

SUPPORT DOCUMENT

for the Air Operating Permit issued to

**Weyerhaeuser-Cosmopolis Pulp Mill
P. O. Box 1000
Cosmopolis, WA 98537**

State of Washington
DEPARTMENT OF ECOLOGY
300 Desmond Drive
P.O. Box 47600
Olympia, Washington 98504-7600

Table of Contents

I. INTRODUCTION	4
A1. Assuring Compliance With All Applicable Requirements	4
A1. a. Regulatory orders	5
A1. b. Application	6
A1. c. General mill processes	6
A1. d. Mill site plan	7
A2. Recovery area	7
A2. a. Evaporators	7
A2. b. Biosolids	8
A2. c. Recovery Boilers	8
A2. d. Acid plant	8
A2. e. MACT II requirements [WAC 173-400-075]	8
A2. f. Opacity and particulate limits	9
A2. g. Sulfur dioxide limit	10
A3. Hogged Fuel Boiler Area	10
A3. a. Description	10
A3. b. Power Boiler	10
A3. c. Opacity and particulate limit	11
A3. d. Boiler MACT requirements	11
A4. Hogged Fuel Dryer Area	12
A4. a. Process Description	12
A4. b. Particulate and opacity limits	12
A4. c. Sulfur dioxide monitoring for hogged fuel boiler and dryer	13
B. Mill Emissions	15
B1. MACT I requirements [WAC 173-400-075]	15
B2. Weyerhaeuser Emission Sources Subject to MACT I	16
B3. MACT I Bleaching requirements	18
C. Compliance assurance monitoring	18
Recovery Boilers Common Stack (AP-10).....	18
Hogged Fuel Dryer (HD-14).....	19
Power Boiler (PH-42)	20
Oxygen Blow Tank (BP-6)	20
Blow System Emission - Nuisance Tower (DB-26).....	20
Mill Emissions (All emissions from mill except from the power boiler).....	20
Opacity of oxygen blow tank vent	20
Time period for bringing operating parameters to predetermined values	20
D1. Opacity of oxygen blow tank vent	28
D2. Time period for bringing operating parameters to predetermined values.....	28
E. Insignificant Emission Units	28
Appendix A- Multiple requirements	29

Appendix B - Historical Emission Unit Source Test Data	33
Appendix C: Site map and flow diagram.....	34
Appendix D: Monthly emission report	36
Appendix E: Regulatory orders	36
Appendix F: Response to Comments.....	37

I. INTRODUCTION

The Weyerhaeuser-Cosmopolis Pulp Mill closed in September 2006. The Cosmopolis pulp mill releases no air emissions at present. The Permittee is negotiating with a buyer as of this date. As part of the bargain, the buyer required the Permittee to apply for re-issuance of its Title V air operating permit for the facility and to receive the five-year permit. Ecology proposes to reissue the permit to Weyerhaeuser Cosmopolis –the owner of the mill-until any purchase contract is executed. After the purchase contract is executed, the new owners will submit a letter requesting a change of Permittee. Since a change in the facility's ownership will not include a significant change in the mill's operations, Ecology will reissue the permit without public notice or a public comment process.

This Operating Permit Support Document fulfills the operating permit rule "Statement of Basis" requirement and explains particular portions of the air operating permit for the Weyerhaeuser-Cosmopolis Pulp Mill.

This document is not part of the operating permit for Weyerhaeuser-Cosmopolis Pulp Mill. Nothing in this document imposes an enforceable condition against the Permittee, unless otherwise made enforceable by the permit or an order.

II. STATEMENT OF BASIS

When the Department of Ecology issues a draft operating permit, we must provide a statement that sets forth the legal and factual basis for these draft permit conditions, including references to the applicable statutory or regulatory provisions [WAC 173-401-700(8)].

A1. Assuring Compliance With All Applicable Requirements

An operating permit must contain terms and conditions that assure compliance with all applicable requirements at the time of permit issuance, [WAC 173-401-600(1)].

Support Document Appendices:

- Certain permit conditions impose a single emission limit or a performance requirement that is based on two or more underlying applicable requirements. Appendix A to this Support Document presents the basis for consolidating some multiple requirements into single permit conditions.
- Appendix B shows graphs of the particulate emission data for the recovery and hogged fuel boiler furnaces.
- Appendix C shows a site map of the Cosmopolis facility.
- Appendix D of the Support Document contains an example of the monthly air emissions report.
- A list of the state regulatory orders that impose limitations and requirements on the Permittee are provided in Appendix E of the Support Document.

Air Operating Permit Appendices:

The Department of Ecology determined that the requirements listed in Appendix A to the Permit do not apply to the facility, as of the “permit issued date” [WAC 173-401-640(2)], because the mill shut down all operations in 2006. But not all of the inapplicable requirements are listed in Appendix A to the Permit. We omitted any requirements we considered obviously inapplicable and were excluded from the list. Appendix B of the Permit lists the abbreviations we used in the permit. We provide copies of the state regulatory orders that impose limitations and requirements on the permittee, in Appendix C of the Permit.

Ecology deems permittee’s compliance with the conditions in the permit as compliance with applicable requirements contained within the permit on which the terms and/or conditions are based, as of the “permit issued” date. [WAC 173-401-640(1)]

A1. a. **Regulatory orders**

The permittee is subject to five regulatory orders and two permit modifications. Order Number DE 95AQ-I034 was issued to consolidate all previous requirements from past state approvals, orders, and letters:

- Three notice of construction (NOC) have been issued for (i) the oxygen bleaching stage (Order Number DE 94AQ-I018), (ii) the concentrated oxygen extraction liquor project (Order Number DE 96AQ-I089), and (iii) the bag house to control particulate from the hogged fuel dryer (Order Number DE 03AQIS-5813).
- The MACT I order (Order Number DE 01AQIS-3121) which regulates the hazardous air pollutants (HAPs) from the pulping part of the mill, was rescinded and the requirements from the regulations were placed in the permit.
- On May 19, 2005, Order Number 2484 AQ-05 was issued, allowing the company to monitor particulate from the recovery stack, quarterly.
- Order Number 2484 required the company to be in compliance with the federal bleaching requirements of 40 CFR Part 63, Subpart S on or before November 12, 2006. On September 28, 2005, Ecology modified the permit to place the requirements of Order No. 2484 into the permit.
- On January 30, 2006, NOC DE 03 AQIS-5813 dated December 5, 2003, was modified to allow the Permittee to replace the leak detection system with an equivalent leak detection system. On January 30, 2006 the permit was modified to allow the Permittee to replace the leak detection system with an equivalent unit.

A majority of the most stringent emission limits for the facility are contained in these orders. These orders established source-specific limitations, but also include default limitations established by state regulations. These orders are not intended to be a separate legal source for default limitations that are based in state regulations. Therefore, limits derived directly from state regulations, that were included in these orders, are considered to be the “applicable requirement” for purposes of Title V. Consequently, the permit does not cite the order as an applicable requirement for

regulatory limits; for these limits, the permit cites only the regulation as the underlying applicable requirement.

A1. b. Application

Ecology received an application for renewal of Weyerhaeuser's Cosmopolis Title V permit renewal on April 19, 2007. Ecology accepted the application as completed.

A1. c. General mill processes

The Weyerhaeuser Company's pulp mill at Cosmopolis was built in 1957 as a magnesium-based paper-grade sulfite mill and the owners converted it into a dissolving-grade pulp mill in 1962. The Weyerhaeuser Company mill produced chemical cellulose pulp using sulfur dioxide, with magnesium ions as the basic buffering agent, while cooking the pulp in nine digesters. The company historically produced the following grades of pulp: acetate grade pulp (78.7 %), cellophane grade - (10.2%), and paper grade sulfite - (11.1%) with an overall production level of 88.9 % dissolving type of pulp.

Production varied in response to the market demand. The mill ran a single grade continuously, for several days. Sometimes the company would produce the same grade for a period of weeks. Weyerhaeuser encountered no air pollution problems when the company produced only the acetate-grade pulp for an extended period.

The Weyerhaeuser Company could produce the dissolving grade, continuously. To run the acetate-grade of pulp continuously, the company had to control the mixed liquor solids in its secondary treatment system. The future buyers propose to operate the mill to produce 100 % acetate-grade pulp. The new owner expects to produce 550 short tons per day of acetate-grade pulp, operating the mill in the same fashion as Weyerhaeuser Company did, but increasing production output by ten percent.

Weyerhaeuser washed the pulp using counter current washers. The liquids left over from the first five stages of washing the pulp--known as the weak red liquor-- was collected, evaporated, and sent to the recovery furnace to be burned. The recovery system recaptured the spent materials (magnesium oxide and sulfur dioxide) used in the pulping process using them to make more pulp and to supply part of the energy necessary to produce it. The magnesium oxide was captured by multi-clones, while an absorber scrubber captured the sulfur dioxide. A hogged fuel boiler produced the rest of the energy needed to power the process.

A venturi scrubber removed particulate matter from the hogged fuel boiler emissions. (The company used a hogged fuel dryer to condition the fuel before its introduction into the boiler. Prior to September 13, 2004, the company replaced three cyclones with a baghouse to control particulate emissions from the dryer. The baghouse installation fulfilled requirements of the Site Specific Rule for the Cosmopolis facility, in lieu of the facility meeting MACT II requirements on the recovery furnace.)

Beside the emissions from the hogged fuel boiler and recovery furnace, various other sources emit to the surrounding outside air. The Weyerhaeuser Company produced about 475 tons of salable chemical pulp per day. The purchasers of the pulp used it in their manufacture of filters, plastic products, photographic paper, and hygiene products.

A1. d. **Mill site plan**

We provided a mill site plan and general process flow diagram, in this Support Document's Appendix C.

A2. **Recovery area**

The recovery area supports the pulping and bleaching processes. The recovery area recovers sulfur dioxide and magnesium oxide, generates steam, and regenerates the SO₂-enriched magnesium bi-sulfite cooking liquor. Primary feedstock for these operations is the spent cooking liquor (weak red liquor), which contains not only the cooking chemicals but also the wood constituents extracted by the cooking process.

