DEPARTMENT OF ENVIRONMENTAL QUALITY

KATHLEEN BABINEAUX BLANCO
GOVERNOR

MIKE D. McDANIEL, Ph.D.
SECRETARY

Certified Mail No.

Agency Interest No. 2645
Activity No.: PER20050002

Mr. Carl Gunter
Vice President
Weyerhaeuser Company
4537 LA Hwy 480
P.O. Box 377
Campti, LA 71411-0377

RE: Prevention of Significant Deterioration (PSD) Permit PSD-LA-562(M-2), Weyerhaeuser Co - Red River Mill
Weyerhaeuser Company, Campti, Natchitoches Parish, Louisiana

Enclosed is your permit, PSD-LA-562(M-2). Construction of the proposed project is not allowed until such time as the corresponding operating permit is issued.

Should you have any questions concerning the permit, contact Christopher Smith at 225-219-3112.

Chuck Carr Brown, Ph.D.
Assistant Secretary

_____
Date

CCB:CWS
c: EPA Region VI

ENVIRONMENTAL **SERVICES**
: PO BOX 4313, BATON ROUGE, LA 70821-4313
P:225-219-3181 F:225-219-3309
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PSD-LA-562(M-2)
Agency Interest No.: 2645

AUTHORIZATION TO MODIFY AND OPERATE AN EXISTING MAJOR STATIONARY SOURCE PURSUANT TO THE PREVENTION OF SIGNIFICANT DETERIORATION REGULATIONS IN LOUISIANA ENVIRONMENTAL REGULATORY CODE, LAC 33:III.509

In accordance with the provisions of the Louisiana Environmental Regulatory Code, LAC 33:III.509,

Weyerhaeuser Company
4537 LA Hwy 480
P.O. Box 377
Campti, LA 71411-0377

is authorized to construct an expansion of the pulp process at the Red River Mill near

4537 Hwy 480
Campti, LA 71411

subject to the emissions limitations, monitoring requirements and other conditions set forth hereinafter.

This permit and authorization to construct shall expire at midnight on _____, 2007, unless physical on site construction has begun by such date, or binding agreements or contractual obligations to undertake a program of construction of the source are entered into by such date.

Signed this _____ day of _____, 2006.

Chuck Carr Brown, Ph.D.
Assistant Secretary
Office of Environmental Services

BRIEFING SHEET

Weyerhaeuser Co - Red River Mill
Agency Interest No.: 2645
Weyerhaeuser Company
Campti, Natchitoches Parish, Louisiana
PSD-LA-562(M-2)

PURPOSE

Weyerhaeuser Company proposes to modernize and expand the Red River Mill to allow maximum paper machine utilization using as much as 100 % virgin pulp. This project will be accomplished by the addition of a new Recovery Boiler, Lime Kiln, Softwood Pulping System, and ancillary equipment to replace several existing units at the mill.

RECOMMENDATION

Approval of the proposed construction and issuance of a permit.

REVIEWING AGENCY

Louisiana Department of Environmental Quality, Office of Environmental Services, Air Permits Division.

PROJECT DESCRIPTION

Weyerhaeuser Company proposes to expand and modernize the Red River Mill by installing a new Recovery Boiler, Lime Kiln, Softwood Pulp Mill, and Steam Turbine. The new No. 3 Recovery Boiler will replace the existing No. 1 and No. 2 Recovery Boilers and Smelt Dissolving Tanks. The new Smelt Tank will exhaust into the Electrostatic Precipitator (ESP) on the No. 3 Recovery Boiler, and therefore will not be considered an emission point for the expansion. The new Lime Kiln and associated causticizing equipment will replace the existing Lime Kiln at the plant; the existing kiln will be used as a backup when the new kiln is not operational. The new kiln will be controlled by an ESP and Flue Gas Desulfurization (FGD) system.

A new softwood pulp mill will replace the existing softwood pulping operations at the facility with the addition of a new continuous digester with integrated diffusion washers, a new softwood high-density pulp storage tank, and a new multiple effect evaporator system. A new softwood chip stacker/reclaimer system will also be constructed to handle the increase in softwood chip usage.

Finally, a new Steam Turbine will be installed to utilize steam produced by the No. 2 Hogged Fuel Boiler to produce electricity. The steam from the No. 2 Hogged Fuel Boiler will be supplied at 1250 psig, which requires modification of the boiler to accommodate the steam demands. As part of the No. 2 Hogged Fuel Boiler modifications, Weyerhaeuser will install and operate a Selective Non-Catalytic Reduction (SNCR) system for control of NO_X emissions.

BRIEFING SHEET

Weyerhaeuser Co - Red River Mill
Agency Interest No.: 2645
Weyerhaeuser Company
Campti, Natchitoches Parish, Louisiana
PSD-LA-562(M-2)

The existing hardwood operations at the mill, including chip handling system, batch digesters, and associated equipment, will not be modified or affected by the addition of the new facilities.

Estimated emissions in tons per year are as follows:

Pollutant	Actual Emissions *	Potential Emissions	Change	PSD De Minimus
PM_{10}	141.44	323.18	+ 181.74	15
SO_2	95.23	522.23	+ 427.0	40
NO_X	778.49	1,800.07	+ 1,021.58	40
CO	1,907.52	1,618.67	- 288.85	100
VOC	531.96	625.76	+ 93.80	40
Total Reduced Sulfur (TRS)	9.97	45.83	+ 35.86	10
Sulfuric Acid	0.13	0.27	+ 0.14	7

* Actual emissions are the average of 2003 and 2004 emissions of the effected units.

TYPE OF REVIEW

PM_{10}, SO_2, NO_X, VOC, and TRS emission rates are above the PSD significance levels. Therefore, the requested permit was reviewed in accordance with PSD regulations for PM_{10}, SO_2, NO_X, VOC, and TRS emissions. The selection of control technology based on the Best Available Control Technology (BACT) analysis included consideration of control of toxic materials.

BEST AVAILABLE CONTROL TECHNOLOGY

PM_{10}, SO_2, NO_x, VOC, and TRS emissions are above PSD de minimis levels and must undergo PSD analysis. Controls of PM_{10}, SO_2, NO_x, VOC, and TRS emissions were analyzed using a "top down" approach. The following BACT limits were established for the effected equipment in the Red River Mill expansion projects.

Recovery Boiler No. 3

BACT for the proposed Recovery Boiler No. 3 includes: a PM_{10} limit of 0.015 gr/dscf at 8% oxygen to be attained by the use of an electrostatic precipitator (ESP); an SO_2 limit of 20 ppm at 8% oxygen to be achieved via proper boiler design and operation; a NO_X limit for of 80 ppm to be achieved via proper combustion control and air combustion optimization; a VOC limit of 10 ppm corrected to 8% oxygen to be attained through proper boiler operation; and a TRS limit of 3 ppm at 8% oxygen to

be attained by proper boiler design and operation.

Lime Kiln No. 2

BACT for the proposed Lime Kiln No. 2 includes: a PM_{10} limit of 0.01 gr/dscf at 10% oxygen to be attained by the use of an electrostatic precipitator (ESP); an SO_2 limit of 70 ppm at 10% oxygen to be achieved via proper kiln design and operation, optimized mud washing, and an add-on flue gas desulfurization (FGD) control device; a NO_X limit for of 190 ppm at 10% oxygen to be achieved via proper kiln design and optimized combustion; a VOC limit of 50 ppm at 10% oxygen to be achieved via proper kiln design and optimized combustion; and a TRS 8 ppm at 10% oxygen to be achieved via proper kiln design and mud washing.

No. 2 Hogged Fuel Boiler

Current BACT limits for the No. 2 Hogged Fuel Boiler are as follows: 61.76 tons SO_2 per year, 1,253.2 tons NO_X per year, and 411.7 tons VOC per year. Proposed BACT for the No. 2 Hogged Fuel Boiler has been determined to be as follows: a PM_{10} limit of 0.025 lb/MM BTU to be attained by the use of an electrostatic precipitator (ESP); an SO_2 limit of 0.015 lb/MM BTU; a NO_X limit of 0.15 lb/MM BTU to be attained by using Selective Non-Catalytic Reduction unit; and a VOC limit of 0.01 lb/MM BTU to be attained by proper boiler design and operation.

New Slaker System

BACT for the proposed New Slaker System includes the following: a PM_{10} limit of 0.03 lb/ton CaO to be attained by using a wet scrubber, and a VOC limit of 0.0411 lb/ton CaO to be attained by using a wet scrubber.

Chip Unloading & Chip Handling

BACT for Chip Unloading & Chip Handling has been set at 0.0001 lb/ton chips at the unloading stations and 0.0000293 lb/ton chips at the stacker/reclaimer system.

New Softwood High Density Storage Tank

Weyerhaeuser will control emissions from the tank by collecting the off gases and burning them at 95% control in either the No. 2 Hogged Fuel Boiler or the Recovery Boiler No. 3. BACT for the new High Density Storage Tank has been set at 0.144 lb/ODTP.

