.3, and Chapter 173-220 WAC). Water quality-based limitations are based upon compliance with the Surface Water Quality Standards (Chapter 173-201A WAC), Ground Water Standards (Chapter 173-200 WAC), Sediment Quality Standards (Chapter 173-204 WAC) or the National Toxics Rule (Federal Register, Volume 57, No. 246, Tuesday, December 22, 1992). The more stringent of these two limits must be chosen for each of the parameters of concern. Each of these types of limits is described in more detail below.

The limits in this permit are based in part on information received in the application. The effluent constituents in the application were evaluated on a technology- based and/or water quality-basis. The limits necessary to meet the rules and regulations of the State of Washington were determined and included in this permit. Ecology does not develop effluent limits for all pollutants that may be reported on the application form as present in the effluent. Some pollutants are not treatable at the concentrations reported, are not controllable at the source, are not listed in regulations and do not have a reasonable potential to cause a water quality violation. Effluent limits are not always developed for pollutants that may be in the discharge but not reported as present in the application. In those circumstances the permit does not authorize discharge of the non-reported pollutants. Effluent discharge conditions may change from the conditions reported in the permit application. If significant changes occur in any constituent, as described in 40 CFR 122.42(a), the Permittee is required to notify the Department of Ecology. The Permittee may be in violation of the permit until the permit is modified to reflect additional discharge of pollutants.

DESIGN CRITERIA

In accordance with WAC 173-220-150 (1) (g), flows or waste loadings shall not exceed approved design criteria. The wastewater treatment system is designed to treat the wastewater load from the current production of pulp and to meet conditions within the NPDES permit. The future owners are evaluating the treatment system options to treat the projected loads. They may modify the system to treat the projected load if the evaluation shows a need for modifications.

TECHNOLOGY-BASED EFFLUENT LIMITATIONS OUTFALL 001

HISTORY OF EFFLUENT GUIDELINES USED IN PREVIOUS PERMITS

Technology-based limitations are set by regulations or developed on a case by case basis. The federal effluent guidelines for Best Practicable Control Technically available (BPT) were defined in Part 430 Subpart K for dissolving sulfite subcategory in the 1982 effluent guidelines. These guidelines were published in the federal register on November 18, 1982 and March 30, 1983. The federal effluent guidelines for best conventional pollutants Control Technology (BCT) for these categories were defined on December 17, 1986 to be the same as BPT previously defined in March 1983. BCT and BPT were defined more than ten years ago. With BCT and BPT being defined for more than ten years, it is Ecology policy to determine if they are still valid and if they can still be considered equivalent to all known and reasonable treatment (AKART) for these categories of paper making.

1998 EFFLUENT GUIDELINES

On April 15, 1998, the Environmental Protection Agency promulgated effluent guidelines for the bleached Kraft Papergrade and Soda subcategories and Papergrade Sulfite subcategory. The 1998 allowances for BOD and TSS in pounds per 1000 pounds of pulp produced for the above categories were set at the same values as the allowances in the effluent guidelines published in 1982.

THE TYPE OF TREATMENT REQUIRED IN THE GUIDELINES

Throughout the history of the effluent guidelines, secondary treatment (1982) has been the accepted standard for BOD and TSS removal. It is expected that in the immediate future this trend will continue as indicated by the guidelines promulgated on April 15, 1998.

TYPE OF PULPS MADE BY WEYERHAEUSER COMPANY'S COSMOPOLIS MILL

Section 1, Weyerhaeuser

The permittee's past production has been 88.9 percent dissolving grade (acetate (78.7 %), viscose (0%), and cellophane (10.2 %)) and 11.1 % paper grade sulfite pulps. The effluent guidelines for dissolving grade pulp made by the sulfite pulping process have not been promulgated as of this date. The 1998 effluent guidelines added specialty grade pulp as a subcategory of sulfite paper grade. The specialty grade of pulp is in between the former paper grade and dissolving sulfite pulp. The specialty grades sulfite pulp consists of those papergrade sulfite grade pulps where a significant portion of production is characterized by pulp with a high percentage of alpha cellulose and a high brightness sufficient to produce end products such as plastic molding compounds, saturating and laminating products, and photographic papers. Weyerhaeuser revisited the production at Ecology's request to determine whether any of its dissolving pulp fits the definition of the specialty grade paper. The result showed that 30% of their production fits the specialty grade definition. The other production types are 11% air laid (paper grade) and 59 percent dissolving grade. Ecology established limits for dioxins, furans, and the 12 chlorinated organics as well as the type of bleaching for the mill that produced dissolving grades of pulp.

DETERMINATION OF AKART FOR CONVENTIONAL POLLUTANTS

Weyerhaeuser appealed the BOD effluent allowances for dissolving acetate grades of pulp promulgated in 1982. Weyerhaeuser won and the BOD allowances were remanded back to EPA for reconsideration. As of this date, EPA has not acted on these guidelines. The acetate effluent guidelines for BOD cannot be used as guidelines to determine the limits for BOD without agreement with Weyerhaeuser. However, we are able to use the acetate effluent guidelines in determining AKART.

To determine AKART, we compared the type of treatment the wastewater underwent then and now, the pollution loading on the wastewater treatment system, and its capability of meeting the effluent guidelines. We were not able to separate the acetate grade pulp production from the other grades with respect to the treatment system performance. However, we compared the

overall performance of the treatment system with the calculated limits with the acetate-grade pulp included from the 1982 effluent guidelines. If the mill could meet the calculated limits at their current production rate and treatment performance level, then we can determine that the calculated limits are valid and are reasonable.

In 2001, Weyerhaeuser proposed that the allowances for conventional pollutants in the 1982 guidelines' allowances be used in the guidelines then being proposed by EPA. These pollutant allowances included the acetate-grade pulp allowances. The reasons that Weyerhaeuser was ready to accept the allowance for BOD defined in the 1982 guidelines was as follows: In 1978 when the Weyerhaeuser appealed, they were bleaching their pulp with elemental chlorine, hypochlorite, and other chemicals and using an aerated lagoon to treat their wastewater. At present the mill uses Elemental Chlorine Free bleaching (ECF) methods -- with oxygen bleaching/delignification on the produced pulp, and an activated sludge wastewater treatment plant (which provides better operational control) to treat its wastewater. Also, with the construction of the COEL project, the operators reduced the influent BOD into the secondary treatment system by 40,000 lbs. /day. The reduction is approximately 33 percent of the former influent BOD released to the secondary treatment system.

As the mill produced 88.9 percent dissolving grade pulps:

- Weyerhaeuser has been in compliance with their TSS limit except for two times during the terms of the permit.
- Weyerhaeuser met the BOD limit except for one time.
- The mill wastewater treatment system met the limits more than 99 % of the time.

Therefore, Ecology concludes that the discharge limits were reasonable.

DETERMINATION OF AKART FOR ACETATE GRADE PULP

Applying our best professional judgment we used the allowances for conventional pollutants (BOD, TSS, and pH published as the 1982 guidelines in 40 CFR Part 430 subpart K) for the dissolving grade of pulp. Further applying our best professional judgment, we determined that the allowances for BOD and TSS (also published in the 1982 effluent guidelines) for the acetate dissolving sulfite pulp production is equivalent to AKART for the following reasons:

- New effluent guidelines published on April 15, 1998 changed none of the conventional pollutants allowances for pulps made by the mill.
- Secondary treatment has been and is expected to remain the level of treatment that the effluent guidelines are based on.
- The mill proposed that the acetate pulp allowances for BOD in the dissolving pulp subcategory be used the new effluent guidelines being published by EPA.

- All other permits that have been issued or drafted by Ecology where the guidelines were not current determined that the 1982 effluent guidelines were equivalent to AKART for other categories of pulp production.
- The mill can comply with the proposed limits for all conventional pollutants.

Determination of AKART for the bleaching process used at the mill

EPA has indicated that it would not promulgate the effluent guidelines for the dissolving grades pulp mills in 2004. The EPA still have not promulgated any new guidelines in 2007. Without the effluent guidelines to help determine the type of process and treatment to be used in defining AKART, Ecology made the AKART determination for the dissolving sulfite pulp production with the aid of the 1998 effluent guidelines for the sulfite and Kraft paper grade, and in consultation with EPA staff at Region X and headquarters during the drafting of the current NPDES permit.

