Pursuant to the U.S. Environmental Protection Agency (EPA) regulations for the Prevention of Significant Deterioration (PSD) in Title 40, Code of the Federal Regulations, Part 52, New Source Review (NSR) regulations in the Washington Administrative Code 173-400-110 and 173-460-040, and based upon the complete Prevention of Significant Deterioration/Notice of Construction (PSD/NOC) Application submitted by the Weyerhaeuser Paper Company and the technical analysis performed by the Department of Ecology (Ecology), Ecology now finds the following:

FINDINGS

1. The Weyerhaeuser Paper Company is proposing to modify facilities at the Longview, Washington pulp and paper mill. The following modifications are the culmination of a project which was initiated in 1983 and are expected to raise mill pulp capacity from about 850 to about 1,200 bleached oven dry tons per day.

1.1. The major component of the proposal consists of construction of a new fiber line (consisting of a new MCC kraft digester and associated washing and screening facilities, as well as a new chemical bleach plant) to improve pulping efficiency and to increase overall mill capacity to the capacity of the existing recovery boiler.

1.2. Noncondensible gas (NCG) and dirty condensate collection and treatment systems will be built integral with the new fiber line. The black liquor evaporation system will be upgraded.

1.3. The recovery boiler will be modified for operation with greater reliability, heat recovery efficiency, and overall throughput rate.

1.4. A new 300,000 pounds per hour steam generation Package Boiler will be constructed. At Weyerhaeuser’s option a 150,000 pounds per hour steam generation Package Boiler may be installed in place of the larger boiler.

2. A Prevention of Significant Deterioration/Notice of Construction Modification application was submitted on November 21, 1991 and was determined to be complete on
April 28, 1992. A final approval was issued on February 9, 1993. Weyerhaeuser submitted a complete application for an amendment to the approval on April 7, 1993. A final approval for amendment 1 to this approval was issued on October 29, 1993. Weyerhaeuser submitted an application for a second amendment to the approval which was found to be complete on April 14, 1995. Amendment 2 was issued on September 19, 1995. Ecology determined that the performance testing required in Condition 15 should be done by Reference Method 5 rather than by RM 201 or 201A on December 28, 1995, and initiated an administrative amendment to the approval, resulting in Amendment 3. On October 7, 1998, Weyerhaeuser submitted an application for a fourth amendment to the approval. The application was found to be complete by default on November 6, 1998. The proposed amendments were primarily intended to clarify and simplify conditions in the original permit. The following summarizes the amendments:

2.1 Deletion of the requirement in Condition 3 to perform a two year study to determine the \( \text{PM}_{10} \) fraction of Recovery Boiler No. 10 emissions: The study has been completed.

2.2 Modification of \( \text{SO}_2 \) emissions limits in Condition 5 for Recovery Boiler No. 10 for periods during which oil and black liquor are burned in combination.

2.3 Simplification of Conditions 12 and 13 to recognize that total reduced sulfur (TRS) and \( \text{SO}_2 \) emissions from the NCG incinerator are monitored with Recovery Boiler No. 10 emissions.

2.4 Reduction of \( \text{PM}_{10} \) testing frequency in Condition 14: Historical emissions levels have averaged less than half the allowable limit.

2.5 Reduction of TRS testing frequency in Condition 16: Historical emissions levels have averaged less than one-fifth the allowable limit.

2.6 Increase the annual CO limit to 80 tons per year (from 60 tons per year) in Condition 22. Hourly emission limits are unchanged from the current permit.

2.7 Simplification of Conditions 18, 21, and 23 to acknowledge that only one 150,000 pound per hour boiler was installed.

2.8 Deletion of Condition 24: This condition required dust control during construction of the original project. Construction is complete under this PSD.

3. The Longview mill qualifies as a major source of air pollutants because it is listed as a major stationary source under Title 40, Code of the Federal Regulations, Part 51, Section 166, paragraph (b)(1)(i)(a) and has the potential to emit more than 100 tons per year of several pollutants.

4. The modernization project will be a major modification of the mill because emissions of carbon monoxide (CO), nitrogen oxides (NO\(_X\)), sulfur dioxide (SO\(_2\)), and fine particulate matter (PM\(_{10}\)) will be increased by more than 100 tons per year.
5. The site of the proposed modification is within an area designated Class II for the purposes of PSD evaluation, under 40 CFR 52.21 as amended through January 1, 1992.

6. The site of the proposed modification is within an area which is in attainment for all pollutants regulated by state and national ambient air quality standards.