BRIEFING SHEET

Weyerhaeuser Co - Red River Mill
Agency Interest No.: 2645
Weyerhaeuser Company
Campti, Natchitoches Parish, Louisiana
PSD-LA-562(M-2)

AIR QUALITY IMPACT ANALYSIS

Prevention of Significant Deterioration (PSD) regulations requires an analysis of existing air quality for those pollutants emitted in significant amounts from a major modification.

Screening dispersion modeling indicates maximum ground level concentrations of PM_{10} and SO_2 (annual) are below the preconstruction monitoring exemption levels and the ambient significance levels; maximum ground level concentrations of TRS are also below its preconstruction monitoring exemption level. No preconstruction monitoring, increment analysis, or refined modeling is required for PM_{10} and TRS. SO_2 (3-hour and 24-hour) and NO_X concentrations were above significance levels and therefore required increment analysis and refined modeling.

Dispersion modeling indicates the impacts of SO_2 and NO_x are below the National Ambient Air Quality Standards (NAAQS) and within the allowable increment consumption limits of these pollutants..

VOC increases from the proposed modification are less than 100 tpy; therefore, preconstruction monitoring and an ambient air quality analysis are not required.

ADDITIONAL IMPACTS

Soils, vegetation, and visibility will not be adversely impacted by the proposed facility, nor will any Class I area be affected. No new permanent jobs will be created with this modification.

PROCESSING TIME

Application Dated:	July 8, 2005
Application Received:	July 15, 2005
Additional Information Dated:	February 3, 17, and 24, 2006
Effective Completeness:	February 27, 2006

BRIEFING SHEET

Weyerhaeuser Co - Red River Mill
Agency Interest No.: 2645
Weyerhaeuser Company
Campti, Natchitoches Parish, Louisiana
PSD-LA-562(M-2)

PUBLIC NOTICE

A notice requesting public comment on the permit was published in The Advocate, Baton Rouge, Louisiana, on Month XX, 2006; and in the <LOCAL NEWSPAPER>, <NEAREST CITY>, Louisiana, on Month XX, 2006. A copy of the public notice was mailed to concerned citizens listed in the Office of Environmental Services Public Notice Mailing List on <date>, 2006. The proposed permit was also submitted to US EPA Region VI on <date>, 2006. All comments will be considered prior to the final permit decision.

PRELIMINARY DETERMINATION SUMMARY

Weyerhaeuser Co - Red River Mill
Agency Interest No.: 2645
Weyerhaeuser Co
Campti, Natchitoches Parish, Louisiana
PSD-LA-562(M-2)
February 27, 2006

I. APPLICANT

Weyerhaeuser Company
4537 LA Hwy 480
P.O. Box 377
Campti, LA 71411-0377

II. LOCATION

Weyerhaeuser Co - Red River Mill is located at 4537 Hwy 480, Campti, Louisiana. Approximate UTM coordinates are 483.99 kilometers East and 3,640.64 kilometers North, Zone 15.

III. PROJECT DESCRIPTION

Weyerhaeuser Company proposes to modernize and expand the Red River Mill to allow maximum paper machine utilization using as much as 100 % virgin pulp. This project will be accomplished by addition of a new Recovery Boiler, Lime Kiln, Softwood Pulping System and ancillary equipment to replace several existing units at the mill.

Weyerhaeuser is proposing to replace the existing softwood pulping system at the mill, which consists of four softwood batch digesters, the A and B Line Brownstock Washer Systems and associated tanks, with a new Continuous Digester System. The new Continuous Digester will be dedicated to pulping softwood chips only, with pulp washing to be accomplished via an integrated diffusion washing system. The Continuous Digester and diffusion washers will have no direct emissions to the atmosphere; NCG's generated by the digester and washers collected and controlled either in the Recovery Boiler or Lime Kiln. The new softwood pulp mill will have a capacity to produce 2,400 ODTP per day, some of which will be handled by a new 800 Ton Softwood HD Storage Tank to supplement the storage capacity of the existing softwood HD storage tanks. To facilitate the increased softwood chip demand for the new Continuous Digester, a new wood chip stacker/reclaimer handling system will be installed. As part of this project, all unpaved roadways utilized by chip trucks will be paved.

A new multiple effect evaporator/concentrator line will be installed to handle the increased black liquor throughput resulting from operation of the new softwood Continuous Digester. In accordance with regulatory requirements, all gases generated by the

evaporation/concentration process will be collected and destroyed via the Recovery Boiler or Lime Kiln.

A new 6.4 million pounds of black liquor solids (BLS) per day Recovery Boiler system will replace the existing Recovery Boilers No. 1 and No. 2 and Smelt Dissolving Tanks No. 1 and No. 2. The new Recovery Boiler No. 3 will be designed to combust high solids black liquor (up to 80%), with an electrostatic precipitator (ESP) to control emissions of particulate matter generated by combustion of black liquor solids. The boiler will also be designed with a state-of-the-art air system to optimize combustion, which minimizes the formation of NO_x emissions. The new boiler will have a Smelt Dissolving Tank with the exhaust integrated into the Recovery Boiler No. 3 control system, which consists of a high efficiency dry ESP and a new 300-foot tall stack. Therefore, no separate emission point for the new Smelt Tank will exist as a result of the project. The new Recovery Boiler will also serve as a primary steam generating unit at the mill, as well as the primary combustion unit for NCG's generated during the pulping, evaporation, and stripping processes.

A new Lime Kiln and associated Causticizing equipment will be installed to replace the existing Lime Kiln at the mill, with the existing kiln to be retained for backup operation only when the new Lime Kiln is inoperable. The new Lime Kiln No. 2 will have the capacity to produce 525 tons of CaO per day, fueled by natural gas and petroleum coke, and serve as a backup to the new Recovery Boiler No. 3 for NCG incineration. Coke for the new kiln will be stored in the existing coke silo at the mill. Emissions from the new kiln will be controlled via ESP with additional control for emissions of SO_2. The new kiln will exhaust via the common stack currently serving the existing Recovery Boilers at the mill; however, the stack will be extended by 30 feet from 200 to 230 feet and the exit diameter will be reduced from the current 12 feet down to 5 feet to provide proper exhaust gas dispersion. A new slaker/causticizer will also be installed to accompany the new Lime Kiln No. 2. A wet scrubber will control any particulate matter generated by the new slaker system.

A new Steam Turbine will be installed as part of the project to provide additional electrical generation for the mill. Electrical power sold off-site, if any, will be less than 25 MW per hour based on an annual average to preclude the applicability of any electric utility steam generating unit regulatory requirements. The new Steam Turbine will be supplied by the existing gas-fired Power Boiler, the No. 2 Hogged Fuel Boiler, and the new Recovery Boiler No. 3. The No. 2 Hogged Fuel boiler will require physical modification to provide steam for the new turbine at a pressure of 1250 psig. As part of the modification of the No. 2 Hogged Fuel Boiler associated with this project, Weyerhaeuser will install and operate a Selective

Non-Catalytic Reduction (SNCR) system to control emissions of NO_x from the boiler. The No. 2 Hogged Fuel Boiler was previously permitted under PSD-LA-562(M-1).

Several existing emission units at the mill will not necessitate physical modification to accommodate the increase in softwood pulp and liquor production; however, they will see an increase in utilization (i.e., throughput/process rate) due to the project. These sources consist of the Tall Oil Plant, Caustizing Area sources, Evaporator Area sources, softwood Pulp Storage Tanks, softwood Stock Preparation Tanks, the Paper Machines, and the Wastewater Treatment System. Weyerhaeuser proposes to construct a new HD pulp storage tank to handle the additional softwood pulp production from the proposed new Softwood Pulping System. Weyerhaeuser will control emissions from the tank by collecting the off gases and burning them in either the No. 2 Hogged Fuel Boiler or the Recovery Boiler No. 3.

The existing hardwood pulping system at the mill, consisting of two batch digesters, the C-Line Washing System, and associated filtrate and stock tanks, will not be modified or see any increase in utilization due to the project. The hardwood chip truck unloading station will be relocated to the east to improve truck traffic flow considering the softwood expansion; however, no physical change or change in the method of operation of any of the hardwood pulping equipment at the mill will occur. Similarly, no increase in utilization of the gas-fired Power Boiler or the backup No. 1 Hogged Fuel Boiler is expected to occur due to the project.

Estimated emissions in tons per year are as follows:

Pollutant	Actual Emissions *	Potential Emissions	Change	PSD De Minimus
PM_{10}	141.44	323.20	+ 181.76	15
SO_2	95.23	522.23	+ 427.0	40
NO_X	778.49	1,800.07	+ 1,021.58	40
CO	1,907.52	1,618.67	- 288.85	100
VOC	232.63	318.76	+ 86.13	40
Total Reduced Sulfur (TRS)	9.97	45.83	+ 35.86	10
Sulfuric Acid	0.13	0.27	+ 0.14	7

* Actual emissions are the average of 2003 and 2004 emissions of the effected units.