The chemical recovery system at the mill consists of evaporators to concentrate the weak red liquor, the recovery boilers to burn the red liquor to recover magnesium as an oxide, and the acid plant to recover sulfur as SO₂. Weak red liquor comes from the brown stock washers to holding tanks and then to the evaporators to concentrate the extracted wood constituents for combustion in the recovery furnaces. The recovery furnaces utilize the heating value of the extracted wood constituents to generate steam while liberating the magnesium oxide and sulfur dioxide from the spent cooking liquor. Ancillary facilities provide makeup MgO from truck delivery and SO₂ from burning molten sulfur, also delivered by truck and stored in a steam-heated tank.

A2. a. **Evaporators**

The red liquor tanks at the recovery area receive red liquor from the brown stock washers. Substantial evaporation of the water from this waste stream concentrates the liquor, into heavy red liquor, for burning.

Barometric legs and sealpots isolate the evaporators from ambient air. Condensate is routed to a central, vented tank; it's pumped from the tank to an effluent treatment system, where the condensate enters the system's bioponds. Noncondensable gases (NCG) were normally vented to the acid plant. The COEL project eliminated most of these emissions. Steam eductors (hogging jets) used during startup or upset conditions, exhaust to the atmosphere. The future buyer may not be able to use this system unless the operators find a facility that will take the COEL system output. The COEL output, high in sodium, went to kraft mills. But kraft mills may not take the COEL output, anymore.

A2. b. **Biosolids**

The mill's biosolids are co-processed with the red liquor as part of an overall biosolids project. The biosolids spin in a centrifuge until the mixture achieves the desired solids content, and the operator can mix the result with the red liquor in the evaporation plant.

A2. c. **Recovery Boilers**

The three recovery boilers at the site include: Boilers Nos. 1 and 2 -- the original recovery units for the mill (1957). Boiler No. 3 is newer (1966). All three boilers operate at 860 pounds of pressure per square inch (psi) and 825°F.

The heavy red liquor is sprayed into each boiler furnace, to burn biosolids and the combustibles in the red liquor. The recovery boilers also burn oil to supply power for the boilers' operations. During some time periods a recovery boiler may operate on oil only. This occurs during either a shortage of available red liquor or when other process demands require it. The mill uses oil to start the boilers.

The magnesium compounds in the liquor convert to magnesium oxide (MgO), and sulfur compounds convert to sulfur dioxide (SO₂). Multicyclones capture the MgO from the flue gas and route it to the washing/slaking process. The boiler flue gases then move through ducts to the acid plant for SO₂ recovery and further particulate removal. Steam from the recovery boilers enters a common header shared by the power boiler.

A2. d. **Acid plant**

After exiting the multi-cyclones, flue gases from boilers Nos. 1 and 2 enter separate cooling towers, three SO₂ absorption towers in series, and associated induced draft (I. D.) fans. Then combined flue gasses go through a common eductor venturi scrubber with a single discharge stack. Boiler No. 3 flue gases go through an I.D. fan to a dual-purpose flue gas cooler/cyclone evaporator, then through three venturi SO₂ absorbers in a series, an absorption tower, and then to the common educted venturi scrubber. The absorption towers receive Mg (OH)₂ from the slaking tanks combined with Mg (OH)₂ from a makeup storage tank. The two sulfur burners are used to augment the needed sulfur dioxide.

A2. e. **MACT II requirements [WAC 173-400-075]**

The Environmental Protection Agency (EPA) promulgated 40 CFR Part 63 Subpart MM [National Emission Standards for Hazardous Air Pollutant (HAPs)] for the Chemical Recovery Combustion Sources at Kraft, Soda, Sulfite, and Stand-Alone Semi-chemical Pulp Mills, on January 12, 2001. Under these regulations, Weyerhaeuser Cosmopolis was required to control particulate as a surrogate for HAPs emissions from the sulfite recovery furnace. On May 19, 2003 EPA promulgated a site-specific rule allowing Weyerhaeuser to control HAPs metals from the hogged fuel dryer, instead of HAPs emissions from the recovery furnace.

The testing requirements, the particulate limits, and the surrogate for continuous compliance, didn't change for the recovery furnaces stack from those requirements, limits, and surrogate in the 2004 permit as modified.

A2. f. **Opacity and particulate limits**

Monthly particulate source testing was imposed on the combined recovery stack through orders for controlling emissions. From 1990 to present --except for 1998-- particulate stack tests indicate the probability of exceeding the particulate limit is very low, given the amount of emission monitoring and the control configuration. The stack tests showed that 99 percent of the Method 5 particulate test results measured less than 86 percent of the particulate limit. Ecology considers that quarterly particulate test frequency sufficient to indicate continuous compliance. We included a summary of the historical emissions testing results, which served as the basis for determining the frequency of monitoring, in this Support Document as Appendix B.

Although there is only a small probability that the recovery furnace would be out of compliance between quarterly ECY Method 5 stack tests, a minimum operational condition in the permit will show that the pollution control device is operating. We imposed a minimum operating condition in the permit for recovery furnaces' re-circulating pumps: "During pump maintenance, one of the pumps may be out of service for a period no greater than 72 hours. The permittee will be in violation of the permit, if more than one pump is out of service at any one time or if the non-operating pump is out of service for [a period] greater than 72 hours."

The absorption tower's circulating pump's operation requirement applies only when burning spent sulfite liquors and/or wastewater treatment secondary sludges in the respective recovery furnace(s). Normally a pressure drop or flow change shows that the pumps work as planned. But on this system the recirculation pumps control the sulfur dioxide concentration. There are nine recirculation pumps--one recirculation pump for each absorption tower for each of the three boilers. Running for extended period of time with one pump down, could not make cooking acid of the required strength. If the pumps were not circulating magnesium hydroxide, the sulfur dioxide concentration would increase.

Since the sulfur dioxide concentration from the recovery furnace is measured continuously, an inoperative pump would be noticed immediately. Therefore monitoring whether the pumps are operating can prove minimum operational conditions for particulate. Once per shift the operator shall record visual readings of how many pumps are in service. Within this 72 hours period, the permittee shall take appropriate action to correct any minimum operational parameter exception and record the action taken. Failure to document and take corrective actions is a violation of the permit. The Permittee shall report all exceptions and corrective actions taken during each month on the monthly air emissions report.

The Permittee also uses the absorption tower to monitor opacity controls. An opacity monitor will not work on a wet plume. Therefore, we placed a continuous minimum operational parameter for opacity monitoring in the regulatory order through a bi-party agreement allowed by [WAC 173-410-062(5)]. The agreed parameter is the same minimum operating condition described above, for particulate. Method 9 opacity readings may be used: (a) if the minimum operational parameter is out of the

prescribed operating value, to over ride the minimum operational parameters results; or (b) if the permittee must bring the system back into the prescribed minimum operating value within 72 hours.

A2. g. **Sulfur dioxide limit**

The company's sulfur dioxide limit of 800 parts per million (ppm), prior to 1985, was the federally enforceable standard for the recovery stack. But in August 1985 the company exceeded the ambient sulfur dioxide standards. During this time, the company performed modeling for sulfur dioxide and constructed a scrubber with a single stack emission point. As a result of the modeling, Ecology issued an order under RCW 70.94.332 with a limit of 360 ppm. This limit protected against violation of the ambient sulfur dioxide standards, Chapter 173-474 WAC (formerly Chapter 18-56 WAC).

The company performed the modeling and construction of the scrubber under a compliance order defined by Chapter 173-474 WAC. The 360 ppm limit is not federally enforceable because Chapter 173-474 WAC was not included as part of the (State Implementation Plan for federal rules promulgated by the EPA) SIP; therefore we segregated the limitation in the permit as enforceable by the state only. Both the (state only) 360 ppm limit, and the (federally enforceable) 800 ppm limit, apply in the permit.

A3. **Hogged Fuel Boiler Area**

A3. a. **Description**

The power boiler area includes the fuel dryer and its associated fuel yard and fluidized bed burner, a pulverizer for wood fines, the power boiler (fueled by wood residuals and oil), and two steam turbine-generator sets.

A3. b. **Power Boiler**

The boiler's integral air pre-heater is equipped with multi-cyclone collectors with separating screens and fly ash re-injection functions. It uses a venturi scrubber with a mist elimination section for particulate emission control. The boiler also is equipped with an alternate stack, allowing the scrubber to be bypassed for repair.

The power boiler can burn wood residuals, including but not limited to: reject knots and fiber, dried hogged fuel and undried hogged fuel, pressed hogged fuel, and hogged fuel dust. The power boiler also uses oil for supplemental firing, or startup firing, or as stand-alone fuel if hogged fuel is unavailable. Oil includes, but is not limited to, residual oil, distillate oil, on-spec used oil, and oil spill materials generated on or off the mill site. The boiler can also use propane as an ignition or pilot fuel for the burners on startup, and can burn miscellaneous combustible non-hazardous general wastes. Oil is also used as the startup fuel to get the burners up to temperature prior to introducing hogged fuel.

The power boiler and the recovery boilers share a common steam header. This steam header feeds the integrated steam system: two turbine-generator sets and two pressure-reduction stations. The turbine generator sets can operate to supplement the mill power needs or to provide emergency power in the event of a service outage. Both pressure reduction stations and turbine steam extractions are used to provide two different pressure sources of process steam.

A3. c. Opacity and particulate limit

Particulate tests on the hogged fuel boiler were performed ten times from 1995 through 2002. The results of these tests showed the particulate averaged about 50 percent of the limit defined in the permit. Ecology considers yearly monitoring sufficient to indicate continuous compliance. A summary of the historical emissions testing that served as the basis for determining monitoring frequency is included in this Support Document at Appendix B.