7. The emissions of CO, NO\textsubscript{X}, SO\textsubscript{2}, total reduced sulfur (TRS), total particulate matter (PM), PM\textsubscript{10}, and volatile organic compounds (VOCs) from the proposed modification will have "net significant increases" and are therefore subject to PSD review in addition to new source review (NSR).

8. The emissions of all other air pollutants from the proposed modification are subject to NSR.

9. Best available control technology (BACT) as required under WAC 173-400-110 (3)(a) and toxic best available control technology (T-BACT) as required under WAC 173-460-060 will be used for the control of all air pollutants which will be emitted by the proposed modernization.

10. The emissions units which will be constructed or modified will have the potential to emit up to 3,165 tons per year of CO. The emissions units subject to permitting action presently generate 1,693 tons per year of CO. After subtraction of an emission reduction credit (ERC) of 16 tons per year, the proposed modification will result in a net potential increase of 1,456 tons of CO per year.

11. The emissions units which will be constructed or modified will have the potential to emit up to 1,468 tons per year of NO\textsubscript{X}. The emissions units subject to permitting action presently generate 561 tons per year of NO\textsubscript{X}. After subtraction of an ERC of 292 tons per year, the proposed modification will result in a net potential increase of 615 tons of NO\textsubscript{X} per year.

12. The emissions units which will be constructed or modified will have the potential to emit up to 1,031 tons per year of SO\textsubscript{2}. The emissions units subject to permitting action presently generate 96 tons per year of SO\textsubscript{2}. After subtraction of an ERC of 431 tons per year, the proposed modification will result in a net potential increase of 504 tons of SO\textsubscript{2} per year.

13. The emissions units which will be constructed or modified will have the potential to emit up to 45 tons per year of TRS. The emissions units subject to permitting action presently generate 10 tons per year of TRS. After subtraction of an ERC of 18 tons per year, the proposed modification will result in a net potential increase of 17 tons of TRS per year.

14. The emissions units which will be constructed or modified will have the potential to emit up to 355 tons per year of total particulate matter (PM). The emissions units subject to permitting action presently generate 161 tons per year of PM. After subtraction of an
ERC of 122 tons per year, the proposed modification will result in a net potential increase of 72 tons per year of PM.

15. The emissions units which will be constructed or modified will have the potential to emit up to 351 tons per year of particulate matter less than or equal to 10 microns in aerodynamic diameter (PM\(_{10}\)). The emissions units subject to permitting action presently generate 161 tons per year of PM\(_{10}\). After subtraction of an ERC of 46 tons per year, the proposed modification will result in a net potential increase of 144 tons per year of PM\(_{10}\).

16. The emissions units which will be constructed or modified will have the potential to emit up to 241 tons per year of VOC. The emissions units subject to permitting action presently generate 30 tons per year of VOC. After subtraction of an ERC of 137 tons per year, the proposed modification will result in a net potential increase of 74 tons of VOC per year.

17. Visibility impairment will not be perceptibly increased in any Class I area. There may be an increase in visibility impairment in the Columbia River Gorge Scenic Area for some viewing conditions due to the proposed emissions.

18. Allowable emissions increases from the new and modified emissions units, in conjunction with all other applicable emissions increases or reductions (including secondary emissions) will not cause or contribute to air pollution in violation of:

18.1. Any national ambient air quality standard;

18.2. Any applicable maximum allowable increase over the baseline concentration in any area.

19. Odors from the source will be kept to a reasonable minimum.

20. Emissions of toxic air pollutants have been addressed as required under Chapter 173-460 WAC and considered in the determination of BACT as per EPA guidance relating to implementation of 40 CFR 52.21.

21. No noticeable effect on industrial, commercial, or residential growth in the Longview area is anticipated due to the project.

22. Ecology finds that all requirements for PSD and NSR are satisfied and that as approved below, the new and modified emissions units comply with all applicable federal new source performance standards. Approval of the PSD application and notice of construction are granted subject to the following conditions.

PSD APPROVAL CONDITIONS

1. CO emissions from the fiber line (including the MCC kraft digester and associated washing and screening facilities, as well the chemical bleach plant) shall not exceed the limits of 349 pounds per hour on an hourly average or 300 tons per year as measured by EPA Reference Method 10. Exceedance of these limits shall not be considered an
enforceable violation until: one year from the effective date of this Approval, or when Ecology has set enforceable limits that shall reflect BACT and good operating and maintenance practice, based upon representative test data to be collected by Weyerhaeuser; whichever is earlier.