IV. SOURCE IMPACT ANALYSIS

A proposed net increase in the emission rate of a regulated pollutant above de minimis levels

for modified major sources requires review under PSD regulations, 40 CFR 52.21. PSD permit reviews of proposed new or modified major stationary sources require the following analyses:

A. A determination of the Best Available Control Technology (BACT);

B. Analysis of the existing air quality and a determination of whether or not preconstruction or postconstruction monitoring will be required;

C. An analysis of the source's impact on total air quality to ensure compliance with the National Ambient Air Quality Standards (NAAQS);

D. An analysis of the PSD increment consumption;

E. An analysis of the source related growth impacts;

F. An analysis of source related impacts on soils, vegetation, and visibility;

G. A Class I Area impact analysis; and

H. An analysis of the impact of toxic compound emissions.

A. BEST AVAILABLE CONTROL TECHNOLOGY

Under current PSD regulations, an analysis of "top down" BACT is required for the control of each regulated pollutant emitted from a modified major source in excess of the specified significant emission rates. The top down approach to the BACT process involves determining the most stringent control technique available for a similar or identical source. If it can be shown that this level of control is infeasible based on technical, environmental, energy, and/or cost considerations, then it is rejected and the next most stringent level of control is determined and similarly evaluated. This process continues until a control level is arrived at which cannot be eliminated for any technical, environmental, or economic reason. A technically feasible control strategy is one that has been demonstrated to function efficiently on identical or similar processes.

Weyerhaeuser Company proposes to modernize and expand the Red River Mill to allow maximum paper machine utilization. This project will be accomplished by the addition of a

new Recovery Boiler, Lime Kiln, Slaker System, Chip Unloading activities, Chip Handling activities, and modifying the Hogged Fuel Boiler No. 2. PM_{10}, SO_2, NO_x, VOC, and TRS emissions from this project will be above PSD de minimis levels. A BACT analysis is required for these PSD regulated pollutants.

BACT analysis for PM and PM_{10} (Recovery Boiler No. 3)

Weyerhaeuser proposes to control emissions of PM_{10} to a BACT level of 0.015 gr/dscf at 8% oxygen, equivalent to 0.34 lb/ton BLS on the new Recovery Boiler No. 3 through an ESP. The use of an ESP for BACT control of PM_{10} emissions is well established in the context of BACT evaluation for recovery furnaces at Kraft Pulp Mills. A comparison of recovery furnaces at similar mills revealed the BACT limit, proposed by Weyerhaeuser for the new Recovery Boiler No. 3, is lower than the limit for similar sources when employing the use of an ESP for BACT control of PM_{10} emissions. The proposed BACT limit is equivalent to the promulgated Maximum Achievable Control Technology (MACT) limit applicable to the new Recovery Boiler No. 3 under 40 CFR 63, Subpart MM.

Weyerhaeuser's choice of an ESP to control PM_{10} to a maximum concentration of 0.015 gr/dscf at 8% oxygen represents BACT for Recovery Boiler No. 3.

BACT analysis for SO_2 (Recovery Boiler No. 3)

Weyerhaeuser proposes to control emissions of SO_2 to a BACT limit of 20 ppm, equivalent to 0.525 lb/ton BLS on the Recovery Boiler No. 3, to be achieved through firing of high-solids liquor and proper boiler design and operation.

Examination of the control strategies used at similar facilities to attain BACT control for recovery boilers indicates that low-odor design and use of proper process operation appears to be the best control of SO_2 from recovery boilers. The BACT limit for SO_2 has ranged from 10 ppm to greater than 100 ppm for previously permitted recovery boilers. The one recovery boiler with a listed ppm BACT limit for SO_2 that is lower than Weyerhaeuser's proposed limit of 20 ppm is the Apple Grove Mill in West Virginia. However, this mill has not been constructed.

One recovery furnace, located at the Mead Westvaco Mill in Kentucky, has a BACT limit for SO_2 of 0.29 lb/ADT. The air quality permit reveals that the recovery furnace was built in 1970 and utilizes both a wet ESP and wet scrubber, the latter of which was installed to

comply with TRS limitations. The use of wet ESPs in Kraft recovery furnaces has shown higher emissions of TRS and SO_2 than recovery furnaces with dry ESPs, which likely provides the reason for installation of a wet scrubber on the Mead Westvaco boiler. Since Weyerhaeuser's proposed BACT limit for SO_2 is lower than other listed BACT limits in the RBLC on a ppm basis, the Mead Westvaco limit does not warrant further consideration due to the differences between the two boilers. Weyerhaeuser's new Recovery Boiler No. 3 will be designed for high solids liquor firing and will utilize a dry ESP for particulate control instead of a wet ESP.

Except for the Mead Westvaco facility, all recovery boilers in the RBLC utilize proper boiler operation and design as the means for control of SO_2 to BACT levels. Therefore, Weyerhaeuser believes that a limit of 20 ppm at 8% oxygen to be achieved via proper boiler design and operation should represent BACT for control of SO_2 emissions from the new Recovery Boiler No. 3.

BACT analysis for NO_x (Recovery Boiler No. 3)

Weyerhaeuser proposes to control emissions of NO_X to a BACT limit of 80 parts per million (ppm) at 8% oxygen, equivalent to 1.5 lb/ton BLS on the Recovery Boiler No. 3. This limit is based upon proper combustion control inherent in the design of the new Recovery Boiler No. 3, which will utilize air combustion optimization to minimize the formation of NO_X emissions.

Separate BACT determinations have been made for various recovery furnaces for NO_X or NO_2. The Apple Grove Pulp and Paper in West Virginia has a BACT limit of 40 ppm at 8% oxygen, attained through the use of Selective Non-Catalytic Reduction (SNCR) technology. Since the permit for the Apple Grove mill was issued in 1996, studies have demonstrated effective NO_X removal using SNCR on Kraft Recovery Boilers only for short-term periods. Studies of SNCR on these boilers in Sweden and Japan show that long-term SNCR operation on a Kraft Recovery Boiler may lead to an increase in nitrogen and chlorine concentrations in the liquor, thus increasing NO_X emissions and causing fouling and plugging in the boiler due to high levels of chloride deposits.[1]

Selective Catalytic Reduction (SCR) has become a proven control technology for emissions

1 Effects on NO_X Reduction Using SNCR/SCR Technologies on Recovery Boiler Operation, Honghi Tran, Ph.D, February 23, 2000.

of NO_X from sources such as pulverized coal-fired boilers and other combustion units. However, for application of SCR to a recovery furnace, due to the temperature window of 450°F and 750°F needed for proper SCR operation; it would need to be installed in the economizer section of the recovery furnace before any particulate control. The high grain loading of particulate matter upstream of a recovery furnace ESP would poison the catalyst and render a SCR unit ineffective. Installation of SCR downstream of the ESP, where particulate emissions are controlled, is also impractical due to the heating requirements necessary to bring the flue gas up to the proper temperature.

None of the recovery furnaces listed in the RBLC (besides the Apple Grove mill) have add-on devices for BACT control of NO_X emissions. All of these either list no controls or proper combustion control as the mechanism for attaining BACT control of NO_X. Weyerhaeuser's proposed BACT limit of 80 ppm is lower than similar recovery boilers. The proposed control methodology is identical to what has been historically accepted as BACT control for a Kraft recovery furnace. Therefore, the limit for NO_X of 80 ppm to be achieved via proper combustion control and air combustion optimization in the boiler represents BACT for emission of NO_X.

<u>BACT analysis for VOC (Recovery Boiler No. 3)</u>

Weyerhaeuser proposes to control emissions of VOC to a BACT limit of 10 ppm corrected to 8% oxygen, which is equivalent to 0.066 lb/ton BLS from Recovery Boiler No. 3. The proposed BACT limit for VOC will be attained through proper boiler operation.

A comparison of other BACT determinations for VOC emissions from recovery boilers indicates Weyerhaeuser's proposed BACT limitation to be the lowest proposed. Furthermore, none of the boilers listed in the RBLC employ any type of add-on controls to serve as BACT, with most specifying boiler design and good combustion control as the means for attaining the BACT limit.

<u>BACT analysis for TRS (Recovery Boiler No. 3)</u>

Weyerhaeuser proposes to control emissions of TRS to a BACT limit of 3 ppm corrected to 8% oxygen, which is equivalent to 0.042 lb/ton BLS for the new Recovery Boiler No. 3. As with SO_2 emissions, this proposed BACT limit will be achieved through proper boiler design and operation.