Given only a small probability that the unit would not comply with Ecology's Method 5 stack test, the permit includes an independent minimum operating condition requiring the permittee to monitor continuous operations of the device: "The permittee shall continuously monitor and record flow and pressure drop across the hogged fuel boiler's scrubber. The hogged fuel boiler scrubber's flow and pressure drop (Δp) must maintain greater than or equal to 605 gallons per minute and 10 inches of water, respectively, to show continuous operation of the pollution control system." The permittee must act as soon as practical to bring any suspect pollution control system's minimum operational parameter back into its normal range, or must perform the applicable Ecology test method to show compliance with the permit condition. Failure to take corrective action violates the permit limit. The permittee shall report any exceptions each month and the corrective actions taken, on the monthly air report.

A3. d. Boiler MACT requirements

The requirements of the Institutional Boilers and Process Heaters in 40 CFR Part 63 Subpart DDDDD becomes applicable to the Weyerhaeuser Cosmopolis mill power boiler on September 13, 2007. These requirements for boiler MACT apply to the mill's proposed permit by reference. The permittee may choose from several methods to show compliance with these requirements.

Since the new mill owners will re-start the mill under new management, Ecology can't name the particular methods the new operator will choose to show facility compliance with these regulations. Weyerhaeuser Cosmopolis could meet these requirements by stack testing with the types of hogged fuel being used. The new owner will have to show compliance within 180 calendar days after startup. The new owner must operate the hogged fuel boiler for a period of time before choosing which method the permittee will use to show compliance. The new owner may show compliance, during the beginning, by performance stack testing. Likewise, the new operator may choose

to use a similar type of hogged fuel as the current permittee, in the startup phase of mill operations.

A4. Hogged Fuel Dryer Area

A4. a. Process Description

The company purchased its hogged fuel off-site for the boiler, and used a Stearns-Roger rotary drum fuel dryer to dry on-site wood fuels. The fuel dryer was installed in 1974 with the goal of improving power boiler efficiency. The exhaust from a fluidized bed combustion (FBC) unit heats the dryer. During startup, burning diesel brings the fluidized bed up to temperature. This temperature-control step ensures the bed is at the operating level prior to introducing wood residual fuel to the fluidized bed or hogged fuel to the dryer drum.

A new bag house began operating in September 2004. The Permittee constructed the baghouse to control particulate from the hogged fuel dryer. In response to a site-specific rule to control metals emissions, focusing on this source in lieu of controlling the metals emissions from the recovery furnace source. The baghouse controls the particulate releases, to ten pounds per hour; which is about three one-hundredths of a grain per dry square cubic foot of air (0.03 Gr/DSCF).

A4. b. Particulate and opacity limits

Like the MACT II requirements for the recovery furnace above, the control of particulates from the hogged fuel dryer substitutes for meeting the MACT II requirements for the recovery furnace. The compliance date was September 14, 2004 and the certification date December 12, 2004 for the MACT II requirements on the hogged fuel dryer particulate matter. But the reporting requirements date in 40 CFR 63.867 was extended to after December 12, 2004 for the MACT II requirement on the hogged fuel dryer.

The permittee met the particulate limit of 10 pounds per hour for emissions from the hogged fuel dryer before the compliance date of December 12, 2004. The 10 pounds per hour limit equates to approximately 0.03 grains/DSCF. Therefore, the hogged fuel dryer particulates limit is more stringent than the previous recovery furnace particulates limit. The testing frequency requires one test per five years—once each permit term. The surrogate parameters for compliance with particulate and opacity changed on December 12, 2004 to the requirements specified in the MACT II requirements [WAC 173-400-075] as follows:

The owner or operator of the affected hog fuel dryer at Weyerhaeuser Paper Company's Cosmopolis, Washington facility (Emission Unit no. HD-14) bag leak detection system must be certified by the manufacturer to be capable of detecting PM emissions at concentrations of 10 milligrams per actual cubic meter (0.0044 grains per actual cubic foot) or less and have an audible alarm system to signal any bag failure.

Weyerhaeuser continuously monitors performance of the fabric filter, using a bag leak detection system with audible alarm system as a surrogate for particulate and opacity.

Weyerhaeuser must develop and implement a written startup, shutdown, and malfunction plan that contains (1) specific procedures for operating and maintaining the hogged fuel dryer and the fabric filter during such periods of startup, shutdown, and malfunction; and (2) a program of corrective action if the hogged fuel dryer or fabric filter malfunction.

Weyerhaeuser must take corrective action--as specified in its startup, shutdown, and malfunction plan--whenever the bag leak detection alarm sounds. For the bag leak detection system on the hog fuel dryer fabric filter at Weyerhaeuser Company's facility (Emission Unit no. HD-14), the permittee must file records of each alarm, the time of the alarm, the times of corrective action initiation and completion, and brief descriptions of both the cause of the alarm and the corrective action taken.

Modified NOC DE 03 AQIS-5813 dated December 5, 2003 changed the type of leak detection system required for the Cosmopolis mill to show compliance with an equivalent system. The new leak detection system allowed by the Modified NOC was more sensitive than the one that it replaced. Therefore on May 17, 2006 Ecology approved the Permittee's revised monitoring plan, changing the particulate alarm monitoring requirements as follows:

- The particulate alarm levels will be averaged on an hourly basis.
- Corrective action commence after the average particulate alarm level is more than 50 % of scale. A bag house visual inspection will be conducted at first opportunity when the Dryer is down, if indication of a damage bag.
- The time charged toward the 5 % of the total operating time to initiate corrective actions for the six month reporting period will begin after the hourly average is over 50 % of scale.

The Cosmopolis mill will violate the alternative standard if:

- corrective action is not initiated within one hour of a bag leak detection alarm,
- corrective action is not completed in accordance with the startup, shutdown, and malfunction plan, or
- the alarm is engaged for more than five (5) percent of the total operating time during a six (6) month block reporting period.

In calculating the operating time fraction, if inspection of the fabric filter shows no corrective action was required, then no alarm time is counted; if corrective action is required, each alarm signal is counted as a minimum of one hour; if corrective action is not initiated within one hour, the alarm time is counted as the actual amount of time taken to initiate corrective action.

A4. c. **Sulfur dioxide monitoring for hogged fuel boiler and dryer**

Calculations done in sections A and B below, indicate that the hogged fuel boiler and the hogged fuel dryer will always be in continuous compliance with the sulfur dioxide emission limit of 1,000 ppm, if these units burn oil with less than two percent sulfur, diesel, and/or wood. Therefore, the permittee will be required to record the sulfur content of the fuel oil used in the units and certify that from January 1 until

December 31 of each year, all fuel consumed in the units had a sulfur content of less than 2 percent. The certification of the sulfur content must be submitted with the January's monthly air emission report.

- A. Permit Conditions B.1.b. and C.1.a - sulfur dioxide minimum operating parameter for hogged fuel boiler -- The sulfur dioxide concentration is calculated as follows:

$F_d = 9190$ dscf/MMBtu for residual oil ("F" factor from 40 CFR, Part 60, App. A, Method 19)

$$C_d = \frac{(.02 \text{ lb S/lb oil}) (2 \text{ lb SO}_2/\text{lb S}) (385 \text{ dscf SO}_2/64 \text{ lb SO}_2)}{(19,309 \text{ Btu/lb oil}) (9190 \text{ dscf/MMBtu})(\text{MMbtu}/10^6 \text{ BTU})}$$

Therefore, $C_d = .001356$ dscf SO₂/dscf flue gas = 1356 ppmv SO₂

Corrected to 7% excess O₂: $(1356 \text{ ppmv SO}_2) \times \frac{20.9 - 7}{20.9} = 901 \text{ ppmv SO}_2$

The sulfur dioxide limit of 1000 ppm will always be met if the permittee uses fuel oil with less than 2 percent sulfur. Therefore, continuous monitoring is not required to show continuous compliance. Instead of continuous monitoring for sulfur dioxide the permittee is required to certify that the fuel oil has less than 2 percent sulfur content.

- B. Permit Condition B.1.b. and C.1.a - sulfur dioxide minimum operational condition for the hogged fuel dryer -- For the hog fuel dryer using wood in the fluidized bed, the sulfur content of the wood is 0.031 lbs. S/BTD. The sulfur dioxide calculations for dried wood are:

$F_d = 9240$ dscf/MMBtu for residual oil

("F" factor from 40 CFR, Part 60, App. A, Method 19)

$$C_d = \frac{(.031 \text{ lb S/BDT wood})(\text{ton}/2,000 \text{ lbs})(2 \text{ lb SO}_2/\text{lb S}) (385 \text{ dscf SO}_2/64 \text{ lb SO}_2)}{(8800 \text{ Btu/lb BDT wood}) (9240 \text{ dscf/MMBtu})(\text{MMbtu}/10^6 \text{ BTU})}$$

Therefore, $C_d = 0.000002$ dscf SO₂/dscf flue gas = 2 ppmv SO₂

The sulfur dioxide limit of 1000 ppm will always be met if the permittee uses wood. Continuous monitoring for sulfur dioxide is not required nor is the certification of the percent sulfur in the wood required, since while burning wood there is no chance of exceeding the 1000 ppm sulfur dioxide limit.

For the hog fuel dryer using diesel in the fluidized bed, the sulfur content of the diesel is 0.5 percent. The sulfur dioxide calculations for diesel are:

$F_d = 9190$ dscf/MMBtu for residual oil ("F" factor from 40 CFR, Part 60, App. A, Method 19)

$F_d = 9190$ dscf/MMBtu for residual oil ("F" factor from 40 CFR, Part 60, App. A, Method 19)

$$C_d = \frac{(.005 \text{ lbs. S/lbs oil})(2 \text{ lb SO}_2/\text{lb S}) (385 \text{ dscf SO}_2/64 \text{ lb SO}_2)}{(19,309 \text{ Btu/lb oil}) (9190 \text{ dscf/MMBtu})(\text{MMbtu}/10^6 \text{ BTU})}$$

Therefore, $C_d = 0.000339 \text{ dscf SO}_2/\text{dscf flue gas} = 339 \text{ ppmv SO}_2$
Corrected to 7 % oxygen: $C_d = 239 \text{ ppmv SO}_2$

The sulfur dioxide limit of 1000 ppm will always be met if the Permittee uses diesel fuel oil with 0.5 percent sulfur. Neither continuous monitoring for sulfur dioxide nor the certification of the percent sulfur in the diesel fuel is required, since while burning diesel there is no chance of exceeding the 1000 ppm sulfur dioxide limit.