2. Total particulate (PM) emissions from Kraft Recovery Boiler No. 10:
   2.1 Shall not exceed 0.027 grain per dry standard foot (gr/dscf) corrected to 8.0 percent oxygen as measured by EPA Reference Method 5 or an equivalent method approved by Ecology.
   2.2 Testing shall be done at approximate three month intervals (quarterly). Should a quarterly test fail, the test frequency shall be monthly until three consecutive monthly tests pass (after which testing may return to a quarterly schedule until the next failure).
   2.3 PM emissions from Kraft Recovery Boiler No. 10 shall not exceed 0.020 gr/dscf corrected to 8.0 percent oxygen on an annual average or 252 tons per year.

3. Fine particulate matter (particulate finer than 10 micrometers in diameter, hereafter referred to as PM$_{10}$) from Kraft Recovery Boiler No. 10:
   3.1 Shall not exceed 0.027 grain per dry standard foot (gr/dscf) corrected to 8.0 percent oxygen as measured by EPA Reference Method 5, front and back half (filter and impinger capture).
   3.2 Testing shall be done at approximate three month intervals (quarterly). Should a quarterly test fail, the test frequency shall be monthly until three consecutive monthly tests pass (after which testing may return to a quarterly schedule until the next failure).
   3.3 PM$_{10}$ emissions from Kraft Recovery Boiler No. 10 shall not exceed 0.020 gr/dscf corrected to 8.0 percent oxygen on an annual average or 252 tons per year.

4. Opacity from the No. 10 Recovery Boiler stack shall not exceed an average of 20 percent as measured by EPA Reference Method 9 or as measured by a continuous emission monitoring system which meets the requirements of condition 31.

5. SO$_2$ emissions the No. 10 Recovery Boiler and the Noncondensible Gas Incinerator:
   5.1 When firing black liquor solids without supplemental oil or when firing black liquor solids at 120,000 lbs./hr. or more with supplementary oil: SO$_2$ emissions from the No. 10 Recovery Boiler and the Noncondensible Gas Incinerator, when combined at the No. 10 Recovery Boiler stack, shall not exceed 75 ppmdv corrected to 8.0 percent oxygen on a 3-hour average.
   5.2 When firing black liquor solids at less than 120,000 lbs./hr. with supplementary oil: SO$_2$ emissions from the No. 10 Recovery Boiler and the Noncondensible Gas Incinerator, when combined at the No. 10 Recovery Boiler stack, shall not exceed
500 parts per million on a dry volume basis (ppmdv) corrected to 8.0 percent oxygen on a 3-hour average.

5.3 For purposes of determining the applicable SO$_2$ emissions limit for an averaging period containing both the above firing conditions, the limit for the operating condition used for over half the period shall apply.

5.4 All SO$_2$ emissions from the No. 10 Recovery Boiler stack shall be measured by a continuous emission monitoring system which meets the requirements of condition 32. SO$_2$ emissions from the No. 10 Recovery Boiler and Noncondensible Gas Incinerator stack shall not exceed 586 tons per year plus 0.036 ton per year for every hour per calendar year of Noncondensible Gas Incinerator operation, with the total not to exceed 884 tons per year.

6. Emissions of reduced sulfur compounds (TRS) from the No. 10 Recovery Boiler and the Noncondensible Gas Incinerator, when combined at the No. 10 Recovery Boiler stack, shall not exceed 5.0 ppmdv corrected to 8.0 percent oxygen on a 12-hour average as measured by EPA Reference Method 16 or 16A. TRS emissions shall be measured by a continuous emission monitoring system which meets the requirements of condition 31. TRS emissions from the No. 10 Recovery Boiler shall not exceed 31 tons per year.

7. NO$_X$ emissions from the No. 10 Recovery Boiler shall not exceed 140 ppmdv corrected to 8.0 percent oxygen on a 24-hour average. EPA Reference Method 7, 7A, 7B or 7E shall be used to determine initial compliance with NO$_X$ emission limitations. NO$_X$ emissions shall be measured by a continuous emission monitoring system which meets the requirements of condition 32. NO$_X$ emissions from the No. 10 Recovery Boiler shall not exceed 1,179 tons per year.

8. CO emissions from the No. 10 Recovery Boiler shall not exceed 1,000 ppmdv on an hourly average or 2,564 tons per year as measured by EPA Reference Method 10.

9. VOC emissions from the No. 10 Recovery Boiler shall not exceed 50 ppmdv on an hourly average or 201 tons per year as measured by EPA Reference Method 25, 25A or 25B.