Other facilities with BACT limits on TRS emissions for recovery furnaces were compared to the limits proposed by Weyerhaeuser. Only the Apple Grove Pulp and Paper in West Virginia has a lower listed limit, but it should not be considered since the mill was not built. None of the other listed recovery furnaces has a lower BACT limit than that proposed by Weyerhaeuser for control of TRS emissions from a recovery furnace. The Mead Westvaco boiler utilizes add-on controls for BACT control of TRS emissions in order to bring the source into compliance with a limit of 8 ppm at 8% oxygen. This BACT limit is more than twice that proposed by Weyerhaeuser as BACT for TRS.

BACT control of TRS emissions from recovery furnaces has been well established around 5 ppm, attained by proper boiler design and operation. Therefore, the 3 ppm at 8% oxygen limit proposed by Weyerhaeuser for the new No. 3 Recovery Boiler represents BACT.

BACT analysis for PM and PM_{10} (Lime Kiln No. 2)

Weyerhaeuser proposes to control emissions of PM_{10} to a BACT limit of 0.010 gr/dscf at 10% oxygen for the Lime Kiln No. 2, attained by the use of an ESP. This limit is equivalent to 0.197 lb/ton CaO.

With respect to particulate controls, there are three basic types of particulate controls which have been permitted as BACT. These three types are baghouses, electrostatic precipitators, and wet scrubbers. Only one BACT permitted facility (Apple Grove Pulp & Paper Co.) listed in the clearinghouse database has proposed to control the particulate emission by using a baghouse. However, this facility was never constructed. Weyerhaeuser's proposed emission limit is lower than any previous EPA RBLC-established BACT limits for lime kilns using any control methodology.

Weyerhaeuser's choice of an ESP to control PM_{10} to a maximum concentration of 0.010 gr/dscf at 10% oxygen represents BACT. The proposed BACT limit is equivalent to the promulgated Maximum Achievable Control Technology (MACT) limit applicable to the new Lime Kiln No. 2 under 40 CFR 63, Subpart MM.

BACT analysis for SO_2 (Lime Kiln No. 2)

Weyerhaeuser proposes to control emissions of SO_2 to a BACT limit of 70 ppm at 10% oxygen for the Lime Kiln No. 2, equivalent to 1.606 lb/ton CaO. The limit is attained by proper kiln design and operation, optimized mud washing, along with an add-on flue gas

desulfurization (FGD) control device.

Various Kraft pulp mill lime kilns were compared for BACT determinations for SO_2 emissions. Many kilns have BACT limits between 20 and 50 ppm at 10% oxygen. Other lime kilns have BACT emissions in terms of pounds per hour or pounds per ton of CaO, and range between 2.59 lb/hr and 46 lb/hr, and 0.23 lb/ton CaO to 4.95 lb/ton CaO. The wide variation in BACT limits for SO_2 from Kraft pulp mill lime kilns indicates that the chosen BACT emission limits for SO_2 are mill-specific, considering such factors as choice of fuels and individual kiln sizes.

The Red River Mill plans to combust petroleum coke in the new Lime Kiln No. 2 with a sulfur content of up to 5.5%, so the proposed BACT limit for SO_2 is appropriate considering the additional controls that will be utilized to remove SO_2 to levels at or above 90%. The choice of fuels, along with a larger proposed lime kiln, prevents a meaningful side-by-side comparison of lime kilns for choosing the ultimate SO_2 emission rate that represents BACT.

Therefore, controlling SO_2 emissions to a level at or below 70 ppm at 10% oxygen represent BACT for SO_2 from the new Lime Kiln No. 2, by proper kiln design and operation, optimized mud washing, along with an add-on flue gas desulphurization (FGD) control device.

<u>BACT analysis for NO_x (Lime Kiln No. 2)</u>

Weyerhaeuser proposes to control emissions of NO_X to a BACT limit of 190 ppm at 10% oxygen, equivalent to 3.134 lb/ton CaO, for the new Lime Kiln No. 2. This BACT limit will be achieved through proper kiln design and optimized combustion practices.

All of the facilities compared for BACT determination practice good combustion controls and proper kiln design and operation. Several additional types of controls were examined with respect to NO_X emissions on lime kilns at pulp mills: low NO_X burners, selective catalytic reduction (SCR), and selective non-catalytic reduction (SNCR). The lime kilns examined have limits that are similar to what is proposed by Weyerhaeuser for the new Lime Kiln No. 2, except the Apple Grove Mill which is not considered since it was never constructed. None of the sources listed in the RBLC employ add-on controls for NO_X; however, one facility does list low NO_X burners as the BACT method of NO_X control. However, this source has a limit of 3.5 lb/ton CaO, which is higher than Weyerhaeuser's proposed limit.

Since low NO_X burners for a lime kiln have not been demonstrated to provide lower NO_X emissions than what Weyerhaeuser is proposing, the only add-on controls that may be considered to further reduce NO_X emissions are SCR and SNCR.

For SCR to be employed for NO_X control on a lime kiln, the unit would have to be installed downstream of particulate controls to avoid the dust loading poisoning the catalyst and rendering the unit ineffective. SCR would necessitate installation of heat exchanging equipment to bring the temperature into the operational window for SCR. As with the analysis provided for the Recovery Boiler No. 3, installation of heat exchanging equipment to facilitate SCR operation is impractical and technically infeasible.

For SNCR to effectively control NO_X emissions, the temperature window is much higher than SCR, in the range of 1600°F and 2000°F. SNCR would have to be installed at the cold end (exhaust end) of the kiln, where the temperature is far below the window of effective operation. Therefore, SNCR cannot be considered a technically feasible alternative for BACT.

Given that add-on controls are not feasible for NO_X control from lime kilns, and since Weyerhaeuser's proposed NO_X control methodology is the same as other lime kilns in the RBLC, the proposed limit of 190 ppm at 10% oxygen, achieved through proper kiln design and operation, should represent BACT for control of NO_X emissions from the new Lime Kiln No. 2.

<u>BACT analysis for VOC (Lime Kiln No. 2)</u>

Weyerhaeuser proposes to control emissions of VOC to a BACT limit of 50 ppm at 10% oxygen, which is equivalent to 0.287 lb/ton CaO for the new Lime Kiln No. 2. This limit will be attained via proper kiln design and good combustion practices.

Several Kraft pulp mill lime kilns were compared for BACT limits for emissions of VOC. Of these lime kilns, the only source with a VOC limit that is significantly lower than the limit being proposed by Weyerhaeuser was the Apple Grove Mill, which will not be considered since it was never constructed. All remaining lime kilns in the RBLC have BACT limits for VOC that are in-line with Weyerhaeuser's proposed limit of 50 ppm, with three of the facilities specifying good combustion practices and efficient kiln operation as the method for achieving BACT. While one facility specifies the use of a venturi scrubber using fresh water

as the method of attaining BACT for VOC, the limit of 8.3 lb/hr at this facility is actually higher than the proposed mass emission limit in lb/hr resulting from the 50 ppm at 10% oxygen limit proposed by Weyerhaeuser. No other control methodologies were cited for BACT control of VOC emissions from Lime Kilns.

Therefore, Weyerhaeuser's proposed limit of 50 ppm at 10% oxygen attained by proper kiln design and good combustion practices represents BACT for minimization of VOC emissions from the new Lime Kiln No. 2.

BACT analysis for TRS (Lime Kiln No. 2)

Weyerhaeuser proposes to control emissions of TRS to a BACT limit of 8 ppm at 10% oxygen, equivalent to 0.098 lb/ton CaO, for the new Lime Kiln No. 2. This limit will be achieved via proper kiln design and operation with optimized mud washing.

Several Kraft pulp mill lime kilns were compared for BACT limits for emissions of TRS. Only one of the sources has a lower BACT limit for TRS that that proposed by Weyerhaeuser on either a ppm or a lb/ton CaO basis. This facility, the International Paper's Mansfield, Louisiana Mill, utilizes a venturi scrubber with fresh water to attain a BACT limit of 6.5 ppm at 10% oxygen. The difference between the Mansfield Mill's limit and Weyerhaeuser's proposed BACT limit is not deemed insignificant, especially when considering applicability of the new source MACT standard under 40 CFR 63, Subpart MM to the proposed new Lime Kiln No. 2 at the Red River Mill. An ESP is necessary to assure compliance with the new source MACT standard for PM_{10} emissions, while the existing source MACT standard applicable to the Mansfield Mill's lime kiln can be met using a wet scrubber for PM_{10} control. Furthermore, Weyerhaeuser is not accounting for any reduction in TRS emissions that may occur due to operation of SO_2 controls.

Therefore, the proposed limit of 8 ppm at 10% oxygen represents BACT for TRS control from the new Lime Kiln No. 2.

BACT analysis for PM and PM_{10} (Hogged Fuel Boiler No. 2)

Weyerhaeuser proposes to control emissions of PM_{10} to a BACT limit of 0.025 lb/MM BTU, to be attained by the use of the existing ESP, for the new No. 2 Hogged Fuel Boiler.

Several BACT determinations from hogged fuel boilers were compared for PM_{10} emissions.