B. Mill Emissions

Conditions: **G.** – “Mill emissions” does not include the sulfur dioxide emissions from the hogged fuel boiler dryer or the hogged fuel boiler. But Condition G does include the sulfur dioxide emissions from all SARA Title 304 releases, the recovery boiler's combined stack, the nuisance tower vent, No.'s. 1, 2, 3, and 4 brown stock washers' and deknotted vents, number 4 filtrate tank vent, north and south weak red liquid tank vent, condensate day tank and stand pipe, CE and ME hogging jet vents, No.'s 1, 2, and 3 heavy liquor vent tanks, and condensate tank over flow sump. Conditions A through G provide for continuous monitoring either with the use of continuous monitors, minimum operational parameters, process knowledge, and/or emission factors for all individual units.

The permittee shall show compliance with condition 25 of the permit (sulfur dioxide less than 1,000 ppm for an hourly average) by emission factors and/or process knowledge of the individual emission points.

B1. MACT I requirements [WAC 173-400-075]

On April 15, 1998 the Environmental Protection Agency promulgated amendments to 40 CFR Part 63 — National Emission Standards for Hazardous Air Pollutants for Source Categories, Subpart S — National Emission Standards for Hazardous Air Pollutants from the Pulp and Paper Industry, Sections 63.440 – 458, commonly called MACT I. Weyerhaeuser was required to be in compliance with the rules by April 16, 2001. The company was in compliance with these requirements.

B2. Weyerhaeuser Emission Sources Subject to MACT I

Regulatory Authority	Emission Categories	Compliance Date	Method of Control
40 CFR § 63.444	Sulfite pulping system and treatment source group –	April 16, 2001	No controls
	Each digester vent		
	• EU DB-26 Nuisance scrubber vent		
	Each pulp washer system vent		
	• EU BS-6 No. 4 Brown stock washer vent		
	• EU BS-7 Combined 1, 2, and 3 brown stock washers vents		
	Each evaporator system vent		
	• EU AP-10 Combined recovery boiler's stack		
40 CFR § 63.450	Standards for enclosures and closed vents	April 16, 2001	-
40 CFR § 63.453	Monitoring requirements	April 16, 2001	-
40 CFR § 63.454	Reporting requirements	April 16, 2001	-

The company chose to route the digester vent to a control device that controls sulfur dioxide. The emission unit is called the nuisance tower. The control device for sulfur dioxide is a scrubber. In order to remove sulfur dioxide the media flow is required to be greater than 150 gallon/minute. The scrubber also removed the HAPs. The removed HAPs are captured in the media flow to the scrubber. The media flow is sufficient to remove most of the HAPs contained in the gaseous stream.

The HAPs contained in the nuisance tower wastewater stream is 0.818 lbs. methanol per ODTP. The HAPs contained in the gaseous stream is 0.000009 lbs. methanol per ODTP. These amounts must be counted in calculating the emission from the three vents system regulated by MACT I. The condition that the flow to the nuisance tower be greater than 150 gallons per minute will be maintained in the permit for purposes of the CMS for MACT I. There are no bypass lines in the system that transfer the vented digester's gasses to the nuisance tower.

The company collects the evaporators emissions in a closed vent system and routes the gases to recovery furnaces No 1 and No. 2. These boilers are considered control devices. During startups, shutdown, or malfunctions (SSM), the gases must be rerouted from the recovery furnaces to the venturi scrubber for safety reasons. The emissions from the brownstock washers are not collected. The company meets the MACT I requirements if they route the gases collected from the evaporator to either the recovery boilers or the venturi scrubber and do not collect the HAPs from the brownstock washers. When the gasses are routed through the recovery furnaces, the HAPs contained in the stack emission is 0.002 lbs. methanol per ODTP and when the gases are routed to the venturi scrubber, the recovery stack emission contained 0.265 lbs. methanol per ODTP. The maximum total HAPs emission rate from the two sources is

0.820 lbs. methanol per ODTP. Emissions from equipment listed in 40 CFR 63.444 (a), that is, digester system vents, evaporator system vents, and pulp washing system vents, that is unnecessary to be reduced to meet the MACT I limit for magnesium based sulfite mills are not required to be routed to a control device [40 CFR 63.444 (b)]. The total uncontrolled emissions from the pulp washing system is 0.15 lbs. methanol per ODTP. The HAPs in the liquid from the venturi scrubber is not counted in the total since this stream goes back into the acid plant that is used to make more pulp. The total mill emission from all three regulated sources is 0.971 lbs. methanol per ODTP. Therefore, it is not necessary for the permittee to collect the HAPs from the brownstock washer vent. These data points came from the emission test dated October, 2001.

The gasses from the evaporators are routed to the recover furnaces firebox. The routing of the gasses was part of the NOC for the COEL project. The company is required to monitor the time that the gasses are not routed to the recovery furnaces and report the operation of the unit in the monthly air emission report. Since the company sends the gasses collected from the evaporator system vents through a closed vent system to their recovery furnace, the company will not be required to have parametric monitoring on the recovery furnace imposed by the MACT I requirements. The CMS for temperature measurement in the firebox only applies to a thermal oxidizer control device. That is, the company will not have to monitor the temperature within the boilers fireboxes. The collected gases from the closed vent system must bypass the recovery furnaces for safety reasons. The only bypass line is to bypass the gasses from the recovery furnace to the venturi scrubber during SSM for the evaporators HAPs that are normally routed to the recovery boiler.

Since there are no bypass lines that vent directly to the atmosphere, the condition that the bypass line must be sealed and monitored for flow is not included in the permit [40 CFR 63.450(c)]. The condition that hoods and seals be maintained in a closed position during performance tests has been eliminated since there are no hoods or seals [40 CFR 63.450(b)]. The requirement that the by-pass line be either monitored for flow or that the valve be in the closed position is not included in the permit since these requirements are for systems that have bypass lines and seals [40 CFR 63.450(d)].

The company is already required to record and report the bypasses from the MACT I source to the recovery furnaces to the venturi scrubber. This record keeping is sufficient to fulfill the CMS requirements for MACT I.

The company chose a method to control the pulping units total HAPs from digester system vents, evaporator system vents, and each pulp washing system. Emissions from this source group shall be enclosed and vented into a closed-vent system and the vents, wastewater, and condensate streams from the control device used to reduce HAP emissions, shall [40 CFR Part 63, §63.444(c)(1)]: **Emit no more than 1.1 kilograms of total HAP or methanol per megagram (2.2 pounds per ton) of ODP [40 CFR Part 63, §63.444(c)(2)(i)].**

The facility-wide general conditions in the permit, defined by 40 CFR 63, Subpart S, apply. The company must fulfill the MACT inspection and monitoring requirements, the MACT recordkeeping requirement [40 CFR Part 63, §63.454], and reporting requirements [40 CFR Part 63, §63.455] defined in ORDER No. DE 01AQIS-3121 (the MACT I order).

B3. MACT I Bleaching requirements

ORDER No. DE 01AQIS-3121 did not cover the MACT requirements defined in 40 CFR 63, Subpart S for the bleach plant emissions of HAPs. The permittee must comply with the bleach plant requirements [40 CFR Part 63, §63.440(d) (2)] as expeditiously as practical, but in no event later than three years after the promulgation of the revised effluent standards for the dissolving grade sulfite mills. These requirements are specifically defined in 40 CFR Part 63, §63.445.

The company chose to comply with the ten parts per million, by volume (10 ppmv) or less of total chlorinated HAPs limit. Although the EPA has yet to promulgate effluent guidelines for the dissolving sulfite pulp mill, Ecology wrote limits into the permit including the monitoring, recordkeeping, and reporting requirements necessary to assure compliance. The permittee's compliance date is three years after the effective date of its new NPDES permit.

The bleaching system at the Weyerhaeuser Cosmopolis mill consists of a chlorine dioxide generator-including all tanks and appurtenances-and will be regulated by CFR 40 Part 63 Subpart S. The chlorine dioxide generation system uses methanol, stored in tanks at the facility. The tanks furnishing methanol will also be covered by CFR 40 Part 63 Subpart S, since these tanks are part of the chlorine dioxide generation system regulated by Subpart S. As mentioned earlier in this support document, the bleaching system will become regulated three year after the effective date of the proposed permit.

C. Compliance assurance monitoring

The federal EPA promulgated 40 CFR part 64 – compliance assurance monitoring (CAM) —on October 22, 1997. Through WAC 173-401-615(4) we adopted the CAM rule by reference. The following tables, A through G, analyze the emission units at the Cosmopolis pulp mill to determine which are subject to the CAM rule.

