Prevention of Significant Air Quality Deterioration Review
Of the Temple – Inland Rome Lumber Mill
Rome, Georgia (Floyd County)

PRELIMINARY DETERMINATION
Permit Application No. 16496
March 2006

Reviewing Authority

Georgia Department of Natural Resources
Environmental Protection Division
Air Protection Branch

Ron Methier – Chief, Air Protection Branch

Stationary Source Permitting Program	Planning & Support Program
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SUMMARY

Temple - Inland operates a lumber mill in Rome, Georgia. The Rome Lumber Mill is proposing an expansion project in which the allowable lumber production rate would be increased to 180 million board feet per any twelve consecutive months. The facility will not require additional equipment nor will they require a physical modification to existing equipment to realize the increase in lumber production rate as the facility has already been capable of the increase with the modification authorized by Permit Amendment No. 2421-115-0016-V-01-1. In addition to the request for an increase in the total production capacity of the three kilns (Emission Unit ID Nos. LKD1, LDK2, and LDK3), which are currently subject to a total kiln dried lumber PSD avoidance limit of 151.25 million board feet per any twelve consecutive months, the facility has proposed to replace the planer mill baghouse. Because the removal of the PSD avoidance limit will allow that increase and because of the magnitude of the proposed increase in air emissions, the project is subject to review under the Prevention of Significant Deterioration (PSD) permitting program, as administered by the Georgia Environmental Protection Division ("the Division" or "EPD"), and Georgia's Rules for Air Quality Control. Specifically, Best Available Control Technology (BACT) and air quality analyses are required. A PSD review is required to remove PSD avoidance limits according to 40 CFR 52.21(r)(4). In accordance with 40 CFR Part 70 regulations, a significant modification to the Title V permit must be issued for the proposed changes.

EPD has reviewed the application to modify Title V Permit No. 2421-115-0016-V-01-1, dated September 7, 2001, issued to the Rome Lumber Mill, and previously amended November 2, 2004. The only emissions increase from the proposed modification that will exceed a PSD significance level, is volatile organic compounds (VOCs) emitted from the wood drying process. The Rome Lumber Mill proposes that the BACT for this modification is the efficient operation of the kilns, and that no add-on emission control devices should be required. The emissions from the kilns would then be limited only by the capacity of the lumber dry kilns. The facility has indicated that the maximum capacity will be 180 MMBF per year.

The Rome Lumber Mill is located in Floyd County, which is considered to be in "attainment" for all criteria air pollutants except $PM_{2.5}$ in accordance with Section 107 of the Clean Air Act, as amended August 1997. There will be a minimal increase in particulate matter emissions as a result of this amendment; however, any increase will be below the non-attainment new source review threshold of 15 tons per year.

The Rome Lumber Mill is currently considered a major source because of the potential to emit VOCs greater than 250 tons per year, due to drying kilns and associated fuel burning equipment. This application includes a request to increase the kiln production capacity, but does not include a physical change in equipment beyond the change in crib height, which was the subject of Permit Amendment No. 2421-115-0016-V-01-1 issued on November 2, 2004. Therefore, this PSD application is considered to be a revision of the permit application submitted in May 2004.

It is the Preliminary Determination of the Division that the current proposal provides for the application of best available control technology (BACT) for the control of VOC emissions from the kilns as required by Federal PSD regulation 40 CFR 52.21(j).

The EPD review of the data submitted by the Temple – Inland Rome Lumber Mill related to the proposed modification indicates that the project will be in compliance with all applicable state and federal air quality regulations.

Since the increase in emissions of all criteria pollutants, other than VOC, will be less than the corresponding PSD significance levels, ambient air quality modeling was not conducted. It has been determined that the proposal will not cause impairment of visibility or detrimental effects on soils or vegetation. Also, any air quality impacts produced by project-related growth should be inconsequential.

The preliminary determination indicates that an Air Quality Permit for the Rome Lumber Mill should be amended to increase the production limitations on the kilns. Additional permit conditions will be made a part of the Permit to insure and confirm compliance with all applicable regulations. A copy of the Draft Permit Amendment is attached in Appendix A.

1.0 INTRODUCTION

Temple – Inland Rome Lumber Mill submitted an application dated November 22, 2005, (Application No. PSD-16496, received on November 23, 2005) for an air quality permit amendment to increase the production restrictions on the three kilns (Emission Units ID No. LDK1, LDK2 and LDK3) from 151.25 million board feet per any twelve consecutive months to 180 million board feet during any twelve consecutive months. Simultaneously the facility requested permission to construct a baghouse to replace the planer mill baghouse. The PSD modification will be made at the plant located at 380 Mays Bridge Road in Rome (Floyd County), Georgia. This facility produces kiln-dried dimensional lumber.