Available effluent guidelines define best available technology, economically achievable (BAT) for several processes similar, but not identical, to the process used by Weyerhaeuser's Cosmopolis pulp mill.

- Specialty paper-grade (sulfite mills producing pulp with an ISO brightness of 91) must use elemental chlorine free bleaching.
- Other papergrades of pulp made through the sulfite-pulping process must use totally chlorine free (TCF) bleaching.
- Pulp produced at Weyerhaeuser Cosmopolis mill consists of 30 % specialty grade pulp, 11 % air laid pulp with an ISO brightness of 91, and 59 % dissolving grade.

In establishing ECF as a standard for specialty grade pulp, the EPA determined that the desired quality of the final product could not be economically achieved by TCF technology. Dissolving grade pulp (almost pure alpha-cellulose) must have fewer impurities than specialty grade, a standard not likely to be achieved with TCF. And according to EPA, there were no other mills producing the mix of products output as the Cosmopolis mill, using TCF technology.

While Ecology would use no new or untried technology to define AKART, we did consider the existing oxygen delignification technology currently in use to supplement ECF technology. This process helps to reduce the amount of chlorine needed to achieve the desired product quality, which in turn, reduces the amount of chlorinated organics contamination in the final effluent. Ecology therefore defined AKART for Weyerhaeuser Company pulp mill at Cosmopolis, Washington as "ECF with oxygen bleaching/delignification" for all categories of pulp currently made there.

The 1998 guidelines specified monitoring and limitations for chlorinated organic compounds including dioxin for the sulfite specialty paper grade pulp made with ECF bleaching. The previous NPDES permit placed a mass limit of 0.28 mg/day on dioxin. [This mass limit was derived from a TMDL performed on the receiving water with the non-detect concentration of 10 ppq (pictogram per liter) showing compliance.] The 0.28 mg/day mass limit equates to a measured concentration below the detection limit for dioxin.

The 1998 guidelines placed a limit of 10 ppq on dioxins and furans (2,3,7,8 TCDD and 2,3,7,8-TCDF) for mills producing specialty grade pulp. The guidelines require compliance in the bleach plant effluent for 2,3,7,8 TCDD and 2,3,7,8-TCDF. We used the 1998 effluent guidelines limit (with the non-detect of 10 ppq) for 2,3,7,8 TCDD. We also kept the waste load allocation (WLA) mass limit in the proposed permit. The compliance point is at the bleach plant effluent. Meeting the nondetect at the bleach plant shows compliance with the final effluent mass limit.

There was no limit for 2,3,7,8-TCDF in the previous permit. The EPA and Weyerhaeuser sampled and analyzed for both 2,3,7,8 TCDD and 2,3,7,8-TCDF in the bleach plant effluent during the sampling for promulgating the sulfite pulping subcategory. In conversations with the EPA we heard that Weyerhaeuser's pulp mill at Cosmopolis was the best performer in the sulfite subcategory. At this time the mill cannot meet the nondetect limit of 10 ppq for 2,3,7,8-TCDF at the bleach plant discharge point. The 31.9 ppq limit for 2,3,7,8-TCDF in the bleached Kraft paper subcategory is the only other limit established for this compound in the 1998 effluent guidelines. Weyerhaeuser can meet the 31.9 ppq limit for 2,3,7,8-TCDF. Therefore, since Weyerhaeuser was the best performer of all sulfite mills, the limit of 31.9 ppq for 2,3,7,8-TCDF is placed in the proposed permit with compliance measured at the bleach plant effluent.

The 1998 effluent guidelines for the specialty grade of pulp production did not place limits on absorbable organic halides (AOX), but reserved a placeholder in the guidelines. The previous permit placed a performance limit on AOX. The previous permit placed a monthly average AOX limit of 2,180 lbs/day and a daily maximum AOX limit of 2,720 lbs/day based on the performance of the pulping process and the secondary wastewater treatment system. Ecology based the monthly average AOX limit on 99 percentile and the daily maximum AOX limit on 95 percentile from data submitted by the Permittee. Ecology considers the limits still valid and placed these limits in the proposed permit. When the EPA publishes the dissolving grade sulfite effluent guidelines, Ecology may reopen the permit and modify the limits for AOX.

The previous permits assigned limits for fecal coliform. Since the effluent is highly colored with light absorbing chemicals, the water has to be disinfected with chlorine containing compounds. Use of any type of light source does not disinfect the effluent because of its absorption by the colored chemicals within the effluent water. In fact it is unknown how much disinfection actually occurs since the final effluent shows a high BOD although within the permit limit. AOX can be formed during the disinfection with chlorine containing chemical used to control fecal coliform. So the proposed permit retains the monitoring requirements for 2,3,7,8 TCDD and for 2,3,7,8 TCDF. The frequency is yearly. Monitoring for 2,3,7,8 TCDD and TCDF in the sludge at the sludge lagoon was eliminated in the current permit. In lieu of this, a condition was placed in the current permit requiring the Permittee to monitor the secondary sludges for 2,3,7,8 TCDD and 2,3,7,8 TCDF yearly.

The 1998 effluent guidelines did not limit chloroform in the bleach plant effluent. However, the guidelines had a placeholder for chloroform. Since EPA 1998 effluent does not set allowances for chloroform, so the proposed permit only requires monthly monitoring for chloroform.

The 1998 effluent guideline placed limits for 12 chlorinated phenolic pollutants, dioxins, and furans for paper and specialty grades of pulp produced by sulfite mills. Chlorinated phenolic pollutants limited for the specialty grade and paper grade produced at sulfite mills are as follows:

Compounds	Method	Limit
Trichlorosyringol	1653	< 2.5 µg/L
3,5,6-Trichloroguaiacol	1653	< 5.0 µg/L
3,4,5-Trichlorocatechol	1653	< 2.5 µg/L
3,4,6-Trichlorocatechol	1653	< 2.5 µg/L
3,4,5-Trichloroguaiacol	1653	< 2.5 µg/L
3,4,6-Trichloroguaiacol	1653	< 2.5 µg/L
2,4,5-Trichlorophenol	1653	< 2.5 µg/L
2,4,6-Trichlorophenol	1653	< 2.5 µg/L
Tetrachlorocatechol	1653	< 5.0 µg/L
Tretachloroguaiacol	1653	< 5.0 µg/L
2,3,4,6-Tetrachlorophenol	1653	< 2.5 µg/L
Pentachlorophenol	1653	< 5.0 µg/L

The proposed permit imposes chlorinated phenolic pollutants limits because Weyerhaeuser made these types of pulp in significant quantity.

Section 2, Cocidus

Cocidus will make acetate-grade of pulp (a dissolving grade of pulp), exclusively. Ecology's arguments for using the effluent guidelines in determining AKART for the dissolving grades of pulp apply to the Cocidus mill since Weyerhaeuser operated the mill as a significant producer of acetate pulp. To make acetate grade of pulp, Cocidus will use the bleaching process already in place at Weyerhaeuser's mill. Therefore, the present bleaching process uses all known and reasonable treatment (AKART) during production. Further, Ecology rolled all of the monitoring and limits in the current permit into proposed permit with the same frequency, included the requirement for a best management practices (BMP) - CFR 430.03 - for spent pulping liquor.

The proposed permit provides a compliance date of three years after the effective date of the permit for complying with CFR 430.03 requirements. Ecology considers these proposed permit limits are close to the expected limitation of the effluent guidelines requirements (if and when they are promulgated). The effluent guidelines required Weyerhaeuser to be in with the bleaching requirements three years after the effluent guidelines are promulgated. Because so few sulfite mills are operating at the time, we don't expect the effluent guidelines to be promulgated in the near future. Therefore, Ecology will require that the Cocidus Mill's bleaching system to meet the existing Subpart S requirements three years after the effective date of the permit. Order Number 2484 required Weyerhaeuser to be in compliance with the bleaching requirements of 40 CFR Part 63, Subpart S on or before November 12, 2006. Order Number 2484 will be modified

to require the new owner to be in compliance with the bleaching requirements three years after the effective date of the proposed permit. Since the 12 chlorinated phenolic pollutants, dioxin, and furan limits and the type of bleaching that was in placed in the current permit when Weyerhaeuser operated the mill related to the production of specialty grade of pulp, it would be backsliding to relax these limits.