The BACT controls for the boilers include fabric filters, multicyclones, and wet scrubbers. Potlatch Corporation's wood-fired boiler in Arkansas uses a multicyclone and ESP to meet a BACT limit of 0.099 lb/mm BTU. Biomass Energy, L.L.C. – South Point Power, located in Ohio, uses a reverse air baghouse on its wood-fired boilers to meet the BACT limit of 0.0465 lb/MM BTU. Weyerhaeuser's proposed BACT limit for PM_{10} of 0.025 lb/MM BTU is lower than any of the listed similar sources and ranks as the top level of BACT control of PM_{10} from hogged fuel boilers.

Therefore, Weyerhaeuser's proposed limit of 0.025 lb/MM BTU, attained by utilizing the existing ESP, represents BACT for control of PM_{10} emissions.

BACT analysis for SO_2 (Hogged Fuel Boiler No. 2)

Weyerhaeuser proposes to control emissions of SO_2 to a BACT limit of 0.015 lb/MM BTU for SO_2 emissions from the No. 2 Hogged Fuel Boiler at the Red River Mill. This limit is identical to the original BACT limit applicable to the boiler when it was originally permitted under the PSD regulations.

Several BACT determinations from hogged fuel boilers were compared for SO_2 emissions. As was the case when the No. 2 Hogged Fuel Boiler was originally permitted, none of the sources listed in EPA's database have BACT limits as low as Weyerhaeuser's proposed BACT limit for SO_2. Therefore, the proposed BACT limit represents the top level of BACT control for SO_2 emissions from hogged fuel boilers. The proposed limit of 0.015 lb/MM BTU represents BACT from Weyerhaeuser's No. 2 Hogged Fuel Boiler.

BACT analysis for NO_x (Hogged Fuel Boiler No. 2)

Weyerhaeuser proposes to retrofit a SNCR unit to the existing No. 2 Hogged Fuel Boiler to control NO_X emissions to a BACT level of 0.15 lb/MM BTU. This new limit is half of the original uncontrolled BACT limit of 0.3 lb/MMBTU originally applicable to this unit.

Several BACT determinations from hogged fuel boilers were compared for NO_X emissions. Only two of those compared have lower NO_X BACT limits than the 0.15 lb/MM BTU limit proposed by Weyerhaeuser. Of these two, one is the Apple Grove Mill which was not constructed, and the other is a "combination boiler" operated by the Georgia Pacific's Port Hudson, Louisiana Mill, which is about half the size of Weyerhaeuser's No. 2 Hogged Fuel Boiler. The Georgia Pacific unit employs low NO_X burners to attain a limit of 0.1 lb/MM

BTU. However, further research indicates that emission limit applies only when firing natural gas, and that the emission limit when firing wood waste is 0.3 lb/MM BTU.

Therefore, since the proposed limit represents the lowest BACT emission limit for NO_X from hogged fuel boilers, Weyerhaeuser's proposed limit of 0.15 lb/MM BTU achieved via a SNCR retrofit represents BACT for NOx emissions from the No. 2 Hogged Fuel Boiler.

BACT analysis for VOC (Hogged Fuel Boiler No. 2)

Weyerhaeuser proposes to control emissions of VOC to a BACT limit of 0.01 lb/MM BTU for the new No. 2 Hogged Fuel Boiler, achieved via proper boiler operation and optimized combustion.

Several BACT determinations from hogged fuel boilers were compared for VOC emissions. Only one of which specifies controls other than proper boiler operation or optimized combustion. This source, which specifies catalytic oxidation, actually has a higher BACT limit (0.0154 lb/MM BTU) than the 0.01 lb/MM BTU limit being proposed by Weyerhaeuser. In fact, Weyerhaeuser's proposed limit is the lowest BACT limit listed in the RBLC for hogged fuel or wood waste-fired boilers.

Therefore, considering the level of emissions and control methodology, Weyerhaeuser's proposed limit of 0.01 lb/MM BTU for VOC emissions from the existing No. 2 Hogged Fuel Boiler represents BACT.

BACT analysis for PM and PM_{10} (New Slaker System)

Weyerhaeuser proposes to control emissions of PM_{10} to a BACT limit of 0.03 lb/ton CaO utilizing a wet scrubber to attain the BACT limit for the new Slaker System.

Several BACT determinations from slakers were compared for PM_{10} emissions. The two sources compared have BACT limits higher than the limit proposed by Weyerhaeuser for BACT. It is generally accepted that wet scrubber control represents the highest level of control of PM_{10} emissions from slakers at Kraft pulp mills.

Weyerhaeuser's proposed control methodology for PM_{10} is therefore in line with other Kraft pulp mill slakers permitted under PSD, and the proposed limit is lower than those listed in the RBLC. Therefore, a limit of 0.03 lb/ton CaO should represent BACT for control of PM_{10}

emissions from the new Slaker.

BACT analysis for VOC (New Slaker System)

Weyerhaeuser proposes to control emissions of VOC to a BACT limit of 0.0411 lb/ton CaO, to be attained via the use of the wet scrubber that is primarily used for PM_{10} control for the new slaker.

Only two BACT determinations for VOC emissions from slakers were present in the RBLC. Of these two, one lists a wet scrubber as the BACT control methodology with a much higher limit than the limit being proposed by Weyerhaeuser, and the other having a BACT limit of 0.3 lb/hr with no controls listed. Weyerhaeuser's proposed limit corresponds to an hourly VOC emission rate of 0.9 lb/hr; however,the lack on any throughput information for the 0.3 lb/hr source in the RBLC prevents a meaningful side-by-side comparison.

Considering the absence of detailed BACT listings for VOC from slakers present in the RBLC, the control methodology being proposed, and the relatively insignificant level of VOC emissions generated by the slaker, the proposed VOC limit with wet scrubber control represents BACT for VOC emissions from the proposed new slaker.

BACT analysis for PM and PM_{10} (Chip Unloading & Chip Handling)

Weyerhaeuser proposes to relocate the existing chip truck unloading stations and to construct a new wood chip stacker/reclaimer handling system. No controls will be utilized for any PM_{10} emissions that are generated from these operations, since emissions from the sources are minimal and likely will not be generated in sufficient quantities to be emitted beyond the mill property line. However, to be conservative with respect to emissions estimation, Weyerhaeuser used AP-42 emission factors for crushed stone handling operations and aggregate handling operations to estimate emissions from the chip truck unloading stations and stacker/reclaimer system, respectively.

Weyerhaeuser proposes a BACT limit for the chip unloading stations of 0.0001 lb/ton chips and a BACT limit for the stacker/reclaimer system of 0.0000293 lb/ton chips.

Several BACT determinations from similar operations were compared for PM_{10} emissions. None of the other sources employ any control measures to prevent dust generation from wood chip handling operations, likely because the uncontrolled generation is minimal. The

only exception was for one source which listed the BACT limit as 0 lb/hr using covered conveyors. Weyerhaeuser has covered conveyors for the chip handling operations that result in no emissions; therefore, the only sources addressed in the chip handling system for this application are those which are open to the atmosphere.

Since sources such as chip handling and chip unloading do not require pollution controls for dust minimization, the proposed PM_{10} limits for the chip unloading stations of 0.0001 lb/ton chips and for the stacker/reclaimer system of 0.0000293 lb/ton chips for these operations should represent BACT.

BACT analysis for VOC (High Density Storage Tank)

Weyerhaeuser proposes to control emissions of VOC to a BACT limit of 0.144 lb/ODTP for the new HD storage tank. The limit is based upon NCASI emission factors coupled with data obtained for the existing HD tanks at the mill. Weyerhaeuser will control emissions from the tank by collecting the off gases and burning them at 95% control in either the No. 2 Hogged Fuel Boiler or the Recovery Boiler No. 3.

Several BACT determinations for HD storage tanks were compared for VOC emissions. None of these tanks that were listed in the RBLC specify any control methodology, and none provide emissions in terms of lb/ODTP or provide throughput information to allow comparison of the lb/hr rates to Weyerhaeuser's proposed limit.

Since no controls have historically been required for HD storage tanks, differences in emissions appear to be solely due to the emission factors chosen for calculation of VOC emissions and not with any particular operational or equipment specifications.

B. ANALYSIS OF EXISTING AIR QUALITY

PSD regulations require an analysis of existing air quality for those pollutant emissions that increase significantly from a proposed major source. PM_{10}, SO_2, NO_x, VOC, and TRS are pollutants of concern in this case. Air quality analysis was based on the requested changes.

Screen dispersion modeling of PM_{10} emissions increases associated with the Red River Mill expansion and modernization project shows a maximum predicted 24-hour impact of 4.77 ug/m^3, below the significant impact level of 5 ug/m^3. The maximum predicted annual PM_{10} impact is 0.0081 ug/m^3, below the significant impact level of 1 ug/m^3. No further modeling

analysis for in PM_{10} emissions from the proposed project are required. Also, since the 24-hour maximum impact is below the deminimis level of 10 ug/m^3, preconstruction monitoring for PM_{10} is not required.