Recovery Boilers Common Stack (AP-10)

As mentioned previously, MgO is removed with multiclones. The multiclones would be necessary to the economical operation of the mill even if the particulate limitation on the recovery emission unit was not in effect. The multiclones are considered inherent process equipment. The capture of the MgO is accomplished by inherent process equipments that remove enough particulate to meet the limitation for the recovery stack emission unit. With the main equipment unit removing the particulate efficiently enough to meet the limit for the unit, the compliance assurance monitoring

(CAM) requirement is not applicable to the unit for particulate. Also, the unit is not regulated by MACT II rule. Since the site specific rule to control HAP's required control of the hogged fuel dryer rather than the recovery furnace emissions as per the site specific rule published in the Federal Register on February 18, 2003, the recovery furnace emissions unit for particulate is not applicable for MACT II. The recovery furnace emissions are not subject to the rigorous parametric monitoring imposed by the MACT II rules for particulate since it is not a MACT II source. The compliance assurance monitoring, 40 CFR 64, will be referred to from this point forward as the CAM rule. Opacity is not subject to the CAM rule. Emissions of sulfur dioxide are subject to the CAM rule since the acid plant and the venturi scrubber are control devices. The sulfur dioxide analyzer sample probe was installed in accordance with EPA Method 1 guidelines. The limit that is federally enforceable is 800 ppm., the analyzer span above the limit sufficiently for an indicator range. The analyzer has daily zero and span calibration, quarterly gas cylinder audit, and annual CEM RATA challenges. The CEM for sulfur dioxide on the recovery furnace stack is required by Order DE 95AQI034. The CEM for sulfur dioxide satisfies the requirements for a parametric monitoring required by the CAM Page 17 Support Document Permit No. 000080-9 Weyerhaeuser Company rule. The 360 ppm limit was developed to ensure that the mill was not violating ambient sulfur dioxide standards regulated by Chapter 173.474. Chapter 173.474 is not part of the SIP. Therefore, the limit of 360 ppm is state only and is not subject to the CAM requirements. Total reduced sulfur (TRS) from the recovery furnace emission is also regulated as state only source for TRS. TRS is not regulated under the state implementation plan (SIP). Therefore, the TRS emissions are not subject to the CAM rule. The operational requirements for particulate and opacity are kept in the permit to show that the emission unit is being properly operated.

Hogged Fuel Dryer (HD-14)

Opacity is not subject to the CAM rule. The cyclones are considered control devices for particulate. The monitoring protocols for monitoring the inlet and outlet temperature of the cyclones 1, 2, and 3 must be monitored to meet the CAM rule before September 13, 2004. The EPA promulgated a site specific rule to allow Weyerhaeuser Company Cosmopolis pulp mill to control the emissions of HAP's from the hogged fuel dryer in lieu of controlling the recovery furnace emission of HAP's. On September 13, 2004 the emission unit became a MACT II source for particulate. In order to control the particulate below the level required in the MACT II standard, the company is in the process of installing a baghouse. The baghouse will be equipped with a turboelectric bag leak detection system with alarms. The site specific rule for MACT II requires the company to monitor the alarm and take corrective action when an alarm sounds. The requirement is more restrictive than the CAM rule requirements. Since the emission unit is subject to MACT II rules, it will not be subject the CAM rule. The unit emission of particulate will become subject to the MACT II parametric monitoring requirements. The hogged fuel dryer does not have a control device for the sulfur dioxide emissions. The sulfur dioxide limit of 1000 ppm is control by using fuel that has a sulfur content of less than 2 percent. Therefore, the

CAM rule is not applicable to passive activity such as burning low sulfur fuel. The certification requirements will be maintained in the permit.

Power Boiler (PH-42)

Particulate is subject to the CAM rule since the power boiler has a control device. The monitoring of the pressure drop and flow will be used as was in the current permit as the CAM monitoring parameter. Again opacity is not subject to the CAM rule. There is no control equipment for sulfur dioxide. Therefore, the CAM rule is not applicable to the unit for sulfur dioxide.

Oxygen Blow Tank (BP-6)

The oxygen delignification blow tank is a process unit and does not have any control device. Therefore, the CAM rule does not apply.

Blow System Emission - Nuisance Tower (DB-26)

The nuisance tower control emission of sulfur dioxide by a scrubber and has a control device, therefore, the CAM rule applies. The operational control is a scrubber with a minimum flow of 150 gallon/minute and is sufficient parametric monitoring for the unit to satisfy the CAM rule requirement.

Mill Emissions (All emissions from mill except from the power boiler)

The mill emissions do not have any control even though some of the emission points are controlled. Each is subject to the CAM rule individually. The CAM rule does not apply to the accumulative mass limit for the entire mill excluding the power boilers.

Opacity of Oxygen Blow Tank Vent

The oxygen blow tank vent is an uncontrolled emission point source. The system uses oxygen to bleach the pulp. The pulp is wet during this process. The only chemicals emitted by the oxygen blow tank vent are water vapor and VOC's. Water vapor is exempt from opacity observations. The VOC compounds are colorless vapors and are at very low concentration. The VOC compounds do not appear to condense and do not produce any opacity. Therefore, no monitoring for opacity is required to show compliance because of the nature of the source. The VOC limit is based on emission factors. The 34 tons VOC per year was based on a production of 624 air-dried, unbleached short tons/day. The Permittee shall record and report the daily production of pulp each month on the monthly air emission report.

Time Period for Bringing Operating Parameters to Predetermined Values

The definite period of time was not specified since in some cases the permit will require a shorter or longer time period for individual exceptions than could be foreseen by the permit. By defining a definite time period one would be lengthening the required time in certain cases. In other cases, the Permittee may need more time to complete some unforeseen breakdown. Therefore, Ecology will give the individual Ecology's project officer the flexibility to determine the definition of the shortest period of time on a case by case basis when all the facts are known for each individual exception using the company's incident report on the occurrence.

	Parameter	Limit	Control Equipment	Potential Emissions more than 100% of the Relevant Major Source Threshold	CAM Rule installed	CAM Plan Required	Applicable Requirements
1.	Particulate	0.10 gr/sdcf @8% O ₂	None	Yes	No	No	WAC 173-410-040(2) (a) Order No. DE 95AQ-I034 (Attachment B)
2.	Opacity	Average 35% or less for any six (6) consecutive minutes in any one-hour period.	None	N/A	No	N/A	WAC 173-410-040(3) Order No. DE 95AQ-I034 (Attachment B)
3.	SO ₂	800 ppm hourly average	Scrubber	Yes	Yes	Yes	DE 95AQ-1034 (Attachment B)
4.	Operation (See A.1 and A.2 above)	Absorption tower circulation pumps operated continuously	None	N/A	No	No	Order No. DE AQ-I034 WAC 173-410-040(4) & WAC 173-410-062(5)
5.	Burning NCG gasses Weak Oxygen Storage Tank (EV-21) and COEL Storage Tank (EV-22)	Directed to RB No.1 and No. 2 except during SSM or emergencies Maintain records of tank dimensions and capacities	Incineration N/A	No No	No No	No No	Order No. 96AQ-1089 issued under WAC 173-400-113 40 CFR 60.1 lb (a) and (b)
6	SO ₂	Average 360 ppm per hour	Scrubber	Yes	No	No	State-only requirement. DE 95 AQ-I034
7.	TRS	17.5 ppm daily average	None	Yes	No	No	State-only requirements. WAC 173-410-0405)

Table B. - Hogged Fuel Dryer (HD-14)

	Parameter	Limit	Control Equipment	Potential Emissions more than 100% of the Relevant Major Source Threshold	CAM Rule installed	CAM Plan Required	Applicable Requirements
1.	Opacity	Average 20% for any three (3) minutes period in any one hour period	None	N/A	No	No	WAC 173-400-040(1) and Order No. DE 95AQ-I034 (Attachment B)
2.	Particulate	0.10 gr/sdcf @7% O ₂	Baghouse	Yes	Yes	Yes	WAC 173-400-060 and Order No. DE 95 AQ-I034 (Attachment B)
New	Particulate	10 lbs/hr	Baghouse	Yes	No	No	CFR 40 Part 63, Sub Part MM (MAC' II)
3.	SO ₂	1000 ppm @ 7% O ₂ <2% Sulfur in fuel oil	None	Yes	No	No	WAC 173-400-040(1) and Order No. DE 95AQ-I034 (Attachment B)
4.	Operation (MACT II source)	Monitor and record leak detection alarms	None	N/A	No	No	WAC 173-401-615(1)(c)

Table C. - Power Boiler (PH-42)

	Parameter	Limit	Control Equipment	Potential Emissions more than 100% of the Relevant Major Source Threshold	CAM Rule installed	CAM Plan Required	Applicable Requirements
1.	SO2	1000 ppm tQ 7% O2 <2% Sulfur in fuel oil	None	Yes	No	No	WAC 173-400-060(1)(f) and Order No. DE 95 AQ-I034 (Attachment B)
2.	Opacity	Average 20% for any three (3) minutes period in any one hour period except for soot blowing	None	N/A	No	No	WAC 173-400-040(1) and Order No. DE 95 AQ-1034 (Attachment B)
3.	Particulate	0.10 gr/sdcf @ 7% O2	Scrubber	Yes	Yes	Yes	WAC 173-410-040(2)(c)(iii) and Order No. DE 95 AQ-1034 (Attachment B)
4.	Operation (See C.2 and C.3 above)	Operational Requirement Monitor and record flow and pressure drop across scrubber. Shall maintain >_605 gpm and 10 inches of water	None	N/A	No	No	WAC 173-410-040(4) and Order No. DE 95 AQ-1034

Table D. - Oxygen Blow Tank (BP-6)

	Parameter	Limit	Control Equipment	Potential Emissions more than 100% of the Relevant Major Source Threshold	CAM Rule installed	CAM Plan Required	Applicable Requirements
1.	Volatile Organic Compounds (VOC)	34 tons VOC per year on a carbon basis	None	No	No	No	Order No. 94AQ-1018 (Approval condition (1)) issued under WAC 173-400-113.
2.	Recordkeeping	VOC recordkeeping	None	N/A	No	No	WAC 173-410-062(2)(b) and Order No. 94AQ-1018 issued under WAC 173-400-113.