10. Temperature of the gases entering the No. 10 Recovery Boiler ESP shall not exceed an hourly average of 500° F in order to minimize the emissions of heavy metal compounds.

11. All sources of noncondensible gases and vapors from the digestion and evaporation processes of the mill that are not condensed by the equipment used in those processes shall be treated by incineration or its equivalent in accordance with the NCG/TRS collection and treatment system proposal agreed to by Ecology in the November 23, 1993 Mike Hoyles - Ecology letter to Ken Johnson and David Farris - Weyerhaeuser (attached as Appendix B). Exhaust from the Noncondensible Gas Incinerator may be ducted to and combined with the exhaust from the No. 10 Recovery Boiler. When the Noncondensible
Gas Incinerator is not operating, high concentration noncondensibles shall be treated by backup incineration or its equivalent.

12. TRS emissions from the Noncondensible Gas Incinerator shall not exceed 5.0 ppmdv corrected to 10.0 percent oxygen on a 12-hour average. TRS emissions from the Noncondensible Gas Incinerator shall be measured by a continuous emission monitoring system that meets the requirements of condition 31. Weyerhaeuser may propose an alternative means for verifying compliance with this condition. Weyerhaeuser shall provide data to support any such alternative technique and receive approval by Ecology prior to utilization of any such technique. Any alternative technique proposed by Weyerhaeuser shall contain installation, operation and maintenance specifications no less stringent than those contained in condition 31.

13. SO₂ emissions from the Noncondensible Gas Incinerator shall not exceed 300 ppmdv corrected to 7.0 percent oxygen on a 1-hour average. SO₂ emissions from the Noncondensible Gas Incinerator shall be measured by a continuous emission monitoring system which meets the requirements of condition 31, installed prior to the connection with the recovery boiler stack. Weyerhaeuser may propose an alternative means for verifying compliance with this condition, such as continuously monitoring and recording pH of the Noncondensible Gas Incinerator scrubber liquor. Weyerhaeuser shall provide data to support any such alternative technique and receive approval by Ecology prior to utilization of any such technique. Any alternative technique proposed by Weyerhaeuser shall contain installation, operation and maintenance specifications no less stringent than those contained in condition 31.

14. PM₁₀ emissions from the Smelt Dissolver Tank Vent:

14.1 Shall not exceed 0.120 pound per ton of black liquor solids fired (dry weight) as measured by EPA Reference Method 5 or an equivalent method approved in advance by Ecology.

14.2 Testing shall be done at approximate three month intervals (quarterly). Should a quarterly test fail, the test frequency shall be monthly until three consecutive monthly tests pass (after which testing may return to a quarterly schedule until the next failure). All particulate matter collected by this method will be assumed to be PM₁₀.

14.3 PM₁₀ emissions from the Smelt Dissolver Tank Vent shall not exceed 62.0 tons per year.

15. Opacity from the Smelt Dissolver Tank Vent Stack shall not exceed 20 percent as measured by EPA Reference Method 9.

16. Emissions of reduced sulfur compounds (TRS) from the Smelt Dissolver Tank Vent:
16.1 Shall not exceed 0.0168 pound per ton black liquor solids on a daily average as measured by EPA Reference Method 16 or 16A.

16.2 Testing shall be done at approximate three month intervals (quarterly). Should a quarterly test fail, the test frequency shall be monthly until three consecutive monthly tests pass (after which testing may return to a quarterly schedule until the next failure).

16.3 The Smelt Dissolver Tank Vent shall not emit more than 9.0 tons of TRS per year.

17. Pipeline quality natural gas shall be the only fuel supplied to and used to fire the Package Boiler.

18. PM$_{10}$ emissions from the 150,000 pounds per hour Package Boiler stack shall not exceed 2.09 pounds per hour or 4.0 tons per year. Initial performance testing shall be by EPA Reference Method 5, under the assumption that 100 percent of the particulate measured by that method is PM$_{10}$.


20. SO$_2$ emissions from the Package Boiler stack shall not exceed 3.0 pounds over any three hour period or 1.0 ton per year.

21. NO$_X$ emissions from the 150,000 pounds per hour Package Boiler stack shall not exceed 0.048 pounds per million BTU heat input, 40 ppmvd corrected to 3.0 percent oxygen on a daily average, or 37.5 tons per year. Initial compliance shall be determined by EPA Reference Methods 1, 2, 3, 4 and 7, 7A, 7B or 7E. NO$_X$ emissions shall be measured by a continuous emission monitoring system which meets the requirements of condition 31.