Screen dispersion modeling of TRS emissions increases associated with the Red River Mill expansion and modernization project shows a maximum 1-hour impact of 4.03 ug/m^3. Since the maximum predicted impact is well below the significant monitoring concentration of 10 μg/m^3, no further analysis of TRS emissions is required under PSD.

Screen dispersion modeling of SO_2 emissions increases associated with the proposed mill modification shows a maximum 3-hour predicted impact of 31.72 μg/m^3. The maximum 24-hour SO_2 impact is 6.43 μg/m^3. The maximum annual impact is 0.28 μg/m^3, below the significant impact level of 1 μg/m^3. Since the 3-hour and 24-hour predicted maximum SO_2 impacts are above the applicable significant impact levels, an Area of Impact (AOI) was determined for both averaging periods, and Weyerhaeuser performed dispersion modeling of all sources of SO_2 within 50 km of the AOI for evaluation of SO_2 increment consumption (as applicable) and NAAQS compliance. Preconstruction monitoring for SO_2 will not be required since the maximum 24-hour impact is well below the de minimis level of 13 μg/m^3.

Screen dispersion modeling of NO_X emissions increases associated with the proposed mill project shows a maximum predicted annual NO_X impact of 1.04 μg/m^3. Since the maximum predicted annual NO_X impact is greater than the significant impact level of 1 ug/m^3, an Area of Impact (AOI) was determined and Weyerhaeuser performed dispersion modeling of all sources of NO_X within 50 km of the AOI for evaluation of NO_X increment consumption (as applicable) and NAAQS compliance. Preconstruction monitoring for NO_X will not be required since the maximum annual impact is well below the deminimis level of 14 μg/m^3.

VOC increases from the proposed modification are less than 100 tpy; therefore, preconstruction monitoring and an ambient air quality analysis are not required.

The summary is shown in Table II.

C. NATIONAL AMBIENT AIR QUALITY STANDARDS (NAAQS) ANALYSIS

In order to determine total ambient impact for comparison with the NAAQS, the maximum concentrations for SO_2 and NO_X must be added to the background concentration in the area.

The background concentration is the ambient concentration in the impact area resulting from sources not considered to be "nearby" sources, such as area and mobile sources, natural sources, and distant point sources. For this modeling application, it has been assumed that the annual background concentration for NO_X is equal to the actual measured arithmetic mean NO_X concentration measured at the Gross Tete monitoring station in 2004. For SO_2, the 3-hour and 24-hour background concentrations were assumed to be equal to the highest 3-hour and 24-hour values measured at the Shreveport SO_2 monitoring station for 2003.

The maximum total annual NO_X impact including background is predicted to be 35.88 $\mu g/m^3$, which is well less than the applicable NAAQS of 100 $\mu g/m^3$. The maximum 3-hour total SO_2 impact including background is predicted to be 81.99 $\mu g/m^3$, while the maximum 24-hour total SO_2 impact including background is predicted to be 30.55 $\mu g/m^3$. These values are well below the applicable NAAQS of 1300 $\mu g/m^3$ for the 3-hour SO_2 averaging period and 365 $\mu g/m^3$ for the 24-hour SO_2 averaging period. Since maximum total predicted ambient impacts of NOx and SO_2 are well below the applicable NAAQS, Weyerhaeuser's Red River Mill will not cause or contribute to a violation of the applicable NAAQS.

D. PSD INCREMENT ANALYSIS

The maximum predicted NO_X increment consumption is 2.39 $\mu g/m^3$, predicted to occur at a receptor located on the mill's property boundary to the north of the sources. This corresponds to 9.6% of the PSD NO_X increment standard of 25 $\mu g/m^3$. The maximum predicted SO_2 increment consumption for the 3-hour averaging period is 50.71 $\mu g/m^3$ (9.9 % of the PSD increment standard), while the predicted SO_2 increment consumption for the 24-hour averaging period is 16.41 $\mu g/m^3$ (18% of the PSD increment standard). Both of these impacts were also predicted to occur on the mill property boundary to the north of the sources. Since the predicted maximum increment consumption predicted within Weyerhaeuser's AOIs for NO_X and SO_2 emissions were well below the applicable increment standards, the proposed mill modification will not cause or contribute to any PSD increment violation.

E. SOURCE RELATED GROWTH IMPACTS

This analysis evaluates labor and population changes in the area of Campti, Louisiana due to the proposed modification to Weyerhaeuser Company, Red River Mill. Labor and population changes due to the modification are expected to be minimal, since the proposed new sources will replace sources currently in operation at the mill. Also, no significant

increase in personnel at the mill is necessary for operation at the higher softwood pulp production rate. Construction activities will be the most significant impact to the local area due to the modification, although this impact is expected to be temporary and not cumulative with respect to operational effects. The projected average construction work force is approximately 650 people, with a peak as high as 1,000.

Additional land will not have to be purchased due to the fact that the modification is on the existing site that houses the rest of the facilities. Further, this modification will not generate the need for a new industry to locate in the area.

F. SOILS, VEGETATION, AND VISIBILITY IMPACTS

Of the four pollutants for which a significant increase was calculated due to the proposed mill modification, PM_{10}, SO_2, NO_X, and TRS, only SO_2 and NO_X have published sensitivity levels in the EPA reference, A Screening Procedure for the Impacts of Air Pollution Sources on Plants, Soils, and Animals (EPA 450/2-81-078, 1980). The maximum predicted impacts of SO_2 for the 3-hour averaging period was 31.72 $\mu g/m^3$, below the sensitivity level of 786 $\mu g/m^3$, and for the annual averaging period was 0.28 $\mu g/m^3$, below the sensitivity level of 18 $\mu g/m^3$. The maximum predicted impacts of NO_X for the annual averaging period was 1.04 $\mu g/m^3$, below the sensitivity level of 94 $\mu g/m^3$.

A Level 1 visibility screening analysis was conducted to evaluate the potential for significant impact on the nearest Class I area, the Caney Creek Wilderness Area. This Level 1 analysis was performed using the EPA VISCREEN model for evaluation of plume visual impacts. Because the modeled results, a Maximum Delta E of 0.451 and a Maximum Contrast of 0.001, are well below the Level 1 screening threshold of 2.0 for Delta E and 0.5 for contrast, the proposed modification should not have visibility impairment potential for the Caney Creek Wilderness Area.

Therefore, there will be no significant impact on area soils, vegetation, or visibility.

G. CLASS I AREA IMPACTS

The Caney Creek Wilderness Area in Arkansas, the nearest Class I area, is approximately 280 miles northeast of the site, precluding any significant impact.

H. TOXIC IMPACT

The selection of control technology based on the BACT analysis included consideration of control of toxic emissions. The Red River Mill will comply with the National Emission Standards for Hazardous Air Pollutants, both 40 CFR 63 Subpart S – Pulp and Paper Industry, and 40 CFR 63 Subpart MM – Chemical Recovery Combustion Sources at Kraft, Soda, Sulfite, and Stand-Alone Semichemical Pulp Mills.

V. CONCLUSION

The Air Permits Division has made a preliminary determination to approve the expansion of the Weyerhaeuser Co., Red River Mill, in Campti, Louisiana, subject to the attached specific and general conditions. In the event of a discrepancy in the provisions found in the application and those in this Preliminary Determination Summary, the Preliminary Determination Summary shall prevail.

SPECIFIC CONDITIONS

Weyerhaeuser Co - Red River Mill
Agency Interest No.: 2645
Weyerhaeuser Co
Campti, Natchitoches Parish, Louisiana
PSD-LA-562(M-2)
February 27, 2006

1. The permittee is authorized to operate in conformity with the specifications submitted to the Louisiana Department of Environmental Quality (LDEQ) as analyzed in LDEQ's document entitled "Preliminary Determination Summary" dated February 27, 2006, and subject to the emission limitations in the Emission Rates for Criteria Pollutants Table and other specified conditions. Specifications submitted are contained in the application and Emission Inventory Questionnaire dated July 5, 2005, along with supplemental information dated February 3, 17, and 24, 2006.