Table E. - Blow System Emission - Nuisance Tower (DB-26)							
	Parameter	Limit	Control Equipment	Potential Emissions more than 100% of the Relevant Major Source Threshold	CAM Rule installed	CAM Plan Required	Applicable Requirements
1	SO ₂	0.21bs/ADUST on a fifteen minute average	Scrubber	Yes	Yes	Yes	WAC 173-410-040(1)(c)
2	Operations (See EI above)	Operational Requirements: Monitor & record flow Flow shall be >150 gpm Corrective Action Requirement: Conditions other than specified in Operational requirements shall take corrective action.	None	N/A	No	No	WAC 173-410-040(1)(c)

Table F. - Mill Emissions (All emissions from mill except from the power boiler)

	Parameter	Limit	Control Equipment	Potential Emissions more than 100% of the Relevant Major Source Threshold	CAM Rule installed	CAM Plan Required	Applicable Requirements
1.	SO ₂	201bs/ADUST on a daily average	None	Yes -	No	No	WAC 173-410-040(1)(a) and Order No. DE 95AQ-I034

D1. Opacity of Oxygen Blow Tank Vent

The oxygen blow tank vent is an uncontrolled emission point source. The system uses oxygen to bleach the wet pulp. The only chemicals emitted by the oxygen blow tank vent during this process are water vapor and VOC's. Water vapor is exempt from opacity observations. The VOC compounds are very low concentration, colorless vapors. The VOC compounds do not appear to condense and do not produce opacity. Therefore, because of the nature of the source, we require no monitoring to show compliance for opacity. The VOC limit is based on emission factors. Ecology based the 34 tons of VOCs per year on a production of 624 air-dried unbleached short tons each day. The Permittee shall record the daily production of pulp each month on the monthly air emission report.

D2. Time Period for Bringing Operating Parameters to Predetermined Values

A definite period of time was not specified. In some cases the permit requires a shorter or longer time period for individual exceptions than could be foreseen by the permit. By defining a definite time period one would be lengthening the required time in certain cases. In other cases, the permittee may need more time to complete response to and repair of an unforeseen breakdown. Therefore, Ecology gives the individual project officer flexibility to define the shortest period of time, on a case-by-case basis when all the facts of each individual exception can be known.

E. Insignificant Emission Units

The facility-wide general requirements apply to the whole facility, including to insignificant emission units and activities (IEUs), as required by the operating permit rule. The rule states, however, that IEUs are not subject to monitoring requirements unless the generally applicable requirements in the State Implementation Plan (SIP) impose them [WAC 173-401-530(2)(c)]. The state SIP does not impose specific monitoring methods or frequencies in its facility-wide requirements for IEUs at this source. The permit, therefore, does not require the permittee to test, monitor, report, or maintain records of defined insignificant emission units or activities.

Appendix A- Multiple requirements

Certain permit conditions impose a single emission limit or requirement that is based on two or more underlying applicable requirements. This table presents the basis for consolidating these redundant requirements into single permit conditions.

<p>A.1</p>	<p>Order DE 95AQ-I034: The particulate limit for the Recovery Furnace's Boilers No.1, No. 2, and No. 3 is 0.10 gr/dscf @ 8% O₂; use DOE Method 5 to show compliance. WAC 173-410-040(2)(a): Emissions of particulate from a recovery system constructed before January 24, 1972, shall not exceed 0.23 grams per dry cubic meter of exhaust at standard conditions (0.10 gr/dscf) corrected to 8% O₂.</p>	<p>Both limits are the same.</p> <p>The permit imposes the regulatory limit of 0.10 gr/dscf.</p> <p>The limit is federally enforceable.</p>
<p>A.2.</p>	<p>Order DE 95AQ-I034: The opacity for Recover Furnaces' Boilers No.1, No. 2, and No. 3, shall average less than 35 percent during any six (6) consecutive minutes in any one-hour period.</p> <p>WAC 173-410-040(3): No person shall cause or allow the emission of a plume from a recovery system or acid plant which has an average opacity greater than thirty five percent, for more than six consecutive minutes in any sixty minute period, except as allowed by statute under RCW 70.94.331(2)(c).</p> <p>WAC 173-410-062(5): Each mill shall...establish a program approved by Ecology for continuous opacity monitoring, to demonstrate compliance with WAC 173-410-410(3) and report the results to ecology in a format and on a schedule set by regulatory order. If equipment for continuous monitoring of opacity is not available, continuous monitoring of operating parameters may be required as an alternate until continuous opacity monitoring equipment is available.</p>	<p>Both limits are the same.</p> <p>The permit imposes the regulatory limit of 35 percent.</p> <hr style="border-top: 1px dashed black;"/> <p>Further, WAC 173-410-040(3) is part of the state implementation plan and is therefore federally enforceable--with the exception defined in WAC 173-410-040(3), as not part of the SIP.</p> <hr style="border-top: 1px dashed black;"/>

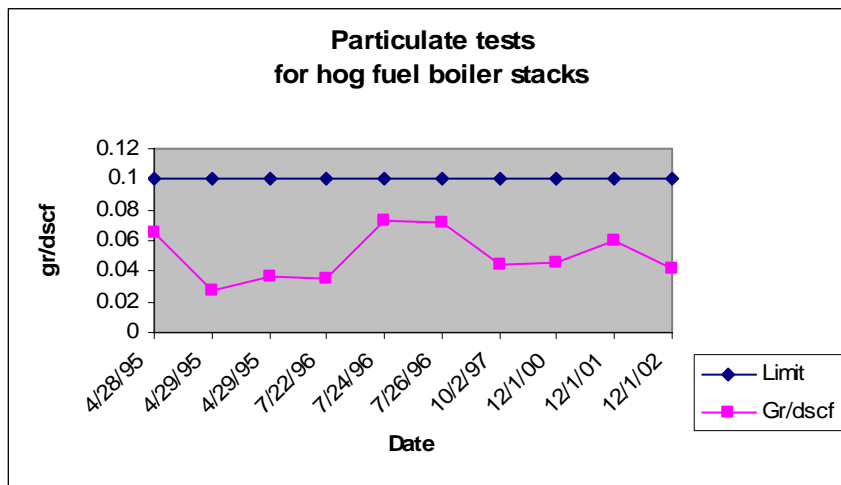
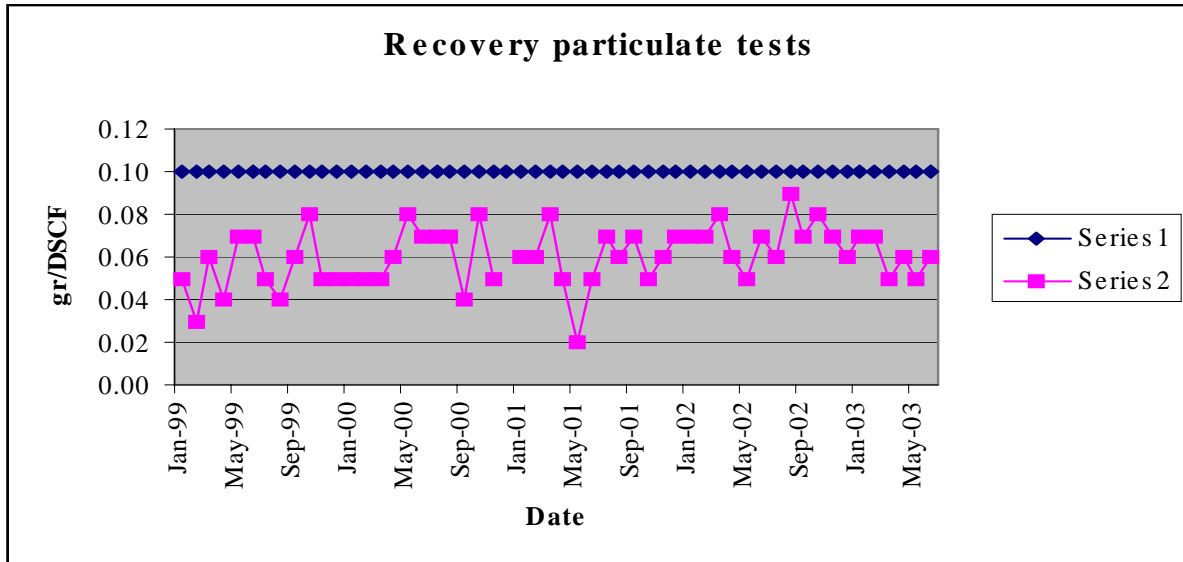
<p>A.3.</p>	<p>WAC 173-410-040(1)(d) Emissions from the recovery system and acid plant shall not exceed 800 ppm of sulfur dioxide for any hourly average.</p>	<p>The 360 ppm limit is the most stringent one we placed in the permit, but it's not federally enforceable. So we also placed the 800 ppm limit in the permit. The 800-ppm sulfur dioxide limit is federally enforceable.</p>
<p>A.6.</p>	<p>Order DE 95AQ-I034: sulfur dioxide limit for Recovery Furnaces No. 1, No. 2, and No. 3 boiler's stack is 360 ppm.</p>	<p>The permit imposes the 360 ppm limit for sulfur dioxide from Order DE 95AQ-I034. If the permittee meets the 360 ppm limit it also meets the 800 ppm. The required monitoring is the same for both limits.</p>
<p>A.7.</p>	<p>WAC 173-410-040(5): No recovery system shall emit total reduced sulfur (TRS) gases in excess of 17.5 ppm for a daily average</p>	<p>Permit imposes the 17.5-ppm daily average limit into the permit. However, because the state implementation plan does not include WAC 173-410-040(5), the limit on TRS is not federally enforceable and is listed as a "state only" requirement.</p>
<p>B.1.</p>	<p>Order DE 95AQ-I034: The opacity shall average less than 20 % for any consecutive three minutes period in any one hour. WAC 173-400-040(1): No person shall cause or permit the emission for more than three minutes, in any one hour of an air contaminant from any emission unit which at the emission point, or within a reasonable distance of the emission point, exceeds twenty percent opacity...</p>	<p>Both are the same.</p> <p>The permit imposes the regulatory limit of 20 percent. The limit is federally enforceable.</p> <p>The minimum operational parameter is to be used as an indicator of continuous operations of the pollution control equipment.</p> <p>The limit is federally enforceable.</p>
<p>B.2.</p>	<p>Order DE 95AQ-I034: Particulate shall be less than 0.1gr/dscf uncorrected for oxygen. WAC 173-410-040(2)(c)(iii). The emissions of particulate from emission units other than the acid plant or the recovery system shall not exceed the following maximums: (iii) 0.23 grams/dry cubic meter at standard conditions (0.1 gr/dscf) corrected to seven percent oxygen in case of combustion units, for units not classified under (c) (i) or (ii) of this section.</p>	<p>The system is not considered as a combustion source; its purpose is to dry hogged fuel. Air brought in from outside conditions and cools the flue gases to operational levels. Thus, correction to 7 percent oxygen is not required by WAC 173-400-050(3). The sulfur dioxide value could become indeterminate with the oxygen correction.</p> <p>The permit imposes the limit from the Order of 0.1 gr/dscf uncorrected for oxygen.</p> <p>The limit is federally enforceable.</p>