The monthly average and the daily maximum limit for BOD and TSS using the forecasted production of 550 air dried short tons and the effluent guidelines proposed permit will be:

	Monthly Average	Daily Maximum
BOD ₅	29,040 Lbs/day	55,880 Lbs/day
TSS	41,855 Lbs/day	77,935 Lbs/day

The effluent guidelines for acetate grade pulp – pounds of pollutants per 1000 pounds production - are:

	Monthly Average	Daily Maximum
BOD ₅	26.4 Lbs/1000 lbs Production	50.8 Lbs/1000 lbs Production
TSS	38.05 Lbs/1000 lbs Production	70.85 Lbs/1000 lbs Production

TOTAL CHLORINE FREE (TCF) STUDY

Even though AKART in this proposed permit is defined as elemental chlorine free (ECF) bleaching, the Permittee is required to complete a total chlorine free (TCF) study to fulfill Ecology's commitment to determine whether requiring further reduction of chlorinated organic chemicals is reasonable. The proposed permit requires Cocardus to submit the TCF study three years after the effective date of the permit.

SURFACE WATER QUALITY-BASED EFFLUENT LIMITATIONS

In order to protect existing water quality and preserve the designated beneficial uses of Washington's surface waters, WAC 173-201A-060 states that waste discharge permits shall be conditioned such that the discharge meets established Surface Water Quality Standards. The Washington State Surface Water Quality Standards (Chapter 173-201A WAC) is a state regulation designed to protect the beneficial uses of the surface waters of the state. Surface water quality-based effluent limitations may be based on an individual waste load allocation (WLA) or on a WLA developed during a basin wide total maximum daily loading study (TMDL).

NUMERICAL CRITERIA FOR THE PROTECTION OF AQUATIC LIFE

"Numerical" water quality criteria are numerical values set forth in the State of Washington's Water Quality Standards for Surface Waters (Chapter 173-201A WAC). They specify the levels of pollutants allowed in receiving water while remaining protective of aquatic life. Numerical criteria set forth in the Water Quality Standards are used along with chemical and physical data for the wastewater and receiving water to derive the effluent limits in the discharge permit.

When surface water quality-based limits are more stringent or potentially more stringent than technology-based limitations, they must be used in a permit.

NUMERICAL CRITERIA FOR THE PROTECTION OF HUMAN HEALTH

The U.S. EPA has promulgated 91 numeric water quality criteria for the protection of human health that are applicable to Washington State (EPA 1992). These criteria are designed to protect humans from cancer and other disease and are primarily applicable to fish and shellfish consumption and drinking water from surface waters.

NARRATIVE CRITERIA

In addition to numerical criteria, "narrative" water quality criteria (WAC 173-201A-030) limit toxic, radioactive, or deleterious material concentrations below those which have the potential to adversely affect characteristic water uses, cause acute or chronic toxicity to biota, impair aesthetic values, or adversely affect human health. Narrative criteria protect the specific beneficial uses of all fresh (WAC 173-201A-130) and marine (WAC 173-201A-140) waters in the State of Washington.

ANTIDegradation

The State of Washington's Antidegradation Policy requires that discharges into receiving water shall not further degrade the existing water quality of the water body. In cases where the natural conditions of the receiving water are of lower quality than the criteria assigned, the natural conditions shall constitute the water quality criteria. Similarly, when the natural conditions of the receiving water are of higher quality than the criteria assigned, the natural conditions shall constitute the water quality criteria. More information on the State Antidegradation Policy can be obtained by referring to WAC 173-201A-070.

Ecology completed a total maximum daily load (TMDL) for fecal coliform in the receiving water 2003 and on January 30, 2004 the Environmental Protection Agency approved our findings. The fecal coliform bacteria limits in the NPDES permit we issued to Weyerhaeuser Cosmopolis in 2003, coordinated with the waste load allocations (WLA) in the TMDL for the Chehalis River and Grays Harbor to ensure that the fecal coliform levels met the water quality criteria for these water bodies. The NPDES permit limits and the TMDL WLAs for fecal coliform ensured that the mill's discharges would not degrade these water bodies outside the mixing zone. We found no indications that the water bodies would be degraded by any other pollutant discharged from the mill - except the whole effluent toxicity requirements - discussed later in the factsheet.

CRITICAL CONDITIONS

Surface water quality-based limits are derived for the waterbody's critical condition, which represents the receiving water and waste discharge condition with the highest potential for adverse impact on the aquatic biota, human health, and existing or characteristic water body uses.

MIXING ZONES

The Water Quality Standards allow the Department of Ecology to authorize mixing zones around a point of discharge in establishing surface water quality-based effluent limits. Both "acute" and "chronic" mixing zones may be authorized for pollutants that can have a toxic effect on the aquatic environment near the point of discharge. The concentration of pollutants at the boundary of these mixing zones may not exceed the numerical criteria for that type of zone. Mixing zones can only be authorized for discharges that are receiving all known, available, and reasonable methods of prevention, control, and treatment (AKART) and in accordance with other mixing zone requirements of WAC 173-201A-100. The wastewater treatment system at the mill is considered to be at AKART. Therefore, the mill is allowed to have a mixing zone(s).

The National Toxics Rule (EPA, 1992) allows the chronic mixing zone to be used to meet human health criteria.

DESCRIPTION OF THE RECEIVING WATER

The facility discharges to the Grays Harbor (Outfall 001) designated as a Class B marine water and the Chehalis River (Outfall 002) designated as a Class A fresh water respectively in the vicinity of the respective outfall. Other nearby point source outfalls includes the City of Hoquiam, Grays Harbor Paper Company, and the City of Aberdeen. Significant nearby non-point sources of pollutants includes log yards, stormwater discharges from Aberdeen and Hoquiam, farming and cattle ranches up river. Characteristic uses include the following: water supply (industrial, agricultural); stock watering; fish migration; fish and shellfish rearing, spawning and commercial harvesting; wildlife habitat; secondary contact recreation; sport fishing; boating and aesthetic enjoyment; commerce and navigation. Water quality of this class shall meet or exceed the requirements for most uses.

SURFACE WATER QUALITY CRITERIA

Applicable criteria are defined in Chapter 173-201A WAC for aquatic biota. In addition, U.S. EPA has promulgated human health criteria for toxic pollutants (EPA 1992). Criteria for this discharge are summarized below for the marine waters:

Fecal Coliforms	100 colonies/100 mL maximum geometric mean and not have more than 10 % of the all samples obtained for calculating the geometric mean value exceeding 200 colonies/100 mL
Dissolved Oxygen	5 mg/L minimum
Temperature	19 degrees Celsius maximum
pH	7.0 to 8.5 standard units
Turbidity	less than 10 NTU above background
Toxics	No toxics in toxic amounts (see Appendix C for numeric criteria for toxics of concern for this discharge)

and below for the freshwater:

Fecal Coliforms	100 colonies/100 mL maximum geometric mean and not have more than 10 % of the all samples obtained for calculating the geometric mean value exceeding 200 colonies/100 mL
Dissolved Oxygen	8 mg/L minimum
Temperature	18 degrees Celsius maximum
pH	6.5 to 8.5 standard units
Turbidity	less than 10 NTU above background
Toxics	No toxics in toxic amounts (see Appendix C for numeric criteria for toxics of concern for this discharge)

CONSIDERATION OF SURFACE WATER QUALITY-BASED LIMITS FOR NUMERIC CRITERIA

If any pollutant concentrations in the proposed discharges exceed water quality criteria with technology-based controls that the Department has determined to be AKART a mixing zone is authorized in accordance with the geometric configuration, flow restriction, and other restrictions for mixing zones in chapter 173-201A WAC and is defined as follows for outfall 001: The chronic dilution zone is 210 feet upstream and downstream of the diffuser except for the fecal coliform extended mixing zone. For fecal coliform the extended mixing zone is 1300 meters (4300 feet). The acute mixing zone is 21 feet upstream and downstream of the diffuser.