MAXIMUM ALLOWABLE OPERATING AND EMISSIONS RATES			
ID/Emission Point No.	Description	Max Operating Rate or Capacity	BACT Limits
EQT 11 9	Hogged Fuel Boiler No. 2	940 MM BTU/hr	PM_{10} 0.025 lb/MM BTU SO_2 0.015 lb/MM BTU NO_X 0.15 lb/MM BTU VOC 0.01 lb/MM BTU
EQT 43 1301c	New Softwood HD Tank	800 tons	VOC 0.144 lb/ODTP
EQT 120 41	Recovery Boiler No. 3 & Smelt Tank No. 3	6.4 MM lbs BLS/day	PM_{10} 0.015 gr/dscf SO_2 20 ppm NO_X 80 ppm TRS 3 ppm VOC 10 ppm
EQT 121 42	Lime Kiln No. 2	191,625 tons per year	PM_{10} 0.01 gr/dscf SO_2 70 ppm NO_X 190 ppm TRS 8 ppm VOC 50 ppm
EQT 122 43	Slaker System	191,625 tons per year	PM_{10} 0.03 lb/ton CaO VOC 0.0411 lb/ton CaO
FUG 001 44	Chip Unloading	3.53 MM tons per year	PM_{10} 0.0001 lb/ton chips
FUG 002 45	Chip Handling	3.53 MM tons per year	PM_{10} 0.0000293 lb/ton chips

BACT limits at the Red River Mill determined in PSD-LA-562(M-1)			
ID/Emission Point No.	**Description**	**Max Operating Rate or Capacity**	**BACT Limits**
14	No. 2 Hogged Fuel Boiler	940 MM BTU/hr	SO_2 14.1 lb/hr NO_X 1,253.2 lb/hr CO 1,253.2 lb/hr VOC 411.7 lb/hr

I. This permit is issued on the basis of the emissions reported in the application for approval of emissions and in no way guarantees that the design scheme presented will be capable of controlling the emissions to the type and quantities stated. Failure to install, properly operate and/or maintain all proposed control measures and/or equipment as specified in the application and supplemental information shall be considered a violation of the permit and LAC 33:III.501. If the emissions are determined to be greater than those allowed by the permit (e.g. during the shakedown period for new or modified equipment) or if proposed control measures and/or equipment are not installed or do not perform according to design efficiency, an application to modify the permit must be submitted. All terms and conditions of this permit shall remain in effect unless and until revised by the permitting authority.

II. The permittee is subject to all applicable provisions of the Louisiana Air Quality Regulations. Violation of the terms and conditions of the permit constitutes a violation of these regulations.

III. The Emission Rates for Criteria Pollutants, Emission Rates for TAP/HAP & Other Pollutants, and Specific Requirements sections or, where included, Emission Inventory Questionnaire sheets establish the emission limitations and are a part of the permit. Any operating limitations are noted in the Specific Requirements or, where included, Tables 2 and 3 of the permit. The synopsis is based on the application and Emission Inventory Questionnaire dated July 5, 2005, along with supplemental information dated February 3, February 17, and February 24, 2006.

IV. This permit shall become invalid, for the sources not constructed, if:

A. Construction is not commenced, or binding agreements or contractual obligations to undertake a program of construction of the project are not entered into, within two (2) years (18 months for PSD permits) after issuance of this permit, or;

B. If construction is discontinued for a period of two (2) years (18 months for PSD permits) or more.

The administrative authority may extend this time period upon a satisfactory showing that an extension is justified.

This provision does not apply to the time period between construction of the approved phases of a phased construction project. However, each phase must commence construction within two (2) years (18 months for PSD permits) of its projected and approved commencement date.

V. The permittee shall submit semiannual reports of progress outlining the status of construction, noting any design changes, modifications or alterations in the construction schedule which have or may have an effect on the emission rates or ambient air quality levels. These reports shall continue to be submitted until such time as construction is certified as being complete. Furthermore, for any significant change in the design, prior approval shall be obtained from the Office of Environmental Services, Air Permits Division.

VI. The permittee shall notify the Department of Environmental Quality, Office of Environmental Services, Air Permits Division within ten (10) calendar days from the date that construction is

certified as complete and the estimated date of start-up of operation. The appropriate Regional Office shall also be so notified within the same time frame.

VII. Any emissions testing performed for purposes of demonstrating compliance with the limitations set forth in paragraph III shall be conducted in accordance with the methods described in the Specific Conditions and, where included, Tables 1, 2, 3, 4, and 5 of this permit. Any deviation from or modification of the methods used for testing shall have prior approval from the Office of Environmental Assessment, Air Quality Assessment Division.

VIII. The emission testing described in paragraph VII above, or established in the specific conditions of this permit, shall be conducted within sixty (60) days after achieving normal production rate or after the end of the shakedown period, but in no event later than 180 days after initial start-up (or restart-up after modification). The Office of Environmental Assessment, Air Quality Assessment Division shall be notified at least (30) days prior to testing and shall be given the opportunity to conduct a pretest meeting and observe the emission testing. The test results shall be submitted to the Air Quality Assessment Division within sixty (60) days after the complete testing. As required by LAC 33:III.913, the permittee shall provide necessary sampling ports in stacks or ducts and such other safe and proper sampling and testing facilities for proper determination of the emission limits.

IX. The permittee shall, within 180 days after start-up and shakedown of each project or unit, report to the Office of Environmental Compliance, Surveillance Division any significant difference in operating emission rates as compared to those limitations specified in paragraph III. This report shall also include, but not be limited to, malfunctions and upsets. A permit modification shall be submitted, if necessary, as required in Condition I.

X. The permittee shall retain records of all information resulting from monitoring activities and information indicating operating parameters as specified in the specific conditions of this permit for a minimum of at least five (5) years.

XI. If for any reason the permittee does not comply with, or will not be able to comply with, the emission limitations specified in this permit, the permittee shall provide the Office of Environmental Compliance, Surveillance Division with a written report as specified below.

A. A written report shall be submitted within 7 days of any emission in excess of permit requirements by an amount greater than the Reportable Quantity established for that pollutant in LAC 33.I.Chapter 39.

B. A written report shall be submitted within 7 days of the initial occurrence of any emission in excess of permit requirements, regardless of the amount, where such emission occurs over a period of seven days or longer.

C. A written report shall be submitted quarterly to address all emission limitation exceedances not included in paragraphs A or B above. The schedule for submittal of quarterly reports shall be no later than the dates specified below for any emission limitation exceedances occurring during the corresponding specified calendar quarter:

1. Report by June 30 to cover January through March

2. Report by September 30 to cover April through June
3. Report by December 31 to cover July through September
4. Report by March 31 to cover October through December

D. Each report submitted in accordance with this condition shall contain the following information:

1. Description of noncomplying emission(s);
2. Cause of noncompliance;
3. Anticipated time the noncompliance is expected to continue, or if corrected, the duration of the period of noncompliance;
4. Steps taken by the permittee to reduce and eliminate the noncomplying emissions; and
5. Steps taken by the permittee to prevent recurrences of the noncomplying emissions.

E. Any written report submitted in advance of the timeframes specified above, in accordance with an applicable regulation, may serve to meet the reporting requirements of this condition provided all information specified above is included. For Part 70 sources, reports submitted in accordance with Part 70 General Condition R shall serve to meet the requirements of this condition provided all specified information is included. Reporting under this condition does not relieve the permittee from the reporting requirements of any applicable regulation, including LAC 33.I.Chapter 39, LAC 33.III.Chapter 9, and LAC 33.III.5107.

XII. Permittee shall allow the authorized officers and employees of the Department of Environmental Quality, at all reasonable times and upon presentation of identification, to:

A. Enter upon the permittee's premises where regulated facilities are located, regulated activities are conducted or where records required under this permit are kept;

B. Have access to and copy any records that are required to be kept under the terms and conditions of this permit, the Louisiana Air Quality Regulations, or the Act;

C. Inspect any facilities, equipment (including monitoring methods and an operation and maintenance inspection), or operations regulated under this permit; and

D. Sample or monitor, for the purpose of assuring compliance with this permit or as otherwise authorized by the Act or regulations adopted thereunder, any substances or parameters at any location.

XIII. If samples are taken under Section XII.D. above, the officer or employee obtaining such samples shall give the owner, operator or agent in charge a receipt describing the sample obtained. If requested prior to leaving the premises, a portion of each sample equal in volume or weight to the portion retained shall be given to the owner, operator or agent in charge. If an analysis is made of such samples, a copy of the analysis shall be furnished promptly to the owner, operator or agency in charge.

XIV. The permittee shall allow authorized officers and employees of the Department of Environmental Quality, upon presentation of identification, to enter upon the permittee's premises to investigate potential or alleged violations of the Act or the rules and regulations adopted thereunder. In such investigations, the permittee shall be notified at the time entrance is requested of the nature of the suspected violation. Inspections under this subsection shall be limited to the aspects of alleged violations. However, this shall not in any way preclude prosecution of all violations found.

XV. The permittee shall comply with the reporting requirements specified under LAC 33:III.919 as well as notification requirements specified under LAC 33:III.927.

XVI. In the event of any change in ownership of the source described in this permit, the permittee and the succeeding owner shall notify the Office of Environmental Services, Air Permits Division, within ninety (90) days after the event, to amend this permit.