The facility has requested the removal of an existing PSD-avoidance operating limit that was for the purpose of avoiding PSD for VOCs; the proposed modification will result in an increase of VOC emissions exceeding the PSD significance level of 40 tons per year. It is therefore subject to a PSD review. The associated increase in particulate emissions does not exceed the significance level for PM or PM_{10}, nor are any significance levels for any other pollutant exceeded. Thus this is considered a major modification to a major source regarding only VOCs.

The Rome Lumber Mill is located in an attainment area for all criteria air pollutants except $PM_{2.5}$. Any proposed project at the plant is therefore required to undergo a PSD applicability analysis in order to determine if the project triggers a PSD review for any pollutant with the exception of $PM_{2.5,}$ which would be subject to non-attainment New Source Review. If a plant's operation is listed as one of 28 industrial categories specified in the PSD regulations and emits more than 100 tons per year of a PSD pollutant, the plant is considered an existing major source. Note that Sawmills are not one of the 28 named source categories whose PSD threshold is 100 tons per year, so its major source threshold is 250 tons per year. The Rome Lumber Mill emits in excess of 250 tons per year of at least one criteria pollutant (i.e., VOC). The facility is therefore considered a major source under the PSD program. As a major source, any project that results in a significant increase of any PSD regulated compound triggers a PSD review. The first step in determining if a PSD increase will occur is to calculate the actual emissions for the two-year period before the construction project and compare this result to the future potential emissions after the completion of the project. Since this application includes a request to increase the kiln production capacity, thus removing a PSD-avoidance limit, but does not include a physical change in equipment beyond the previous change in crib height, which was the subject of Permit Amendment No. 2421-115-0016-V-01-1 issued on November 2, 2004, this application is considered a revision of the application submitted in May 2004. Therefore, the "past actual" years used for the evaluation of emission increases from the project are the same as those established at the time of the last application, which is May 2002 through April 2004.

The Rome Lumber Mill is located in Floyd County, which is considered to be in "attainment" for all criteria air pollutants except $PM_{2.5}$ in accordance with Section 107 of the Clean Air Act, as amended August 1997. There will be a minimal increase in particulate matter emissions as a result of this amendment; however, any increase will be below the non-attainment new source review threshold of 15 tons per year.

2.0 HISTORY

This facility has been in operation since 1980 under the direction of the Georgia Craft Company. Construction on the facility was completed in May of 1981 and normal operations began one month later. Temple – Inland effectively took control of the site on January 4, 1989 with the issuance Permit No. 2421-057-9811. In February 1995, the facility proposed to add a third kiln and convert all kilns from

direct-fired to steam-fired kilns. At that point, the facility accepted a production limit of 120,000 MBF per year which, using an emission factor of 4 lb of VOC per MBF, equated to VOC emissions on the order of 240 tons per year. The Rome Lumber Mill became a major source for VOC with respect to PSD regulations on July 25, 2000 with the issuance of an amendment to Permit No. 2421-057-11592, which granted an increase in the amount of lumber processed in the kilns to 146,900 MBF per year. Facility-wide emissions were then capped at 266 tons of VOC per year, a value in excess of the PSD threshold of 250 tons per year. As a PSD major source of VOC, the Rome Lumber Mill is required to undergo PSD review if the potential emissions of any modification exceeds 40 ton/yr. The annual limit on kiln throughput was modified again in November of 2004 from 146,900 MBF to 151,250 MBF. This increase was calculated to result in an increase of 39.7 tons per year of VOCs, when the new allowable emissions were compared to the past actual emissions (i.e. the average emissions in the two years prior to the application); this is below the modification threshold that warrants a review under PSD.

Based on the proposed new project, including the change in crib height on 2004, the potential increases of regulated pollutants from the Rome Lumber Mill, as provided in PSD application No. 16496, are listed in Table 1.