The dilution factors of effluent to receiving water that occur within these zones have been determined at the critical condition by the use of UDKHDEN computer model:

	Acute	Chronic		Extended
		Percentile receiving water speed		
		50 percentile	50 percentile (far field)	
Aquatic Life	9:1	74:1	83:1	
Human Health, Carcinogen		74:1		
Human Health, Non-carcinogen		74:1		
Extended mixing factor				250:1

The dilution ratio of 74:1 was used in the reasonable potential for chronic water quality and 83:1 for health quality criteria and temperature. Weyerhaeuser re-evaluated the dispersion factor and the tidal averaging used in the mathematical model to obtain the 83:1 dilution ratio. The dilution ratio of 83:1 was used for the temperature criteria. The acute factor was used to determine the ACEC. The 50 percentile (far field) was used to determine the CCEC.

For outfall 002 the chronic dilution zone is 210 feet and the acute mixing zone is 21 feet upstream and downstream of the discharge point. The dilution factors for the acute and chronic dilution factors are 4:1 and 34:1, respectively.

Pollutants in an effluent may affect the aquatic environment near the point of discharge (near field) or at a considerable distance from the point of discharge (far field). Toxic pollutants, for example, are near-field pollutants--their adverse effects diminish rapidly with mixing in the receiving water. Conversely, a pollutant such as BOD is a far-field pollutant whose adverse effect occurs away from the discharge even after dilution has occurred. Thus, the method of calculating surface water quality-based effluent limits varies with the point at which the pollutant has its maximum effect.

The derivation of surface water quality-based limits also takes into account the variability of the pollutant concentrations in both the effluent and the receiving water.

FECAL COLIFORM EXTENDED MIXING ZONE AND LIMIT

Weyerhaeuser outfall line (outfall 001) discharged wastewater upstream from commercial oyster beds. Ecology, Weyerhaeuser, Weyerhaeuser's consultants, and the Department of Health worked together to determine a fecal coliform limit to be placed into the Weyerhaeuser mill's latest permit. We derived the limit based on a die off study, using experimental data on the fate of the fecal coliform once discharged into Grays Harbor, and on a state of the art far field dilution model. The die-off study was performed by IEH, Inc. and the dilution study was performed by CH2MHill, Inc. The dilution model chosen was ADCIRC from the U S Army Corps of Engineers.

These studies, the depressions of the economy of Grays Harbor County due to mill closures, and with due considerations of the water quality and the total maximum daily load (TMDL) allowed to enter the Chehalis River and Grays Harbor estuary, an extended mixing zone with the corresponding dilution ratio helped us determine the amount of fecal coliform that Weyerhaeuser could safely discharged by via outfall 001. The extended mixing zone boundary was determined to be 4300 feet with a dilution ratio of 250:1. The corresponding permit limit was a 30 days geometric mean of 42,000 count/100 ml with no more than 10 percent exceeding 128,000 count/100 ml. These limits will continue in the proposed permit. Within the preceding four years, Weyerhaeuser has not violated the permit limit. There have been no indications that the oyster beds have been affected except for two one week closures. The Department of Health closed the harvesting of oysters within the area twice when Weyerhaeuser fecal coliform count exceeded their criteria – 113,000 count/100 ml.

Best management plan to control fecal coliform

During startup of the wastewater treatment system and of the mill, Weyerhaeuser filled the bioponds with fresh water before adding wastewater. Starting the bioponds with wastewater cause odors to be generated in the pond by anaerobic decomposition of the wastewater and high fecal counts in the effluent from the bioponds. To prevent odors and high fecal count, Weyerhaeuser was allowed to pump fresh water from the earth settling area near the bioponds preceding outfall 002 as needed before adding wastewater to any biopond at any time. The location of the pumps was confined to their property and primary treatment system. The water so pumped was discharged via outfall 001 instead of outfall 002. The amount of the water was insignificant as compared to the water normally discharged by either outfall 001 and/or outfall 002. This condition is kept in the proposed permit.

WATER QUALITY ANALYSES OUTFALL 001

BOD₅--Under critical conditions there is no predicted violation of the Water Quality Standards for Surface Waters. Therefore, the technology-based effluent limitation for BOD₅ was placed in the permit.

The BOD limits in the current permit were placed in the permit after a dissolved oxygen study was done while Rayonier, Inc. was operating and discharging wastewater with a high BOD. Since the study was done, Rayonier, Inc. ceased operating the pulp mill at Hoquiam, Washington. At this time Grays Harbor Paper, LP operates the paper mill. The main difference is that presently, the BOD limits for the paper mill is about 25 percent of the pulp and paper mill limit during Rayonier, Inc. tenure. The proposed permit will have a BOD daily maximum of 55,880 lbs/day. The Grays Harbor Paper, LP BOD daily maximum limit is 7,800 lbs/day. The total load would be 63,880 lbs/day. Outfall 001 is located in the south channel and Grays Harbor Paper Company, LP outfall is located in the North Channel. The two channels come together near the point of discharge during high tide. The dissolved oxygen was monitored downstream of the outfalls for many years without showing any depressions while Rayonier, Inc. and Weyerhaeuser were both operating their respective mills; namely, after both Weyerhaeuser and Rayonier, Inc. installed secondary wastewater treatment. Table 2 shows the monthly average and daily maximum limits for BOD when both Weyerhaeuser and Rayonier, Inc. were discharging and the discharge limits when both Cocidus and Grays Harbor Paper would be discharging. In 2006, Grays Harbor Paper, LP maximum BOD discharge was less than 3,000 lbs/day. Weyerhaeuser permit that was in effect during ITT Rayonier operations restricted the daily maximum BOD limit to 35,000 lbs/day during events when the receiving water flow was less than 2,000 cfs. Table 2 shows that combining the 35,000 lbs/day daily maximum limit with ITT Rayonier daily maximum limit for river flows less than 2,000 cfs would be less than the Cocidus projected limit plus Grays Harbor current BOD limit or a total of 63,880 lbs BOD/day. These numbers are practicably the same numbers. The technology limits will be placed in the permit without restrictions to the river flow. The difference in the daily maximum BOD limits for the two river flows is only 1.2 percent.

After Weyerhaeuser and ITT Rayonier installed secondary treatment, the mills noted no problems with dissolved oxygen during the years of monitoring dissolved oxygen in the Harbor. Therefore, it is very unlikely that the combined discharges of Cocidus and Grays Harbor Paper, LP would depress the dissolved oxygen low enough to harm fishes in Grays Harbor since the load would be approximately equal to the combined Weyerhaeuser and Rayonier.

Table 2. Discharge limits comparison

	Monthly Average	River flow <2000 cfs	River flow >2000 cfs	Monthly Average	River flow <2000 cfs	River flow >2000 cfs
		2006 – Past	2007- Future		2007- Future	2007- Future
		Daily Maximum	Daily Maximum		Daily Maximum	Daily Maximum
ITT Rayonier	14,580	27,923	27,923			
Weyerhaeuser Mill	23,900	35,000	45,791	29,040	55,123	55,880
Grays Harbor	38,480	62,923	73,714	4,000	7,800	7,800
				33,040	62,923	63,680

The daily maximum technology limit for BOD and daily maximum allowed when both Weyerhaeuser and Rayonier, Inc. were operating is essentially the same for all river flows. Therefore, the technology limit is placed in the permit without any restriction due to river flows.

Temperature--The impact of the discharge on the temperature of the receiving water was modeled by simple mixing analysis at the critical condition. The receiving water temperature at the critical condition is 19.0°C and the effluent temperature is 38 °C. We predict resultant temperature at the boundary of the chronic mixing zone is 19.22 °C. Ecology treats temperature criteria as a chronic criterion using the 50-percentile velocity of the receiving water current's speed, measured over one tidal cycle. Ecology approved treating temperature as a chronic criterion with the use of 50th percentile current velocity. Analyses of acute effects showed that salmonid smolts are very unlikely to be adversely affected by the short term increase in temperature within the receiving waters.