22. CO emissions from the Package Boiler stack shall not exceed 30 pounds per hour or 80 tons per year as measured by EPA Reference Method 10.

23. VOC emissions from the 150,000 pounds per hour Package Boiler stack shall not exceed 1.0 pound per hour or 1.0 ton per year. Compliance shall be determined by EPA Reference Method 25 or 25A or 25B.

24. With the exception of PM$_{10}$, SO$_2$, NO$_X$, CO, VOC, and TRS, the net emissions increase of any pollutant regulated under the Federal Clean Air Act shall be less than the significant levels in 40 CFR 52.21(b)(23)(i).

25. Sampling ports and platforms must be provided for each affected emissions unit, after the final pollution control device. The ports must meet the requirements of 40 CFR, Part 60, Appendix A, Method 1. Other arrangements may be acceptable if approved in advance by Ecology prior to installation. Adequate permanent and safe access to the test ports must be provided.
Within 60 days after achieving maximum production, but not later than 180 days after start-up by any emissions unit affected by the modification, Weyerhaeuser shall conduct performance tests at that emissions unit, for the appropriate pollutants, to be performed by an independent testing firm. Ecology may modify these timing constraints in order that the emissions units are tested at conditions approximating maximum production rate. All tests shall be conducted in accordance with the appropriate methods set forth in Title 40 Code of the Federal Regulations Part 51 Appendix M and Part 60 Appendix A as amended through July 1, 1995. Each performance test shall consist of three separate runs using the applicable test method, with the overall test result to be an arithmetic average of the results of the three test runs, in accordance with 40 CFR 60.8(f). A test plan shall be submitted for Ecology's approval at least 30 days prior to the testing. The initial tests and test methods shall include, but may not be limited to, the following:

26.2. PM$_{10}$, as measured by RM 201 or 201A.
26.3. Opacity, as measured by RM 9.
26.4. Sulfur dioxide, as measured by RM 6, 6A, 6B, or 6C.
26.5. Nitrogen oxides as measured by RM 7, 7A, 7B, or 7E.
26.6. Carbon monoxide, as measured by RM 10.
26.7. Volatile organic compounds, as measured by RM 25, 25A, or 25B.
26.8. Total reduced sulfur as measured by RM 16, 16A, or 16B.

Weyerhaeuser may propose amendments to the emission limits contained in this Approval. To do so, Weyerhaeuser must first conduct a study, on each emissions unit affected by the Approval, to run for a period of time to be determined by Ecology. During the course of the study Weyerhaeuser shall determine emission characteristics and predicted ambient impacts of each emissions unit during:

27.1. Steady-state operation at several points within the normal operating range;
27.2. Startup, with time duration to be specified; and
27.3. Shutdown, with time duration to be specified.

Upon completion of each study, and submission of a complete application, Weyerhaeuser may request amendment of appropriate emission limits contained in this Approval. Ecology may then amend this Approval in order to set higher limits for specified periods of time during startup and shutdown, and lower limits for steady-state operation. Such amendments shall not allow any increase in annual emissions or any violation of an ambient air standard or PSD increment.

Any emissions source testing required in conditions 1 through 23 shall be performed utilizing the appropriate test methodology required in condition 26, no less frequently
than specified in the attached Appendix to this PSD, Emission Limitations for PSD Approval and Order 92AQ1069, unless:

29.1. An alternative schedule based upon measured emissions relative to the appropriate emissions limitation has been approved in advance by Ecology;

29.2. A different sampling schedule has been ordered in a condition; or

29.3. Weyerhaeuser has proposed and demonstrated the equivalency of an alternative compliance demonstration method, such as monitoring of operating parameters, and such method has been approved in advance by Ecology.

Ecology may require resumption of a more frequent source testing schedule if measured emission levels increase above the levels which were used to establish the alternative schedule, or Ecology determines that additional testing is necessary to validate assumptions used to demonstrate compliance by measuring operating parameters.

30. Annual emissions for units that are tested in accordance with condition 29 shall be computed over the established emission inventory reporting period. Annual emissions for each unit shall be computed by multiplying each measured emission rate by the fraction of the reporting period that elapses until the next test at that emissions unit, then taking the sum of the products.