Table 1
Emissions Increases from the Emission Unit ID Nos. LDK1, LDK2, LDK3, and PMBH

Pollutant	Potential Emissions Increase (tpy)	PSD Significant Emission Rate (tpy)	Subject to PSD Review
PM	2.55	25	No
PM-10	2.55	15	No
SO_2	-	40	No
NO_x	-	40	No
CO	-	100	No
VOC*	97.39	40	Yes
Pb	-	0.6	No
H_2SO_4	-	7	No

*VOC emissions were estimated using emission factor of 4.0 lbs per thousand board feet. To this date, AP-42 has not published a final emission factor for this process. However, the information that is available from other sources indicates that VOC emissions are likely to be 3.8 or higher.

Table 1 indicates that VOC emissions will exceed the PSD significance level. The proposed modification of the Rome Lumber Mill is therefore classified as a major modification under PSD, because the potential emission of at least one PSD pollutant exceeds the PSD significance level.

The emission calculations for these modifications can be found in detail in Rome Lumber Mill's PSD submittal (see Section 11 of Application No. 16496). These calculations have been reviewed and approved by EPD. The potential increases in the review were calculated by assuming a maximum annual production rate of 180,000 MBF for the lumber drying kilns and 24,273 tons per year of planer shavings for the planer mill baghouse. The only emissions associated with this project are the increases due to the increase of the production limitations on the kilns (Emission Unit ID Nos. LDK1, LDK2, and LDK3), calculated as if in November 2004.

Based on the information in Table 1, the Rome Lumber Mill's proposed modifications, as specified per Georgia Air Quality Application No. 16496, are classified as a major modification under PSD because the

potential increase in emissions of VOC from kilns LDK1, LDK2, and LDK3 equals or exceeds 40 tons per year.

3.0 PROCESS DESCRIPTION

The Rome Lumber Mill receives logs by truck. Log Processing (LP) is conducted in two steps. First logs are debarked and then sawn to standard lengths. Bark from the debarker is combined with the sawdust from the sawmill and is mechanically conveyed off site. Waste log sections are sent to the whole-log chipper. The whole-log chipper produces chips that are combined with the chips from the sawmill and mechanically conveyed off site. After debarking, logs are sent to the sawmill (SM) where they are sawn in a series of operations into rough-cut green lumber.

The majority of the rough-sawn lumber from the sawmill is put into one of three indirect steam heated lumber drying kilns (Emission Unit ID Nos. LDK1, LDK2, and LDK3). On occasion the Rome Lumber will sell a portion of the green lumber. For estimating emissions, it is assumed that a maximum of 180 MMBF per year is processed in the lumber drying kilns. The steam used to heat all the kilns is provided by an off-site source.

After drying, the lumber is sent to the planer mill (PM) for planing to finished dimensions. The finished lumber is then prepared for shipment to customers. A pneumatic process transfers shavings from the planer mill to a planer mill cyclone. The shavings are then collected in a shavings bin, loaded on a truck, and then shipped off site. The exit air stream from the planer mill cyclone is sent to the planer mill baghouse (PMBH), which is vented to the atmosphere.

The Rome Lumber Mill's permit applications and supporting data are included in Appendix B.

4.0 PSD APPLICABILITY

The Rome Lumber mill is currently classified as a major source under the PSD definition of major source because it has the potential to emit a pollutant (VOC) regulated under the Act in amounts equal to or exceeding the specified threshold (250 tpy) which is predicated on the source's industrial category. A major modification is a physical change or change in the method of operation at an existing major source that causes a significant "net emissions increase' at the source of any pollutant regulated under the Act. Thus, the proposed production increase is subject to PSD review for those pollutants whose emissions will increase above the corresponding PSD significance level. For the purposes of determining whether a significant increase occurs, future potential emissions must be compared to current actual emissions. Since this application includes a request to increase the kiln production capacity, but does not include a physical change in equipment beyond the change in crib height, which was the subject of Permit Amendment No. 2421-115-0016-V-01-1 issued on November 2, 2004, this application is considered a revision of the PSD avoidance application submitted in May 2004. Therefore, the "past actual" years used for the evaluation of emission increases from the project are the same as those established at the time of the last application, or May 2002 through April 2004. Table 2 below summarizes the projected increase in those pollutants whose emissions will increase as a result of the modification in crib height and kiln operating and maintenance schedules (in the year 2004), without the production restriction proposed then, and the currently proposed increase in kiln throughput. Tables 3 and 4 below provide emission estimates from the kilns as well as the cyclone, which controls PM emissions from the planer mill.