XVII. Very small emissions to the air resulting from routine operations, that are predictable, expected, periodic, and quantifiable and that are submitted by the permitted facility and approved by the Air Permits Division are considered authorized discharges. Approved activities are noted in the General Condition XVII Activities List of this permit. To be approved as an authorized discharge, these very small releases must:

1. Generally be less than 5 TPY
2. Be less than the minimum emission rate (MER)
3. Be scheduled daily, weekly, monthly, etc., or
4. Be necessary prior to plant startup or after shutdown [line or compressor pressuring/depressuring for example]

These releases are not included in the permit totals because they are small and will have an insignificant impact on air quality. This general condition does not authorize the maintenance of a nuisance, or a danger to public health and safety. The permitted facility must comply with all applicable requirements, including release reporting under LAC 33:I.3901.

XVIII. Provisions of this permit may be appealed in writing pursuant to La. R.S. 30:2024(A) within 30 days from receipt of the permit. Only those provisions specifically appealed will be suspended by a request for hearing, unless the secretary or the assistant secretary elects to suspend other provisions as well. Construction cannot proceed except as specifically approved by the secretary or assistant secretary. A request for hearing must be sent to the following:

Attention: Office of the Secretary, Legal Services Division
La. Dept. of Environmental Quality
Post Office Box 4302
Baton Rouge, Louisiana 70821-4302

XIX. Certain Part 70 general conditions may duplicate or conflict with state general conditions. To the extent that any Part 70 conditions conflict with state general conditions, then the Part 70 general conditions control. To the extent that any Part 70 general conditions duplicate any state

general conditions, then such state and Part 70 provisions will be enforced as if there is only one condition rather than two conditions.

TABLE 1: BACT COST SUMMARY

Weyerhaeuser Co - Red River Mill
Agency Interest No.: 2645
Weyerhaeuser Company
Campti, Natchitoches Parish, Louisiana

Control Alternative for PM_{10}, SO_2, NO_x, VOC, and TRS emissions from the Recovery Boiler No. 3		Availability / Feasibility	Negative Impacts (a)	Control Efficiency	Emissions Reduction (TPY)	Annualized Cost ($)	Cost Effectiveness ($/Ton)	Notes
PM_{10}	Electrostatic Precipitator (ESP)	Yes/Yes						Chosen as BACT
SO_2	High Solids Liquor Firing, Proper design and operation	Yes/Yes						Chosen as BACT
	Wet ESP and wet scrubber	Yes/No	2					
NO_x	Proper combustion control	Yes/Yes						Chosen as BACT
	Selective Non-Catalytic Reduction	Yes/No	2					
	Selective Catalytic Reduction	Yes/No	2					
VOC	Proper boiler operation	Yes/Yes						Chosen as BACT
TRS	Proper boiler operation	Yes/Yes						Chosen as BACT

Notes: a) Negative impacts: 1) economic, 2) environmental, 3) energy, 4) safety
b) Technically infeasible, economic analysis was not performed

TABLE I: BACT COST SUMMARY

Weyerhaeuser Co - Red River Mill
Agency Interest No.: 2645
Weyerhaeuser Company
Campti, Natchitoches Parish, Louisiana

Control Alternative for PM_{10}, SO_2, NO_x, VOC, and TRS emissions from the Lime Kiln No. 2		Availability / Feasibility	Negative Impacts (a)	Control Efficiency	Emissions Reduction (TPY)	Annualized Cost ($)	Cost Effectiveness ($/Ton)	Notes
PM_{10}	Electrostatic Precipitator (ESP)	Yes/Yes						Chosen as BACT
	Baghouse	Yes/No	2					
	Wet Scrubber	Yes/No	2					
SO_2	Proper Kiln Design & Operation, Optimized Mud Washing, Flue Gas Desulferization	Yes/Yes						Chosen as BACT
NO_x	Proper Kiln Design & Operation	Yes/Yes						Chosen as BACT
	Low NO_X Burners	Yes/No	2					
	Selective Non-Catalytic Reduction	Yes/No	2					
	Selective Catalytic Reduction	Yes/No	2					
VOC	Proper Kiln Design & Operation	Yes/Yes						Chosen as BACT
	Venturi Scrubber with fresh water	Yes/No	2					
TRS	Proper Kiln Design & Operation, Optimized Mud Washing	Yes/Yes						Chosen as BACT
	Venturi Scrubber with fresh water	Yes/No	2					

Notes: a) Negative impacts: 1) economic, 2) environmental, 3) energy, 4) safety
b) Technically infeasible, economic analysis was not performed

TABLE I: BACT COST SUMMARY

Weyerhaeuser Co - Red River Mill
Agency Interest No.: 2645
Weyerhaeuser Company
Campti, Natchitoches Parish, Louisiana

Control Alternative for PM_{10}, SO_2, NO_x, and VOC emissions from the Hogged Fuel Boiler No..2		Availability / Feasibility	Negative Impacts (a)	Control Efficiency	Emissions Reduction (TPY)	Annualized Cost ($)	Cost Effectiveness ($/Ton)	Notes
PM_{10}	Electrostatic Precipitator (ESP)	Yes/Yes						Chosen as BACT
	Multicyclone and ESP	Yes/No	2					
	Reverse Air Baghouse	Yes/No	2					
SO_2	Existing BACT limit	Yes/Yes						Chosen as BACT
NO_x	Selective Non-Catalytic Reduction	Yes/Yes						Chosen as BACT
	Low NO_X Burners	Yes/No	2					
VOC	Proper Boiler Operation & Optimized Combustion	Yes/Yes						Chosen as BACT
	Catalytic Oxidation	Yes/No	2					

Notes: a) Negative impacts: 1) economic, 2) environmental, 3) energy, 4) safety
b) Technically infeasible, economic analysis was not performed

TABLE I: BACT COST SUMMARY

Weyerhaeuser Co - Red River Mill
Agency Interest No.: 2645
Weyerhaeuser Company
Campti, Natchitoches Parish, Louisiana

Control Alternative for PM & PM_{10} and VOC emissions from the New Slaker System		Availability / Feasibility	Negative Impacts (a)	Control Efficiency	Emissions Reduction (TPY)	Annualized Cost ($)	Cost Effectiveness ($/Ton)	Notes
PM & PM_{10}	Wet Scrubber	Yes/Yes						Chosen as BACT
VOC	Wet Scrubber	Yes/Yes						Chosen as BACT

Notes: a) Negative impacts: 1) economic, 2) environmental, 3) energy, 4) safety
b) Technically infeasible, economic analysis was not performed

Control Alternative for PM & PM_{10} emissions from the Chip Unloading & Chip Handling		Availability / Feasibility	Negative Impacts (a)	Control Efficiency	Emissions Reduction (TPY)	Annualized Cost ($)	Cost Effectiveness ($/Ton)	Notes
PM & PM_{10}	No controls for unloading, conveyors for handling	Yes/Yes						Chosen as BACT

Notes: a) Negative impacts: 1) economic, 2) environmental, 3) energy, 4) safety
b) Technically infeasible, economic analysis was not performed

TABLE I: BACT COST SUMMARY

Weyerhaeuser Co - Red River Mill
Agency Interest No.: 2645
Weyerhaeuser Company
Campti, Natchitoches Parish, Louisiana

Control Alternative for VOC emissions from the High Density Storage Tank		Availability / Feasibility	Negative Impacts (a)	Control Efficiency	Emissions Reduction (TPY)	Annualized Cost ($)	Cost Effectiveness ($/Ton)	Notes
VOC	Collect off-gases & burn them in No. 2 Hogged Fuel Boiler or Recovery Boiler No. 3	Yes/Yes						Chosen as BACT

Notes: a) Negative impacts: 1) economic, 2) environmental, 3) energy, 4) safety
b) Technically infeasible, economic analysis was not performed

TABLE II
AIR QUALITY ANALYSIS SUMMARY

Weyerhaeuser Co - Red River Mill
Agency Interest No.: 2645
Weyerhaeuser Co
Campti, Natchitoches Parish, Louisiana

Pollutant	Averaging Period	Preliminary Screening Conc. ($\mu g/m^3$)	Significant Monitoring Conc. ($\mu g/m^3$)	Current Monitored Conc. ($\mu g/m^3$)	Level of Significant Impact ($\mu g/m^3$)	Maximum Modeled Conc. ($\mu g/m^3$)	Modeled + Background Conc. ($\mu g/m^3$)	National Ambient Air Quality Standard ($\mu g/m^3$)	Modeled PSD Increment Consumption ($\mu g/m^3$)	Allowable Class II PSD Increment ($\mu g/m^3$)
PM_{10}	24-hour	4.77	10	NR	5	NR	NR	150	NR	30
	Annual	0.0081	-	NR	1	NR	NR	50	NR	17
SO_2	3-hour	31.72	NR	26.49	25	55.50	81.99	1,300	50.71	512
	24-hour	6.43	13	13.25	5	17.30	30.55	365	16.41	91
	Annual	0.28	-	NR	1	NR	NR	80	NR	20
NO_X	Annual	1.04	14	12.76	1	23.12	35.88	100	2.39	25
TRS	1-hour	4.03	10	NR	-	NR	NR	-	-	-
NR = Not Required										