31. Any continuous emission monitoring system required in conditions 1 through 23 shall conform with EPA Title 40 Code of the Federal Regulations, Part 60, Appendix B Performance Specifications as indicated below, unless otherwise approved by Ecology:


31.2. Continuous emission monitoring systems for SO$_2$ and NO$_x$ - Performance Specification 2.

31.3. Continuous emission monitoring systems for O$_2$ and CO$_2$ - Performance Specification 3.


In addition, before initial start-up a continuous emission monitoring quality assurance plan conforming with 40 CFR 60 Appendix F and Recommended Quality Assurance Procedures for Opacity Continuous Emission Monitoring Systems (EPA 340/1-86-010) and acceptable to Ecology must be submitted and Ecology may require the plan to be periodically updated.

32. Weyerhaeuser may utilize alternative means, such as predictive emission monitoring systems (PEMS) in place of a CEMS required in conditions 1 through 23 after obtaining written approval by Ecology. Any proposed alternative shall be at a minimum equivalent to a CEMS which meets the requirements of condition 31.
33. Each occurrence of monitored emissions or alternative parameters, where applicable, in excess of the limits set above shall be reported at least monthly within thirty days of the end of each calendar month and in a format approved in advance by Ecology which shall include but not be limited to the following:

33.1. The time of the occurrence.
33.2. Magnitude of the emission or process parameters excess.
33.3. The duration of the excess.
33.4. The probable cause.
33.5. Any corrective actions taken or planned.
33.6. Any other agency contacted.

34. Operating and maintenance manuals for all equipment constituting parts of or contained in the emissions units proposed for modification or as new construction and that has the potential to affect emissions to the atmosphere shall be maintained on-site. Copies of the manuals shall be available to Ecology. Weyerhaeuser shall develop and follow an operation and maintenance plan to implement procedures and control methods described in the PSD/NOC application as T-BACT prior to startup of any new or modified emissions units or process equipment, in accordance with WAC 173-460-040 (8). This O&M plan shall be incorporated into the operation and maintenance manuals. Excess emissions that result from a failure to follow the requirements of the manuals may be considered proof that the equipment was not properly operated and maintained in accordance with RCW 70.94.152 (5).

35. This approval shall become void for any emissions unit if construction of that emissions unit is not commenced within eighteen (18) months after receipt of final approval, or if construction or operation of that emissions unit is discontinued for a period of eighteen (18) months.

36. Any activity which is undertaken by Weyerhaeuser or others, in a manner which is inconsistent with the application and this determination, shall be subject to Ecology enforcement under applicable regulations. Nothing in this determination shall be construed so as to relieve Weyerhaeuser of its obligations under any state, local, or federal laws or regulations.

37. Weyerhaeuser shall notify Ecology in writing at least thirty days prior to start-up by any of the sources affected by the modification.

38. Access to the source by the U.S. Environmental Protection Agency (EPA), Ecology or local regulatory personnel shall be permitted upon request for the purpose of compliance assurance inspections. Failure to allow access is grounds for action under the Federal Clean Air Act or the Washington Clean Air Act.
Ecology has been advised by USEPA Region X that USEPA co-
approval of amendments to this PSD are not required unless said
amendments alter conditions related to nitrogen oxide emissions
(e-mail from Ray Nye, USEPA Region X PSD Specialist, to
## APPENDIX A - EMISSION LIMITATIONS for PSD APPROVAL-92-03 and ORDER 92AQ1069