Table 2
Estimated increase in PSD regulated pollutants from the Rome Lumber Mill Kilns & Planer Mill Baghouse, TPY

Year	Lumber Dried (MBF/Yr)	PM	VOC
Average Past Actual	131,307	3.21	262.61
Future PTE	180,000	5.75	360.00
Net Increase	**48,693**	**2.54**	**97.39**

Note: 1. Emission estimates as provided in facility's PSD application.
2. For PM emissions from the kilns, it has been assumed that all PM is PM_{10}.
3. The VOC emission estimate has been calculated by using an emission factor of 4.0 lb of VOC per MBF.

It can be seen from the tables above that the net emission increase in VOC exceeds the specified PSD significance rate for this criteria air pollutant. The exceedance of this threshold triggers PSD review; only VOC emissions are "significant" and therefore subject to PSD.

5.0 PRELIMINARY DETERMINATION

It is the Preliminary Determination of the Division that the proposal provides for the application of best available control technology (BACT) for the control of VOC emissions from the kilns as required by Federal PSD regulation 40 CFR 52.21(j).

The EPD review of the data submitted by the Rome Lumber Mill related to the proposed modification indicates that the project will be in compliance with all applicable state and federal air quality regulations.

Since the increase in emissions of all criteria pollutants, other than VOC, will be less than the corresponding PSD significance levels, ambient air quality modeling was not conducted. It has been determined that the proposal will not cause impairment of visibility or detrimental effects on soils or vegetation. Also, any air quality impacts produced by project-related growth should be inconsequential.

The preliminary determination indicates that an Air Quality Permit for the Rome Lumber Mill should be amended to increase the operating production limitations on the kilns (Emission Unit ID Nos. LDK1, LDK2, and LDK3), and to authorize the proposed changes in the kilns and infeed chain, which will allow an increase in the lumber production capacity of the mill. Additional permit conditions will be made a part of the Permit to insure and confirm compliance with all applicable regulations. A copy of the Draft Permit Amendment is attached in Appendix A.

Through its new source review procedure, EPD has evaluated Rome Lumber Mill's proposal for compliance with State and Federal requirements. The findings as indicated above have been assembled in this Preliminary Determination.

6.0 REVIEW OF APPLICABLE RULES AND REGULATIONS

Georgia Rule for Air Quality Control (Georgia Rule) 391-3-1-.03(1)

Applicability: Georgia Rule 391-3-1-.03(1) requires that any person prior to beginning the construction or modification of any facility which may result in air pollution shall obtain a permit for the construction or modification of such facility from the Director upon a determination by the Director that the facility can reasonably be expected to comply with all the provisions of the Act and the rules and regulations promulgated thereunder.

Georgia Rule 391-3-1-.03(8)(b)

Applicability: Georgia Rule 391-3-1-.03(8)(b) specifies that no permit to construct a new stationary source or modify an existing stationary source shall be issued unless such proposed source meets all the requirements for review and for obtaining a permit prescribed in Title I, Part C of the Federal Act.

Georgia Rule 391-3-1-.03(10) – Title V Operating Permits

Applicability: Georgia Rule 391-3-1-.03(10) specifies that the provisions of this section shall apply to any source and the owner and operator of any such source subject to any requirements under 40 CFR 70 as amended.

Georgia Rule 391-3-1-.02(2)(e) – Particulate Matter Emission from Manufacturing Processes

Applicability: Georgia Rule (e), commonly known as the process weight rule, limits PM emissions from kilns and other manufacturing processes. The Permittee may not discharge or cause the discharge into the atmosphere from the lumber dry kilns (KD01, KD02, and KD03), and other processes, any gases that contain particulate matter in excess of the rates derived from the following equations:

For sources constructed or modified after July 2, 1968,

$E = 4.1\ P^{0.67}$; for process input weight rate up to and including 30 tons per hour, and

$E = 55\ P^{0.11}$; for process input weight rate above 30 tons per hour.

Where E equals the allowable particulate emission rate in pounds per hour and P equals the dry process input weight rate in tons per hour.

Georgia Rule 391-3-1-.02(2)(b) – Visible Emissions

Applicability: Georgia Rule 391-3-1-.02(2)(b) [a.k.a. Georgia Rule (b)] is an applicable requirement for the lumber drying kilns and planer mill operation because said units are subject to another emission standard in Georgia rule 391-3-1-.02(2) [i.e., Georgia Rule (e)]

Emission Standard: Georgia Rule (b) [391-3-1-.02(2)(b)] and Georgia Rule (e) [391-3-1-.02(2)(e)] are general rules limiting the visible emissions and PM emissions from kilns and planer mill cyclones. Georgia Rule (b) limits visible emissions to not equal or exceed forty (40) percent from each kiln and cyclone.