- Critical conditions results in no measurable temperature increase. The calculated increase of temperature is less than the 0.3 °C; Chapter 173-201A WAC, water quality rules, allows the benign increase.
- The dilution factor of the receiving water/effluent, calculated at 2 second after leaving the plume, is 5.7:1. The temperature of the receiving water at this point is 21.8 °C. The temperature of the receiving water is less than 33 °C.

Therefore, no effluent limitation for temperature was placed in the proposed permit. The Permittee is required to monitor and to report the measured daily maximum temperature of the effluent on its monthly discharge monitoring reports.

pH--Because of the high buffering capacity of marine water, compliance with the technology-based limits of 5 to 9 assures compliance with the Water Quality Standards for Surface Waters. The 1 SU exceptions to the pH in the current permit is placed in the proposed permit with the current permit time limitation.

Turbidity--The impact of turbidity was evaluated on the turbidity in the effluent and turbidity of the receiving water. Due to the large degree of dilution, we determined that the turbidity criteria would not be violated outside the designated mixing zone.

Toxic Pollutants--Federal regulations (40 CFR 122.44) require NPDES permits to contain effluent limits for toxic chemicals in an effluent whenever there is a reasonable potential for those chemicals to exceed the surface water quality criteria. This process occurs concurrently with the derivation of technology-based effluent limits. Facilities with technology-based effluent limits defined in regulation are not exempted from meeting the Water Quality Standards for Surface Waters or from having surface water quality-based effluent limits.

To determine the reasonable potential for copper, zinc, nickel, manganese, and lead to exceed the water quality criteria we used evaluation with procedures defined by EPA, 1991 at the critical conditions. All of the detected chemicals met the water quality criteria. The dioxin measured below the detection limit. We analyzed the reasonable potential for copper to exceed the criteria using the river samples taken by Grays Harbor Paper, L. P. in 2000 for dissolved copper and Weyerhaeuser Company's data for dissolved copper from August 1994. The proposed permit

has a waste load allocation limit for dioxin, a nondetected chemical species. The limit for dioxin at the bleach plant placed in the proposed permit fulfills the WLA for dioxin.

WHOLE EFFLUENT TOXICITY

The current permit required the Permittee to perform both acute and chronic characterization of their effluent. Weyerhaeuser appealed the WET requirements. Ecology issued an agreed compliance order on February 3, 2005 settling the appeal of the WET testing requirements in the NPDES permit. The settlement ordered Weyerhaeuser to perform a TI/RE. The results of the TI/RE revealed no reasonable methods of treatments that could remove enough toxicity from the effluent that would allow the mill to be in compliance with the chronic WET limit in their permit, i.e., that is, with respect to growth of oyster larvae. In the future, new technology may be discovered that could remove sufficient toxicity from dissolving sulfite effluent to allow compliance of the WET rules for sulfite mills. We will issue a compliance order when we issue the proposed NPDES permit.

The acute critical effluent concentration (ACEC) is 11.11 percent and the chronic critical effluent concentration (CCEC) is 1.35 percent. The proposed permit contains both acute and chronic WET testing requirements and limits at the percent effluents, respectively. The Permittee must investigate ways to be in compliance with the WET rule during the term of the permit and/or permitting process.

Table 3 WET Test Results

Sample Date	Start Date	Lab	Organism	Endpoint	NOEC	LOEC
	7/21/92	Weyerhaeuser Testing	<i>Ceriodaphnia dubia</i>	7-day Survival	100	> 100
				Reproduction	25	50
	7/21/92	Weyerhaeuser Testing	fathead minnow	7-day Survival	100	> 100
				Biomass	100	> 100
				Weight	100	> 100
9/28/92	9/29/92	CH2MHill	<i>Ceriodaphnia dubia</i>	7-day Survival	100	> 100
				Reproduction	50	75
	9/29/92	Weyerhaeuser Testing	fathead minnow	7-day Survival	100	> 100
				Biomass	100	> 100
				Weight	100	> 100
	1/19/93	Weyerhaeuser Testing	<i>Ceriodaphnia dubia</i>	7-day Survival	75	100
				Reproduction	12.5	25
	1/20/93	Weyerhaeuser Testing	fathead minnow	7-day Survival	50	75
				Biomass	25	50
				Weight	25	50
	5/4/93	Weyerhaeuser Testing	<i>Ceriodaphnia dubia</i>	7-day Survival	100	> 100
				Reproduction	50	100

	5/4/93	Weyerhaeuser Testing	Fathead minnow	7-day Survival	100	> 100
				Biomass	50	75
				Weight	50	75
5/23/94	5/25/94	Northwestern Aquatic Sciences	Pacific oyster	Proportion Normal Survival	2 9	4 18
9/19/94	9/20/94	Northwestern Aquatic Sciences	Pacific oyster	Proportion Normal Survival	1 70	2 > 70
11/29/94	11/29/94	Northwestern Aquatic Sciences	mussel	Proportion Normal Survival	2 35	4 70
2/28/95	3/1/95	Northwestern Aquatic Sciences	mussel	Proportion Normal Survival	2 70	4 > 70
1/14/04	1/14/04	Nautilus Environmental	mussel	Proportion Normal Survival	1.35 50	6.25 > 50
6/14/04	6/15/04	Nautilus Environmental	Pacific oyster	Proportion Normal Survival	< 1.35 1.35	1.35 6.25
9/27/04	9/28/04	Nautilus Environmental	<i>Ceriodaphnia dubia</i>	7-day Survival Reproduction	100 100	> 100 > 100
9/27/04	9/28/04	Nautilus Environmental	Atlantic mysid	7-day Survival Biomass Weight	25 11.1 11.1	50 25 25
9/27/04	9/28/04	Nautilus Environmental	fathead minnow	7-day Survival Biomass Weight	100 100 100	> 100 > 100 > 100
9/27/04	9/28/04	Nautilus Environmental	top smelt	7-day Survival Biomass Weight	25 25 25	50 50 50
10/18/04	10/19/04	Nautilus Environmental	mussel	Proportion Normal Survival	0.1 50	0.5 > 50
10/27/04	10/28/04	Nautilus Environmental	top smelt	7-day Survival Biomass Weight	25 11.11 50	50 25 > 50
10/27/04	10/28/04	Nautilus Environmental	Atlantic mysid	7-day Survival Biomass Weight	25 11.11 11.11	50 25 25

11/17/04	11/18/04	Nautilus Environmental	mussel	Proportion Normal Survival	0.1 50	0.5 > 50
5/11/05	5/12/05	Nautilus Environmental	Atlantic mysid	7-day Survival Biomass Weight	50 25 25	100 50 50
1/23/06	1/24/06	Nautilus Environmental	Atlantic mysid	7-day Survival Biomass Weight	50 25 25	100 50 50
1/25/06	1/26/06	Nautilus Environmental	mussel	Proportion Normal Survival	1.35 1.35	> 1.35 6.25
5/23/06	5/23/06	Nautilus Environmental	Atlantic mysid	7-day Survival Biomass Weight	25 11.11 25	50 25 50
7/24/06	7/25/06	Nautilus Environmental	Atlantic mysid	7-day Survival Biomass Weight	25 25 25	50 50 50

HUMAN HEALTH

Washington's water quality standards now include 91 numeric health-based criteria that must be considered in NPDES permits. These criteria were promulgated for the state by the U.S. EPA in its National Toxics Rule (Federal Register, Volume 57, No. 246, Tuesday, December 22, 1992). The Department has determined that the applicant's discharge does not contain chemicals of concern based on existing data or knowledge. The discharge will be re-evaluated for impacts to human health at the next permit reissuance.

A determination of the discharge's potential to cause an exceedance of the water quality standards was conducted as required by 40 CFR 122.44(d). The reasonable potential determination was evaluated with procedures given in the Technical Support Document for Water Quality-Based Toxics Control (EPA/505/2-90-001) and the Department's Permit Writer's Manual (Ecology Publication 92-109, July, 1994). The determination indicated that the discharge has no reasonable potential to cause a violation of water quality standards, thus an effluent limit is not warranted. The dioxin and furan limits are technology limitations.

SEDIMENT QUALITY

Sediment sampling was conducted on September 9, 1993. The Department has determined that this discharge has a low potential to cause a violation of the sediment quality standards based on a screening-level evaluation of the discharge(s) that shows the potential to cause sediment contamination is unlikely. Therefore, no sediment monitoring is required.