<table>
<thead>
<tr>
<th>Emissions Unit</th>
<th>Pollutant</th>
<th>Limit</th>
<th>Averaging time</th>
<th>Test Method</th>
<th>Frequency¹</th>
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<tr>
<td>Fiber line</td>
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<td>CO</td>
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<td>No. 10 Recovery Boiler</td>
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<td>PM</td>
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<td>Σ of RM tests</td>
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<td>PM</td>
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<td>PM₁₀</td>
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<td>Opacity</td>
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<td>SO₂</td>
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<td>CEMS</td>
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<td>SO₂</td>
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<td>Σ of CEMS data</td>
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<td>Annual</td>
<td>Σ of RM data</td>
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</tr>
<tr>
<td></td>
<td>Opacity</td>
<td>20 %</td>
<td>RM 9</td>
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<td>NCG Incinerator</td>
<td>TRS</td>
<td>5.0 ppmvd @ 10.0 % O₂</td>
<td>12-hr</td>
<td>RM 16 or 16A and CEMS</td>
<td>CEMS continuous</td>
</tr>
<tr>
<td></td>
<td>SO₂</td>
<td>300 ppmvd @ 7.0 % O₂</td>
<td>1-hr</td>
<td>RM 6 and CEMS</td>
<td>CEMS continuous</td>
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<td></td>
<td>VOC</td>
<td>50 ppmvd</td>
<td>Hourly</td>
<td>RM 25, 25A, or 25B</td>
<td>Initial compliance</td>
</tr>
<tr>
<td></td>
<td>VOC</td>
<td>201 tpy</td>
<td>Annual</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>SO₂</td>
<td>30 ppmvd</td>
<td>3-hrs</td>
<td>RM 6</td>
<td>Initial compliance</td>
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<td>Smelt Dissolver Tank Vent</td>
<td>PM₁₀</td>
<td>0.120 lb/TBLS</td>
<td>Avg. of 3 1-hr runs</td>
<td>RM 5</td>
<td>Quarterly</td>
</tr>
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<td>PM₁₀</td>
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<td>Annual</td>
<td>Σ of RM tests</td>
<td>Annual</td>
</tr>
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<td></td>
<td>Opacity</td>
<td>20 %</td>
<td>RM 9</td>
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<tr>
<td></td>
<td>TRS</td>
<td>0.0168 lb/TBLS</td>
<td>Daily</td>
<td>RM 16 or 16A</td>
<td>Quarterly</td>
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<td>TRS</td>
<td>9.0 tons per year</td>
<td>Annual</td>
<td>Σ of RM data</td>
<td>Annual</td>
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<td>Package Boiler (150k lb/hr steam rated capacity)</td>
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<td>2.09 lb/hr</td>
<td>Daily</td>
<td>RM 5</td>
<td>Initial compliance</td>
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<tr>
<td></td>
<td>PM₁₀</td>
<td>4.0 tpy</td>
<td>Annual</td>
<td>Initial compliance</td>
<td>Initial compliance</td>
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<tr>
<td></td>
<td>Opacity</td>
<td>10 %</td>
<td>RM 9</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>SO₂</td>
<td>3.0 lb/hr</td>
<td>3-hrs</td>
<td>RM 6</td>
<td>Initial compliance</td>
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<td></td>
<td>SO₂</td>
<td>1.0 tpy</td>
<td>Annual</td>
<td>RM - initial compliance; CEMS continuous</td>
<td>RM - initial compliance; CEMS continuous</td>
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<td></td>
<td>NOₓ</td>
<td>0.048 lb/MMBtu @ 3.0 % O₂</td>
<td>Daily</td>
<td>RM 7 and CEMS</td>
<td>RM - initial compliance; CEMS continuous</td>
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<td>NOₓ</td>
<td>40 ppmvd</td>
<td>Daily</td>
<td>RM 7 and CEMS</td>
<td>RM - initial compliance; CEMS continuous</td>
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<td></td>
<td>NOₓ</td>
<td>37.5 tpy</td>
<td>Annual</td>
<td>Σ of CEMS data</td>
<td>Annual</td>
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<td>CO</td>
<td>30 lb/hr</td>
<td>Hourly</td>
<td>RM 10</td>
<td>Initial compliance</td>
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<td>CO</td>
<td>80 tpy</td>
<td>Annual</td>
<td>Initial compliance</td>
<td>Initial compliance</td>
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<td>VOC</td>
<td>1.0 lb/hr</td>
<td>Hourly</td>
<td>RM 25, 25A, or 25B</td>
<td>Initial compliance</td>
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<tr>
<td></td>
<td>VOC</td>
<td>1.0 tpy</td>
<td>Annual</td>
<td></td>
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</tr>
</tbody>
</table>

¹ Unless otherwise approved by Ecology.
Appendix B

Mike Hoyles’ letter
to
Ken Johnson
Weyerhaeuser
November 23, 1993
Ken Johnson
Washington Environmental Affairs Manager
Weyerhaeuser Corporate Headquarters
Tacoma, WA 98477

David Farris
Weyerhaeuser Paper Company
Senior Environmental Engineer
PO Box 188
Longview, WA 98632

Dear Mr. Johnson and Mr. Farris:

Thank you for your proposal and supporting documentation for the collection and treatment of NCG/TRS sources as required in PSD Approval Condition 810. We also appreciate all you have done to help us understand this complex collection system.

After significant discussions with Weyerhaeuser personnel pertaining to the NCG collection system on their Longview Kraft Modernization project we have learned the following facts:

- For the purposes of this discussion, there are three types of NCG/TRS gases to be dealt with. These are High Concentrated Low Volume (HCLV), Low Concentrated High Volume (LCHV) and an intermediate stream that is neither HCLV or LCHV.