<p>C.2.</p>	<p>Order DE 95AQ-I034: The opacity shall average less than 20 % for any consecutive three minutes period in any one hour. WAC 173-400-040(1) No person shall cause or permit the emission--for more than three minutes, in any one hour--of an air contaminant from any emission unit which at the emission point, or within a reasonable distance of the emission point, exceeds twenty percent opacity...</p>	<p>Both are the same.</p> <p>The permit imposes the regulatory limit of 20 percent.</p> <p>The limit is federally enforceable.</p>
<p>C.3.</p>	<p>Order DE 95AQ-I034: Particulates shall be less than 0.1gr/dscf corrected to oxygen WAC 173-410-040(2)(c)(iii): The emission of particulates from emissions units other than the acid plant or recovery system, shall not exceed the following maximums: (iii) 0.23 grams per dry cubic meter at standard conditions (0.1 gr/dscf), corrected to seven percent oxygen in the case of combustion units, for units not classified under (c) (i) or (ii) of this section.</p>	<p>Both are the same.</p> <p>The permit imposes the regulatory limit of 0.1 gr/dscf.</p> <p>The limit is federally enforceable.</p>
<p>D.1.</p>	<p>Order DE 94AQ-I018: Volatile organic compounds (VOC) shall be less than 34 tons VOC, measured on a carbon basis each year.</p>	<p>Ecology considers the order limit both BACT and TBACT. Therefore, the permit imposes the order limit for VOC toxic and non-toxic compounds. The limit is federally enforceable.</p>
<p>F.1.</p>	<p>Order DE 95AQ-I034: The mill's emissions of sulfur dioxide shall not exceed a daily average of 20 lbs in each air-dried unbleached ton (ADUT) of pulp. WAC 173-410-040(1)(a): The total average daily emissions from a sulfite pulping mill, or portion of a sulfite pulping mill which practices incineration of the spent sulfite liquor, shall not exceed ten grams of sulfur dioxide per kilogram (20 lbs./ton) of air dried bleached pulp produced.</p>	<p>Both are the same.</p> <p>The permit imposes the regulatory limit of 20 LBs / ADUT.</p> <p>The limit is federally enforceable.</p>
<p>WAC 173-410-040 Emission standards. In addition to the general applicability of Chapters 173-400 and 173-490 WAC to all emission sources, no sulfite pulping mill shall cause or permit air contaminant emissions in excess of the limits listed below. Specific emission standards listed in this chapter take precedence over the general emission standards of Chapter 173-400 WAC.</p>		

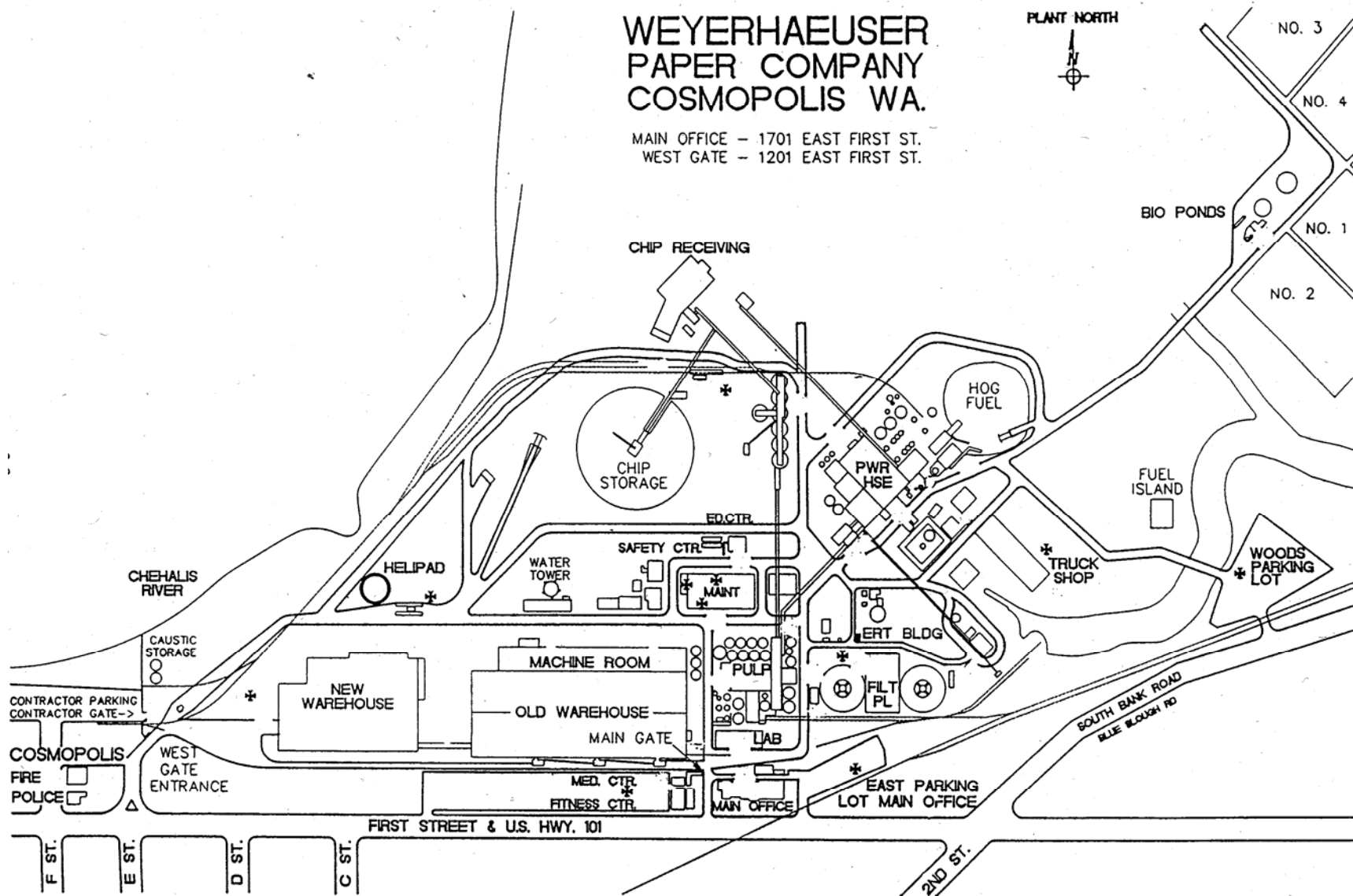
Facility-Wide General Requirements

Limit #	Condition	Compliance assurance
10.	<p>This condition consists of two separate statements.</p> <p>The first paragraph repeats the cited regulation.</p> <p>The second part is based on what Ecology considers an unlikely but possible scenario where recorded monitoring data is simply lost. Ecology will allow a 95% recovery rate for monitoring data if the Permittee provides an adequate explanation for the cause of the lost data. Ecology expects the Permittee to make every reasonable effort to maintain the integrity of all monitoring results. An allowance specified for missing monitoring results under certain conditions are no defined as violations, thus reducing the administrative burden on the permitting authority.</p>	

Appendix B - Historical Emission Unit Source Test Data



Appendix C: Site map and flow diagram



Appendix D: Monthly emission report

PULPING GROUP		Emission unit specific historical Emission Factor
(DB-26) Nuisance Tower Vent		
(BS-7) Nos. 1,2, & 3 BSW Venton		
(BS-6) No. 4 BSW & Knotters vent		
POWER & RECOVERY	See general Algorithm	
(AP-10) Recovery Boiler's Combined stack		lbs SO ₂ / ADUT
COMBINED IEU CONTRIBUTION		Emission unit specific historical Emission Factor
Estimated collective IEU's contribution		lbs SO ₂ / ADUT
COMBINED LOADING		Emission unit specific historical Emission Factor
TOTAL amount		lbs SO ₂ / ADUT

Permit Condition FI: General SO₂ emission calculation (Algorithm):

Concentration * Air Flow Rate * S0₂ Conversion* Time Adjustment / ADUST Production

(Conversion based on standard mole-temperature-volume conversions)

Permit Condition D1: Volatile organic compounds algorithm - D1

Annual average daily production (ADUTD) times the emission factor times the number of operating days

Appendix E: Regulatory orders

DE 95AQ-I034
DE 94AQ-I018
DE 96AQ-I089
DE 03AQIS-5813
2484 AQ-05

Appendix F: Response to Comments

Comment 1 (Jim Wilson, ORCAA)

Under the terms of the old permit, Weyerhaeuser-Cosmopolis reported annual emissions of Criteria and Toxic Air Pollutants to the DOE Annual Emission Inventory. It is our expectation that the new owners continue to report both Criteria and Toxic Air Pollutants to that inventory. The Draft permit references the emission inventory in FACILITY-WIDE GENERAL REQUIREMENTS, 35,

Response

The FACILITY-WIDE GENERAL REQUIREMENTS, 35 in the proposed permit references WAC 173-400-105 related to the data required in the emission inventory. WAC 173-400-105(1) requires the facility to submit the data for the criteria pollutants, ..., and other contaminants. The current rule allows Ecology to require the data. We will work with this mill to define what "other contaminants" should be included as part of the emissions inventory and require that they be included with the annual report.

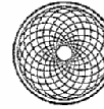
We relayed your concerns to the proposed new owner and he committed to continue submitting the data that Weyerhaeuser Company submitted. We will work with the new company to ensure that the data is submitted. Also, you might comment that WAC 173-400-105(1) be revised to include air toxic specifically when the rule is revised some time next year.