40 CFR Part 63, Subpart DDDD – National Emission Standard for Hazardous Air Pollutants for Plywood and Composite Wood Products

Applicability: Subpart DDDD ["4D"] regulates HAP emissions from Plywood and Composite Wood Products (PCWP) facilities that are major sources. The Plywood and Composite Wood Products (PCWP) MACT, 40 CFR Part 63 Subpart DDDD, published in the Federal Register (Vol. 69, No. 146/Friday, July 30, 2004), indicates that the MACT is applicable to sawmills with lumber kilns (SIC # 2421) which are major for HAPs. The potential to emit methanol is over 10 tons per year, which is the major source threshold for any single HAP. Therefore, this facility is major for HAPs and the MACT is applicable.

The provisions of 40 CFR 63, Subpart DDDD, include no control requirements for lumber kilns. However, the rule indicates that facilities with non-colocated (i.e., lumber kilns located at stand-alone kiln-dried lumber manufacturing facilities or at any other type of facility) lumber kilns that are classified as major sources of HAP must submit an initial notification form by January 26, 2005. The Permittee submitted the required initial notification on February 5, 2005.

Georgia Rule 391-3-1-.02(7) – Prevention of Significant Deterioration

Applicability: Georgia Rule 391-3-1-.02(7) adopts by reference 40 CFR 52.21. PSD requires that any new major source or modification of an existing major source be reviewed to determine the potential emissions of all pollutants subject to regulations under the Clean Air Act. The PSD review requirements apply for any new or modified source which belongs to one of 28 specific source categories having potential emissions of 100 tons per year or more of any regulated pollutant, and any other source having potential emissions of 250 tons per year or more of any regulated pollutant; or modification of a major stationary source which results in a significant net emission increase of any regulated pollutant. [Note that a lumber mill is not one of the 28 named source categories under PSD.] Rome Lumber Mill is an existing major source under PSD. A PSD review is required in order to dissolve any PSD avoidance limit.

The PSD regulations require that any major stationary source or major modification subject to the regulations meet the following requirements:

- Application of Best Available Control Technology (BACT) for each regulated air pollutant that would be emitted in significant amounts (significant levels);
- Analysis of the ambient air impact;
- Analysis of the impact on soils, vegetation, and visibility;
- Analysis of the impact on Class I areas; and
- Public notification of the proposed modification in a newspaper of general circulation.

Emission Limitation: Georgia Rule 391-3-1-.02(b)(7) incorporates and adopts by reference, among other things, the definition of BACT in 40 CFR 52.21(b)(12). BACT, as defined in 40 CFR 52.21(b)(12), means:

an emissions limitation (including a visible emission standard) based on the maximum degree of reduction for each pollutant subject to regulation under [the]Act which would be emitted from any proposed major stationary source or major modification which the Administrator, on a case-by-case basis, taking into account energy, environmental, and economic impacts and other costs, determines is achievable for such source or modification through application of production processes or available methods, systems, and techniques, including fuel cleaning or treatment or innovative fuel combustion techniques for control of such pollutant. In no event shall application of [BACT] result in emissions of any pollutant, which would exceed the emissions allowed by any applicable standard under 40 CFR parts 60 and 61. If the Administrator determines the technological or economic limitations on the application of measurement methodology to a particular emissions unit would make the imposition of an emissions standard infeasible, a design, equipment, work practice, operational standard, or combination thereof, may be prescribed instead to satisfy the requirement for the application of [BACT]. Such standard shall, to the degree possible, set forth the emissions reduction achievable by implementation of such design, equipment, work practice or operation, and shall provide for compliance by means which achieve equivalent results.

Federal Rule – 40 CFR 64 – Compliance Assurance Monitoring

Applicability: 40 CFR 64, *Compliance Assurance Monitoring* applies to pollutant specific emission units (PSEUs) as defined in the subpart. PSEUs are units for which there exists an emission standard for which there is a Part 64 control device and where the pre-control potential emission rate is equal to or greater than 100 percent of the major source threshold. The frequency of data collection under Part 64 depends on whether the controlled potential to emit exceeds 100 tons per year, in which case it is considered to be a "large PSEU."

The potential emission rate from each kiln (PSEU) is not equal to or greater than 100 percent of the major source threshold, and also kilns are without any control. Therefore, CAM is not applicable. The cyclone on the planer mill also is not subject to CAM rules because pre-control PTE PM is less than 100 tpy.