PREVIOUS LIMITATIONS FOR OUTFALL 002

Stormwater, fresh water-treatment-system-backwash, and freshwater overflow are discharged through Outfall 002. The previous permit had the following limitations:

EFFLUENT LIMITATIONS: OUTFALL # 002

Parameter	Minimum	Maximum
pH	5 SU - 1 SU for ≤ 60 minutes ²	9.0 SU + 1 SU for ≤ 60 minutes ²
Parameter	Monthly Average	Daily Maximum
Biochemical oxygen demand (BOD ₅)	-	500 Lbs./day
Oil and grease	10 mg/L	15 mg/L
Fecal coliform*	6,000 #/100 mL.	-

*With no more than 10 % of the samples used in calculating the geometric monthly mean to exceed 14,000 #/100 mL.

The proposed permit retains the BOD limit. The Fecal coliform limits are taken out of the proposed permit. The oil and grease limit was taken out since testing for over ten years has not detected the parameter.

Copper, zinc, and lead measured a great deal less than the bench marks for these chemicals in the general stormwater permit. No ammonia is introduced into the treatment system for outfall 002. Primary treatment is considered AKART for stormwater. Because the stormwater collected and discharged through outfall 002 receives primary treatment and is limited by the above limitations, no further stormwater testing is required. The discharge is mostly filter backwash from the water treatment plant. Therefore, the stormwater pollution prevention plan requirements are not placed in the permit since the permit has limits for BOD. Weyerhaeuser is required to monitor for BOD daily. The WET testing requirements are taken out of the proposed permit since there is very little process discharged via outfall 002. There was no toxicity found during the WET characterization monitoring.

GROUND WATER QUALITY LIMITATIONS

The Department has promulgated Ground Water Quality Standards (Chapter 173-200 WAC) to protect beneficial uses of ground water. Permits issued by the Department shall be conditioned in such a manner so as not to allow violations of those standards (WAC 173-200-100).

This Permittee has the potential to discharge to groundwater from the bioponds. However, the ponds are close to surface waters that discharged into the Permittee receiving waters. If the water in the bioponds discharged into ground water, the water would end up in the receiving water. Therefore, no limitations are required based on potential effects to ground water. The solid waste landfills near pond D are regulated by the county.

*COMPARISON OF EFFLUENT LIMITS WITH THE EXISTING PERMIT ISSUED
SEPTEMBER 30, 2003*

	Existing Limits	Proposed limits
BOD₅		
Monthly Average	23,800 lbs./day	29,040 lbs./day
Daily Maximum	45,800 lbs./day	55,880 lbs./day
TSS		
Monthly Average	36,100 lbs./day	41,855 lbs./day
Daily Maximum	67,000 lbs./day	77,935 lbs./day
Fecal coliform		
Monthly Geometric mean	42,000 count /100 ML ¹	42,000 count /100 ML ¹
Daily Maximum	-	-
pH		
Minimum w. exception	5 SU - 1 SU for ≤ 60 minutes ²	5 SU - 1 SU for ≤ 60 minutes ²
Maximum w. exception	9 SU + 1 SU for ≤ 60 minutes ²	9 SU + 1 SU for ≤ 60 minutes ²
Dioxin ³	10 ppq at Bleach plant effluent	10 ppq at Bleach plant effluent
2,3,7,8-TCDF	31.9 ppq at Bleach plant effluent	31.9 ppq at Bleach plant effluent
AOX		
Monthly Average	2180 lbs/day	2180 lbs./day
Daily Maximum	2720 lbs./day	2720 lbs./day
12 chlorinated phenolics	DL at Bleach plant effluent	DL at Bleach plant effluent
¹ With no more than 10 percent of the samples used in calculating the monthly geometric mean to exceed 128,000 count/100 mL. ² Total exceptions ≤ 7 hours 26 minutes per month ³ Compliance Nondetect at 10 ppq at final effluent		

MONITORING REQUIREMENTS

Monitoring, recording, and reporting are required (WAC 173-220-210 and 40 CFR 122.41) to verify that the treatment process is functioning correctly and the effluent limitations are being achieved. The monitoring schedule is detailed in the proposed permit under Condition S.2. Specified monitoring frequencies take into account the quantity and variability of the discharge, the treatment method, past compliance, significance of pollutants, and cost of monitoring.

Reduced Monitoring:

The proposed permit modification describes under what conditions the facility may suspend monitoring of the required parameters during mill outages. The following tables detail the reduced monitoring schedule when the facility is closed and no longer producing pulp. The facility must follow the original permit monitoring schedule upon start up of the facility.

Category	Parameter	Units	Sample Point	Minimum Sampling Frequency	Sample Type
Wastewater Effluent outfall 001	Flow	MGD	Final effluent	(a)	24 hr integrated
“	BOD ₅	mg/l	“	(b)	24 hr composite
“	TSS	mg/l	“	(b)	“
“	pH	Standard Units	“	(a)	Instantaneous
“	Temperature	Degree Centigrade	“	(d)	Instantaneous
“	AOX	mg/l	“	(d)	24 hr composite
“	2,3,7,8-TCDD	pg/L - ppq	“	(d)	“
“	2,3,7,8-TCDF	pg/L - ppq	“	(d)	“
“	Fecal coliform by MF method	#/100 mls	“	(c)	Grab
“	Chemical oxygen demand (COD)	mg/l	“	(d)	24 hr composite

Category	Parameter	Units	Sample Point	Minimum Sampling Frequency	Sample Type
Pulp machine room	Production	Tons/day	Off the machine	(d)	Calculated
Bleach plant effluent	2,3,7,8-TCDD	pg/L - ppq	Final Bleach plant effluent	(d)	24 hr composite
“	2,3,7,8-TCDF	pg/L - ppq	“	(d)	“
“	Trichlorosyringol	µg/l	“	(d)	“
“	4,5,6-Trichloroguaiacol	µg/l	“	(d)	“
“	3,4,5-Trichlorocatechol	µg/l	“	(d)	“
“	3,4,6-Trichlorocatechol	µg/l	“	(d)	“
“	3,4,5-Trichloroguaiacol	µg/l	“	(d)	“
“	3,4,6-Trichloroguaiacol	µg/l	“	(d)	“
“	2,4,5-Trichlorophenol	µg/l	“	(d)	“
“	2,4,6-Trichlorophenol	µg/l	“	(d)	“
“	Tetrachlorocatechol	µg/l	“	(d)	“
“	Tretachloroguaiacol	µg/l	“	(d)	“
“	Pentachlorophenol	µg/l	“	(d)	“
“	2,3,4,6-Tetrachlorophenol	µg/l	“	(d)	“
“	Chloroform	mg/l	“	(d)	24 hr composite
WET Testing (e)					

(a) Continuous monitoring as long as there is flow.

- (b) Daily monitoring for two weeks after ceasing pulp production. Weekly for week three through week six after ceasing pulp production and quarterly thereafter.
- (c) Daily monitoring for two weeks after ceasing pulp production. Weekly for week three through week six after ceasing pulp production. Monthly thereafter until aeration ponds 1-4 and spent sulfite storage ponds are flushed out and quarterly thereafter. If fecal coliform membrane filter test show more than 50,000 count/100 mL, the facility must resume daily testing until results are less than 50,000 count/100 mL for three consecutive days.
- (d) No further monitoring after ceasing pulp production.
- (e) Wet testing characterization for Acute and Chronic must be performed once between November 1, 2006, to December 15, 2006.

Category	Parameter	Units	Sample Point	Minimum Sampling Frequency	Sample Type
Outfall 002	Flow	MGD	Final Effluent	(g)(k)	
“	Fecal Coliform by FF method	#/100 mls	“	(h)(k)	Grab
“	BOD ₅	mg/l	“	(i)(k)	24 hour composite
“	Oil & Grease	Mg/l	:	(d)	Grab
“	pH	SU	“	(j)(k)	Instantaneous
WET Testing	(d)				

- (d) No further monitoring from date of ceasing pulp production.
- (g) Continuous monitoring for one year following date of ceasing pulp production.
- (h) No further monitoring after two months following date of ceasing pulp production.
- (i) No further monitoring after one month following date of ceasing pulp production.
- (j) Continuous monitoring for pH following the date of ceasing pulp production.
- (k) No monitoring for any parameter required from 0:00 hours September 25, 2006, to 24:00 hours September 29, 2006, for outfall 002.