We have included the letter from the proposed owner of the mill explaining the company attitude toward compliance with environmental requirements.

RECEIVED

JUN 25 2007

Ecology - SWFA - Ind



Charlestown Invest

Don Nelson
Environmental Engineer
Department of Ecology
Solid Waste and Financial Assistance
Post Office Box 47706
Olympia, WA 98504-7706
USA

June 13th, 2007

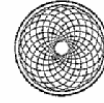
Dear Mr. Nelson

Re: Charlestown Investments Environmental Policy

Thank you for the work that you and your colleagues have done to review the operating permits for the Cosmopolis pulp mill. We understand that as part of your process you need to have some additional information about myself, my partners and Charlestown Investments and I would like to provide some overview on these issues.

With respect to Charlestown Investments, we are a Swiss based group of individuals with investments in various businesses around the world, primarily in technology, health care and real estate. A number of our partners have worked actively in senior positions in the specialty chemical, pharmaceutical and technology industries in Europe and the United States and we are all cognizant of the need to comply with the regulations governing businesses in which we invest.

We also have an investment in another dissolving sulphite mill at Port Alice, British Columbia. Prior to taking over this mill in 2005 and beginning the process of hiring a full complement of employees and investing more than \$100 million, we entered into a series of environmental agreements with the Government of British Columbia



Charlestown Investments

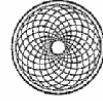
To date I can tell you that we have exceeded all of the commitments we made to the B.C. Government in terms of investment and operating procedures and timing on certain remediation projects and the Government of British Columbia can confirm that our environmental stewardship has in every case exceeded the legal and regulatory requirements they demanded of us.

Charlestown Investments is the only company in the world that has experience in successfully restarting a dissolving sulphite mill; literally the only one.

Charlestown Investments (CI) approach to both environmental compliance and to broader regulatory compliance is consistent in every company in which we have a direct investment, regardless of whether or not we have a controlling position, our views on environmental compliance are well known to our partners and we have NEVER had an environmental charge, citation or breach of any kind every brought against any of our businesses in any country.

As an investment policy, CI has long believed that responsible environmental stewardship is a key value driver for every business in the 21st century. This is not only reflected in our practices but also in our prospective investments. We are involved with a large Canadian wind farm which will be the world's largest offshore wind generating facility and we are currently in the due diligence phase to acquire an on-shore wind facility in Spain.

Our environmental mission is clear: To manufacture our products within the environmental laws and parameters set out by applicable regulatory bodies, to be accountable for our actions in this regard, and to make clear to our chain of supply our expectation that they operate within those laws, in a sustainable manner.



Charlestown Investments

I will be the managing partner responsible for the Cosmopolis mill and the investment policies of CI are ones which I share and endorse. Prior to pursuing a career in finance I worked for the Minister of Health in British Columbia and the Minister of Fisheries and Oceans for Canada. I have had the opportunity to have extensive exposure to water, air and other environmental issues both from the Government perspective and from a business perspective which has prepared me to understand the responsibility we are undertaking at Cosmopolis to operate the facility within the boundaries of the law and our permits.

With respect to the Cosmopolis business, Weyerhaeuser have told us repeatedly that a key factor in their decision to sell the mill to CI was that our capital investment plan, which exceeds \$180 million over the next 5 years, gave them confidence that we would operate the mill responsibly. Of that total investment \$14 million in the first 18 months will be used to address specific environmental compliance issues at the mill. Over the full 5 year horizon more than 40% of the total expenditures, at least \$60 million, will produce positive environmental results.

It is my intention and it is shared by all of my partners that we will work consistently and that will invest regularly to reduce the mill's environmental footprint.

I hope that this helps in providing some background for you and if you have any additional questions or comments, please don't hesitate to contact me.

Yours sincerely,

A handwritten signature in black ink, appearing to read 'Richard Bassett', written over a light blue horizontal line. The signature is fluid and cursive, with a prominent initial 'R'.

Richard Bassett

Managing Partner

Comment 2 (P. S. Jurasin, Citizen of Cosmopolis)

I am very concerned with a permit to be issued for the Cosmopolis pulp mill. I have lived in this community for some 50 years so I have lived with this mill's discharges for quite some time and have experienced the full range of discharges. The full scope that gets reported and the incidental discharges that are allowed far exceed safe levels for the community. There are many first hand observations that I have witnessed over the years where all of Cosmopolis is encircled in a heavy smog that smothers the town until a westerly wind pushes it up river and this smog contains all of the pollutants that are listed in this permit which are known carcinogens. These pollutants are at higher concentrations when the air is stagnant and have a higher potential to adversely affect the citizen of this community.

A permit is just some guide line which sets parameters to follow but in reality these limits that are set, get exceeded and average citizen just puts up with it. As studies of this area show, we have a much higher cancer rate, kidney disease and heart problems, all of which are connected to pollution from pulp mills and the burning of wood waste. The power plants for this pulp mill not only burns wood waste but other by products of the pulping process that you have listed in this permit which are known carcinogens. Another concern I have witnessed on many occasions is the excessive black smoke from the power plant's smoke stacks when they have to burn oil to get pressures up. If the wind is coming from the east this discharge gets dumped directly into town. It would take an environmental specialist to pick this permit apart and report to this community what it is really being subjected to but the community is being delivered "its family wage jobs" and the need to continue this, is blind siding the community for jobs and taxes.

I was painting my home when the most recent chlorine explosions occurred where they had to evacuate the mill, closed highway 101 and the blue slough road and parts of town but do you think they Weyerhaeuser made contact with me to evacuate being that I am one of the nearest residents to this mill. No! The point being made is that if safety really was number one, wouldn't that evacuation plan in an emergency also prioritize notifying the people who live in close proximity to the mill when a deadly gas is being released? Yes, but I was never was notified of the need to leave. If the wind would have been blowing into town that day, there very well could have been fatalities. I have read much of this permit which a lay person as myself can understand but lacks the time to respond in a more specific format which you might prefer but to say it short and sweet this is one less cigarette filter producing pulp mill; that emits known carcinogens; that will exceed its permit limits on occasions; and, that will have excessive noise pollution problem that has been an on going problem for years. Ask anyone that knows of the pop-off valve on the power plant. This releases explosive noise and continuous load steam venting that screams and shrieks for excessively long periods of time. Weyerhaeuser was not concerned enough to resolve this abuse and I will not go without expressing that this last year and a half with no noise or air pollution has been something that I have very much enjoyed and deserved. Do what's right and do your part in stopping global warming and stop this pollution and deny this permit. Remember Love Canal! Those settling ponds of Weyerhaeuser's in south Aberdeen of which a law suit was filed and settled have been expressed to me as 10 times worst than Love Canal and how many people were informed of what caused all those health issues -- only a few really know. Make the right choice and deny this permit or lower the allowable levels of carcinogens to a level that will make this plant uneconomical to operate.

Response

The proposed permit was written to adhere to current rules and law that apply to air pollution sources in the state of Washington including state and federal requirements. It is true that the mill burns wood waste and spent sulfite liquor (SSL) from the mill's pulping operations. They

recover both magnesium and sulfur dioxide by burning the SSL. Most emissions sources at the mills are controlled by air pollution controls systems. The ones that do not have air pollution control systems have either been determined to meet the current rules without controls or the regulations do not require controls at this time. The bleaching system will have controls three years after the effective date of the wastewater discharge permit. This is a state requirement since the control requirements for the bleaching system is dependent upon the promulgations of the wastewater effluent guidelines. The rules and regulations under which the proposed permit was written are protective of public health. During times when the company starts burning oil, the system may produce excess emissions. These events are usually of short durations. Any event lasting more than three minutes with opacity greater than 20% must be reported on the company monthly air emission report. Opacity is related to how much light that is shining through the plume is blocked by pollutants in the plume.

During the chlorine dioxide explosion, the Washington Highway Patrol was the Incident Commander for the off site areas. The Incident Commander determined who was to be evacuated as the event evolved.

The solids in Westport ponds are mostly waste activated sludge. The material poses no dangers to human health as long as the water column above it is oxygenated. The events that caused the odorous conditions during the early 1990 were due to the ponds reduced oxygen level as a result of removal of the aerators. New aerators were placed in the ponds after the odorous event. There have been very few odors reported since the new aerators were installed.

The Department of Health (DOH) performed a census track study of death caused from heart disease and lung cancer (Report due to be published Week of July 16, 2007) that indicated an increase in death caused by these diseases for the Grays Harbor County compared to the same analyses for the state. While the DOH does not know the causes of the relatively high death rates for lung cancer and heart disease, other data show that smoking and obesity are also relatively high in this area. Additional factors, such as particulate matter air pollution, might also play a role, but they have not looked at the related data.

Please contact me after the release date if you want a copy.

The Department of Health did not have any information about kidney disease in the Grays Harbor County area.

Permit's writer Boiler MACT requirement issues

A federal court has issued an order that could make the Boiler MACT inapplicable in the near future, but the court's order has not yet taken effect. The parties to the case are allowed 45 days to seek rehearing or to request that the rule remain enforceable pending EPA's action to revise it. If no parties file a request of this nature, the court should issue the formal mandate vacating the Boiler MACT rule on or about July 30. Once the court issues the mandate, the rule would no longer be enforceable. However, if any party to the case files a motion before July 30 asking the court to let the rule remain in effect pending EPA's revision of the rule, the rule will remain in effect until the court resolves those requests. EPA is evaluating its options and has not reached any decision whether to request that the Boiler MACT rule remain enforceable pending revision. If the mandate vacating the Boiler MACT is issued sources that were subject to the rule will

need to file applications for permits containing MACT limits derived on a case-by-case basis within a time specified by EPA or state permitting authorities.

CAM and MACT I discussions

The continuous assurance monitoring (CAM) and the maximum achievable control technology (MACT I) for the pulping process discussions from the support document written in 2003 was added to the proposed permit support document in order to have continuity in permits for this facility. The support document is not enforceable and only explain the requirements in the permit.