- The principle treatment device for NCGs, an incinerator, is expected to be down for repair, maintenance and other reasons for 4 to 14 hours per month, but usually less than 6 hours. During this time NCG’s will either be vented or incinerated in the lime kiln depending on their origin and concentration.

- The company’s principle consideration for venting is to maintain the safety of the mill and mill personnel.

- Only sources emitting greater than 5 ppm Total Reduced Sulfur (TRS) is being considered for collection, transport and incineration. This does not mean we agree with this criteria.

- During incinerator downtime:
  - Only High Concentration (HC) gases will be incinerated in the lime kiln.
  - The chip bin will receive clean steam that will then be vented to the atmosphere through the LEL safety vent. Any residual
LC gases in the chip bin would then be forced into the atmosphere. The gases from the flash tanks would be diverted to the high concentration system, diverting about 90% of the sulfur compounds in the LC system.

- The fan that normally provides suction from storage tanks would be shut down.

- 9% of the LC gases are from the various fiber and liquor tanks. These are equipped with two way vents which allow air to come in but not escape. They allow air to enter the tank if the vacuum control on the LC header fails. Water seals or other devices will prevent gases from escaping unless there is sufficient pressure buildup to damage equipment or present a safety hazard.

- Anytime, even when the incinerator is running, the concentration of gases from the chip bin may raise above the lower explosive limit (a chip bin upset) and should not be mixed with the LC gases from the fiber and liquid tanks or collected in the NCG system. When this occurs the stream will be vented through the LEL safety vent directly to the atmosphere and the chip bin is switched to live steam until the condition is corrected. At that time, TRS gases from the fiber and liquid tanks will still be collected and transported to the incinerator for incineration.

- LC gases will be collected from the following sources:
  - Digester Chip Bin
  - Brownstock Press Standpipe
  - Brownstock Press
  - Brownstock Press Feed Tank
  - Brownstock Press Filtrate Tank
  - Primary Screens Filtrate Surge Tank
  - Blow Tanks/Pressure Diffuser Filtrate Tank (three total)
  - Black Liquor Storage Tanks

- There are two NCG fans for the LC system. One is the Chip Bin Relief Fan (No. 16-95-2290) for the Digester Chip Bin and the other is the LC NCG fan (No. 16-20-2840). The HC gases are moved to the incinerator using steam educators.

- Concentrations of TRS gases from many miscellaneous sources are lower than from typical old-style kraft mills due to the design of the EMCC continuous digester and pressure diffuser type of pulp washing.

- NCG laden digester flash steam will not be released to the chip bin when the Chip Bin Relief Fan fails, when the Low Concentration NCG fan fails or when the Incinerator fails (this may include when the incinerator is down).
When the Chip Bin Relief Fan fails, fresh clean steam will be added to the chip bin. It is our understanding that the use of digester flash steam to pre-steam the chips is an integral part of the Kaymar continuous digestion process. The digester flash steam is vented to the High Concentration system.

During periods of Low Concentration NCG fan failure or when the Incinerator fails, a vent (or vents) will open allowing natural ventilation of the fiber and liquor tanks (except the Black Liquor Tank Farm) thus preventing the cooling and concentration of TRS gases into potentially explosively pockets.

Liquor storage tanks will have water traps on the tank overflows that will prevent venting. The liquor storage tanks will have vents that allow air to be pulled into or vented from the vessel to prevent venting except when equipment damage is eminent or hazards to personnel safety is probable.

In the event of a fan or incinerator failure, the LC manifold system will be sealed to prevent the escape of the gases. The liquor tank system will be shut off from the digester area tanks. This will effectively seal the tank system, however, prior to sending the contained NCG's to the incinerator, the manifold will be purged and vented to the atmosphere for a period of 5 to 10 minutes.

It would be unsafe to have the methanol/water mixture sent to the recovery furnace because of its water content. There is an explosion hazard if the water comes in contact with the smelt.

The existing SO2 standards for the Hog Fuel Boiler precludes incinerating LC there.

There is approximately 15,000 feet of stainless steel pipe in the NCG collection system.

Assuming these are correct, Ecology approves, as required in condition #10 of PSD/NOC Order No. 92A01069, Weyerhaeuser's NCG/TRS treatment system as proposed.

We have also reviewed your request to consider foul condensates as pulping liquors. We agree that these are a 'pulping liquor', when managed as proposed, and are exempt from consideration as solid waste under 173-303 WAC.

If you have any questions, feel free to contact Mike Hoyles at (206)407-6935.

Sincerely,

Mike Hoyles, P.E.
Industrial Section

cc: Robert Carruthers