Category	Parameter	Units	Sample Point	Minimum Sampling Frequency	Sample Type
Secondary sludge	2,3,7,8-TCDD	ng/L - ppt	Waste sludge line	(d)	Grab

- (d) No further monitoring from date of ceasing pulp production.

LAB ACCREDITATION

With the exception of certain parameters the permit requires all monitoring data to be prepared by a laboratory registered or accredited under the provisions of Chapter 173-50 WAC, *Accreditation of Environmental Laboratories*. The laboratory at this facility is accredited for: BOD, Fecal coliform membrane and MPN, pH, TSS, and dissolved oxygen membrane and Winkler methods.

OTHER PERMIT CONDITIONS

REPORTING AND RECORDKEEPING

The conditions of S3 are based on the authority to specify any appropriate reporting and recordkeeping requirements to prevent and control waste discharges (WAC 173-220-210).

NON-ROUTINE AND UNANTICIPATED DISCHARGES

Occasionally, this facility may generate wastewater which is not characterized in their permit application because it is not a routine discharge and was not anticipated at the time of application. These typically are waters used to pressure test storage tanks or fire water systems or leaks from drinking water systems. These are typically clean wastewaters but may be contaminated with pollutants. The permit contains an authorization for non-routine and unanticipated discharges. The permit requires a characterization of these wastewaters for pollutants and examination of the opportunities for reuse. Depending on the nature and extent of pollutants in this wastewater and opportunities for reuse, Ecology may authorize a direct discharge via the process wastewater outfall or through a stormwater outfall for clean water, require the wastewater to be placed through the facilities wastewater treatment process or require the water to be reused.

SPILL PLAN

The Department has determined that the Permittee stores a quantity of chemicals that have the potential to cause water pollution if accidentally released. The Department has the authority to require the Permittee to develop best management plans to prevent this accidental release under section 402(a)(1) of the Federal Water Pollution Control Act (FWPCA) and RCW 90.48.080. The Permittee has developed a plan for preventing the accidental release of pollutants to state waters and for minimizing damages if such a spill occurs. The proposed permit requires the Permittee to update this plan and submit it to the Department.

SOLID WASTE PLAN

The Department has determined that the Permittee has a potential to cause pollution of the waters of the state from leachate of solid waste. This proposed permit require, under the authority of RCW 90.48.080, that the Permittee update the solid waste plan designed to prevent solid waste from causing pollution of the waters of the state. The plan must be submitted to the local permitting agency for approval, if necessary, and to the Department.

OUTFALL EVALUATION

Proposed permit requires the Permittee to conduct an outfall inspection and submit a report detailing the findings of that inspection. The purpose of the inspection is to determine the condition of the discharge pipe and diffusers and to evaluate the extent of sediment accumulations in the vicinity of the outfall.

TREATMENT SYSTEM OPERATING PLAN

In accordance with state and federal regulations, the Permittee is required to take all reasonable steps to properly operate and maintain the treatment system (40 CFR 122.41(e) and WAC 173-220-150 (1)(g)). It has been determined that the implementation of the procedures in the Treatment System Operating Plan is a reasonable measure to ensure compliance with the terms and limitations in the permit. The Permittee must submit the Treatment System Operating Plan. The permit requires that the plan be updated.

GENERAL CONDITIONS

General Conditions are based directly on state and federal law and regulations and have been standardized for all individual industrial NPDES permits issued by the Department.

PERMIT ISSUANCE PROCEDURES

PERMIT MODIFICATIONS

The Department may modify this permit to impose numerical limitations, if necessary to meet Water Quality Standards for Surface Waters, Sediment Quality Standards, or Water Quality Standards for Ground Waters, based on new information obtained from sources such as inspections, effluent monitoring, outfall studies, and effluent mixing studies.

The Department may also modify this permit as a result of new or amended state or federal regulations.

RECOMMENDATION FOR PERMIT ISSUANCE

This proposed permit meets all statutory requirements for authorizing a wastewater discharge, including those limitations and conditions believed necessary to control toxics, protect human health, aquatic life, and the beneficial uses of waters of the State of Washington. The Department proposes that this proposed permit be issued for 5 years.

REFERENCES FOR TEXT AND APPENDICES

Environmental Protection Agency (EPA)

1992. National Toxics Rule. Federal Register, V. 57, No. 246, Tuesday, December 22, 1992.

1991. Technical Support Document for Water Quality-based Toxics Control. EPA/505/2-90-001.

1988. Technical Guidance on Supplementary Stream Design Conditions for Steady State Modeling. US EPA Office of Water, Washington, D.C.

1985. Water Quality Assessment: A Screening Procedure for Toxic and Conventional Pollutants in Surface and Ground Water. EPA/600/6-85/002a.

1983. Water Quality Standards Handbook. US EPA Office of Water, Washington, D.C.

Tsivoglou, E.C., and J.R. Wallace.

1972. Characterization of Stream Reaeration Capacity. EPA-R3-72-012. (Cited in EPA 1985 op.cit.)

Washington State Department of Ecology.

1994. Permit Writer's Manual. Publication Number 92-109

Wright, R.M., and A.J. McDonnell.

1979. In-stream Deoxygenation Rate Prediction. Journal Environmental Engineering Division, ASCE. 105(EE2). (Cited in EPA 1985 op.cit.)

APPENDIX A--PUBLIC INVOLVEMENT INFORMATION

The Department of Ecology proposes to reissue a permit to the applicant listed on page 1 of this fact sheet. The permit contains conditions and effluent limitations, and monitoring and reporting requirements with which the Permittee must comply to protect the quality and preserve the uses of Washington's public waters. We described the legal and technical bases for the conditions and requirements in the rest of this fact sheet.

The Department will send Notices by postal mail and by e-mail to interested persons; and we will publish a Public Notice of Draft (PNOD) on October 12, 2009 edition of The Daily World to inform the public that the draft permit and the factsheet are available for evaluation, at the Aberdeen branch of the Timberland Library System, and on Ecology's Industrial web page: <http://apps.ecy.wa.gov/industrial/> (click on "Proposed Permits"). Ecology invites submittal of written comments regarding the draft permit.

The draft permit, fact sheet, and related documents are also available for inspection and copying between the hours of 8:00 a.m. and 5:00 p.m. weekdays. Phone Kathy Vermillion, 360/407-6916 to schedule an appointment. Deliver written comments to our Ecology's headquarters building, in Lacey (call for directions) or send them to the postal address listed below:

Department of Ecology
c/o Marc Crooks, Industrial Section
P. O. Box 47600
Olympia, WA 98504-7600

Any interested party may comment on the draft permit or request a public hearing on this draft permit within the thirty-one (31) day comment period, October 12, 2009 to November 13, 2009, to the address above. Any request for a hearing must describe the interest of the filing party and the reasons why such a hearing would serve the public interest. The Department will conduct a public hearing of comments about short-coming of the draft if Ecology determines there is significant public interest in it (WAC 173-220-090). Ecology will post a public notice containing details about the time and place of any scheduled hearing, at least thirty (30) days in advance of the event. Ecology will also mail an individual notice of hearing (WAC 173-220-100) to any person who expressed an interest in this permit.

Comments should refer to specific text in the proposed permit and factsheet, followed by proposed modified language or a specific concern. Comments may address technical issues; the accuracy and completeness of the information, the scope of the facility's proposed coverage, the adequacy of environmental protection afforded by the permit conditions, or any other concern that would result from issuance of this permit.

The Department will consider all comments received within thirty-one (31) days from the date of public notice of draft indicated above, in forming a final decision to issue, revise, or deny the permit. Copies of the Department's summary of, and response to, and to all significant comments will be available upon request. Ecology will mail a copy of the summary and response directly to people who expressed an interest in this permit.

The permit and factsheet were written by Don Nelson, and revised by Marc Crooks. For further information call Marc Crooks at 360-407-6934, write him at the address listed above, or e-mail him at **mcro461@ecy.wa.gov**.

APPENDIX B--GLOSSARY

Acute Toxicity--The lethal effect of a compound on an organism that occurs in a short period of time, usually 48 to 96 hours.

AKART-- An acronym for “all known, available, and reasonable methods of treatment.”

Ambient Water Quality--The existing environmental condition of the water in a receiving water body.

Ammonia--Ammonia is produced by the breakdown of nitrogenous materials in wastewater. Ammonia is toxic to aquatic organisms, exerts an oxygen demand, and contributes to eutrophication. It also increases the amount of chlorine needed to disinfect wastewater.

Average Monthly Discharge Limitation --The average of the measured values obtained over a calendar month's time.

Best Management Practices (BMPs)--Schedules of activities, prohibitions of practices, maintenance procedures, and other physical, structural, and/or managerial practices to prevent or reduce the pollution of waters of the State. BMPs include treatment systems, operating procedures, and practices to control: plant site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage. BMPs may be further categorized as operational, source control, erosion and sediment control, and treatment BMPs.

BOD₅--Determining the Biochemical Oxygen Demand of an effluent is an indirect way of measuring the quantity of organic material present in an effluent that is utilized by bacteria. The BOD₅ is used in modeling to measure the reduction of dissolved oxygen in a receiving water after effluent is discharged. Stress caused by reduced dissolved oxygen levels makes organisms less competitive and less able to sustain their species in the aquatic environment. Although BOD is not a specific compound, it is defined as a conventional pollutant under the federal Clean Water Act.

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

Chlorine--Chlorine is used to disinfect wastewaters of pathogens harmful to human health. It is also extremely toxic to aquatic life.

Chronic Toxicity--The effect of a compound on an organism over a relatively long time, often 1/10 of an organism's lifespan or more. Chronic toxicity can measure survival, reproduction or growth rates, or other parameters to measure the toxic effects of a compound or combination of compounds.

Clean Water Act (CWA)--The Federal Water Pollution Control Act enacted by Public Law 92-500, as amended by Public Laws 95-217, 95-576, 96-483, 97-117; USC 1251 et seq.

Compliance Inspection - Without Sampling--A site visit for the purpose of determining the compliance of a facility with the terms and conditions of its permit or with applicable statutes and regulations.

Compliance Inspection - With Sampling--A site visit to accomplish the purpose of a Compliance Inspection - Without Sampling and as a minimum, sampling and analysis for all parameters with limits in the permit to ascertain compliance with those limits; and, for municipal facilities, sampling of influent to ascertain compliance with the 85 percent removal requirement. Additional sampling may be conducted.

Composite Sample--A mixture of grab samples collected at the same sampling point at different times, formed either by continuous sampling or by mixing discrete samples. May be "time-composite"(collected at constant time intervals) or "flow-proportional" (collected either as a constant sample volume at time intervals proportional to stream flow, or collected by increasing the volume of each aliquot as the flow increased while maintaining a constant time interval between the aliquots.

Construction Activity--Clearing, grading, excavation and any other activity which disturbs the surface of the land. Such activities may include road building, construction of residential houses, office buildings, or industrial buildings, and demolition activity.

Continuous Monitoring --Uninterrupted, unless otherwise noted in the permit.

Critical Condition--The time during which the combination of receiving water and waste discharge conditions have the highest potential for causing toxicity in the receiving water environment. This situation usually occurs when the flow within a water body is low, thus, its ability to dilute effluent is reduced.

Dilution Factor--A measure of the amount of mixing of effluent and receiving water that occurs at the boundary of the mixing zone. Expressed as the inverse of the percent effluent fraction e.g., a dilution factor of 10 means the effluent comprises 10% by volume and the receiving water 90%.

Engineering Report--A document which thoroughly examines the engineering and administrative aspects of a particular domestic or industrial wastewater facility. The report shall contain the appropriate information required in WAC 173-240-060 or 173-240-130.

Fecal Coliform Bacteria--Fecal coliform bacteria are used as indicators of pathogenic bacteria in the effluent that are harmful to humans. Pathogenic bacteria in wastewater discharges are controlled by disinfecting the wastewater. The presence of high numbers of fecal coliform bacteria in a water body can indicate the recent release of untreated wastewater and/or the presence of animal feces.

Grab Sample--A single sample or measurement taken at a specific time or over a short period of time as is feasible.

Industrial Wastewater--Water or liquid-carried waste from industrial or commercial processes, as distinct from domestic wastewater. These wastes may result from any process or activity of industry, manufacture, trade or business, from the development of any natural resource, or from animal operations such as feed lots, poultry houses, or dairies. The term includes contaminated storm water and, also, leachate from solid waste facilities.

Major Facility--A facility discharging to surface water with an EPA rating score of > 80 points based on such factors as flow volume, toxic pollutant potential, and public health impact.

Maximum Daily Discharge Limitation--The highest allowable daily discharge of a pollutant measured during a calendar day or any 24-hour period that reasonably represents the calendar day for purposes of sampling. The daily discharge is calculated as the average measurement of the pollutant over the day.

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

Minor Facility--A facility discharging to surface water with an EPA rating score of < 80 points based on such factors as flow volume, toxic pollutant potential, and public health impact.

Mixing Zone--An area that surrounds an effluent discharge within which water quality criteria may be exceeded. The area of the authorized mixing zone is specified in a facility's permit and follows procedures outlined in state regulations (Chapter 173-201A WAC).

National Pollutant Discharge Elimination System (NPDES)--The NPDES (Section 402 of the Clean Water Act) is the Federal wastewater permitting system for discharges to navigable waters of the United States. Many states, including the State of Washington, have been delegated the authority to issue these permits. NPDES permits issued by Washington State permit writers are joint NPDES/State permits issued under both State and Federal laws.

pH--The pH of a liquid measures its acidity or alkalinity. A pH of 7 is defined as neutral, and large variations above or below this value are considered harmful to most aquatic life.

Quantitation Level (QL)-- A calculated value five times the MDL (method detection level).

Responsible Corporate Officer-- A president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy- or decision-making functions for the corporation, or the manager of one or more manufacturing, production, or operating facilities employing more than 250 persons or have gross annual sales or expenditures exceeding \$25 million (in second quarter 1980 dollars), if authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures (40 CFR 122.22).

Technology-based Effluent Limit--A permit limit that is based on the ability of a treatment method to reduce the pollutant.

Total Suspended Solids (TSS)--Total suspended solids is the particulate material in an effluent. Large quantities of TSS discharged to a receiving water may result in solids accumulation. Apart from any toxic effects attributable to substances leached out by water, suspended solids may kill fish, shellfish, and other aquatic organisms by causing abrasive injuries and by clogging the gills and respiratory passages of various aquatic fauna. Indirectly, suspended solids can screen out light and can promote and maintain the development of noxious conditions through oxygen depletion.

State Waters--Lakes, rivers, ponds, streams, inland waters, underground waters, salt waters, and all other surface waters and watercourses within the jurisdiction of the state of Washington.

Stormwater--That portion of precipitation that does not naturally percolate into the ground or evaporate, but flows via overland flow, interflow, pipes, and other features of a storm water drainage system into a defined surface water body, or a constructed infiltration facility.

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, lack of preventative maintenance, or careless or improper operation.

Water Quality-based Effluent Limit--A limit on the concentration of an effluent parameter that is intended to prevent the concentration of that parameter from exceeding its water quality criterion after it is discharged into a receiving water.

APPENDIX C--TECHNICAL CALCULATIONS

Several of the Excel® spreadsheet tools used to evaluate a discharger's ability to meet Washington State water quality standards can be found on the Department's homepage at <http://www.wa.gov.ecology>.

APPENDIX D—STUDIES

1. Analysis of the Available Scientific and Public Health Data Regarding the Cosmopolis Mill's Effluent: The Public Health Significance of the Effluent, and its Impact on Water Quality in Grays Harbor, Shellfish Growing Waters, and Shellfish, IEH, Inc. 2002
2. Grays Harbor Hydrodynamic & Water Quality Modeling Report, CH2MHill, 2002

APPENDIX E--RESPONSE TO COMMENTS

No comments were submitted for this permit amendment.