7.0 BEST AVAILABLE CONTROL TECHNOLOGY (BACT) REVIEW

The PSD regulation requires that BACT be applied to all regulated air pollutants emitted in significant amounts. Section 169 of the Clean Air Act defines BACT as an emission limitation reflecting the maximum degree of reduction, which the permitting authority on a case-by-case basis, taking into account energy, environmental, and economic impacts and other costs, determines is achievable for such a modification through application of production processes and available methods, systems, and techniques. In all cases BACT must establish emission limitations or specific design characteristics at least as stringent as applicable New Source Performance Standards (NSPSs). In addition, if EPD determines there is no economically reasonable or technologically feasible way to measure the emissions to enforce an emission standard, it may require the source to use a design, equipment, work practice or operations standard or combination thereof, to reduce emissions of the pollutant to the maximum extent practicable.

EPD used the top down BACT analysis approach as described in the Draft New Source Review Workshop Manual (Manual), dated October 1990, published by the United States Environmental Protection Agency (US EPA). One critical step in the BACT analysis is to determine if a control option is technically feasible. If a control is determined to be infeasible, it is eliminated from further consideration. The Manual applies several criteria for determining technical feasibility. The first is straightforward. If the control has been installed and operated by the type of source under review, it is demonstrated and technically feasible.

For controls not demonstrated using this straightforward approach, the Manual applies a more complex approach that involves two concepts for determining technical feasibility: availability and applicability. A technology is considered available if it can be obtained through commercial channels. An available control is applicable if it can be reasonably installed and operated on the source type under consideration. A technology that is available and applicable is technically feasible.

The Manual provides some guidance for determining availability. For example, a control is generally considered available if it has reached the licensing and commercial sales stages of development. However, the Manual further provides that a source would not be required to experience extended time delays or resource penalties to allow research to be conducted on new technologies. In addition, the applicant is not expected to experience extended trials learning how to apply a technology on a totally new and dissimilar source type. Consequently, technologies in the pilot scale testing stages of development are not considered available for BACT.

The Manual also requires available technologies to be applicable to the source type under consideration before a control is considered technically feasible. For example, deployment of the control technology on the existing source with similar gas stream characteristics is generally sufficient basis for concluding technical feasibility. However, even in this instance, the Manual would allow an applicant to make a demonstration to the contrary. For example, the applicant could show that unresolved technical difficulties with applying a control to the source under consideration (e.g., size of the unit, location of the proposed site and operating problems related to the specific circumstances of the source) make a control technically infeasible. A demonstration of technical infeasibility is ultimately based on a technical assessment considering physical, chemical and engineering principles, and/or imperial data showing that the technology would not work on the emissions unit under review, or that irresolvable technical difficulties would preclude the successful deployment of the technique.

According to the Environmental Appeals Board (See In re Kawaihae Cogeneration Project, 7 E.A.D. 107 at page 1996, EAB 1997), the section on “collateral environmental impacts” of a proposed technology has

been interpreted to mean that "if application of a control system results directly in the release (or removal) of pollutants that are not currently regulated under the Act, the net environmental impact of such emissions is eligible for consideration in making the BACT determination." The Appeals Board continues, "The Administrator has explained that the primary purpose of the collateral impacts clause 'is...to temper the stringency of the technology requirements whenever one or more of the specified collateral impacts – energy, environmental or economic-renders the use of the most effective technology inappropriate." Lastly, the Appeals Board states, "Unless it is demonstrated to the satisfaction of the permit issuer that such unusual circumstances exist, then the permit applicant must use the most effective technology."

The five steps of a top-down BACT review procedure as identified by United States Environmental Protection Agency per BACT guidelines are listed below:

Step 1:	Identify all control technologies
Step 2:	Eliminate technically infeasible options
Step 3:	Rank remaining control technologies by control effectiveness
Step 4:	Evaluate most effective controls and document results
Step 5:	Select BACT

Now that the PSD BACT standards have been defined, the next step is to review the remaining applicable requirements. The following paragraphs of this section address VOC emissions from the kilns and the proposed method to establish VOC emission limitations that represent BACT.

8.0 BACT REVIEW – LUMBER DRYING KILNS

The uncontrolled exhaust stream from the kilns, discharged through kiln vents, consists of wood dust, mineral dust, aerosols of organic substances, and aerosols of mineral salts. The aerosol portions include condensable PM and some VOCs and these aerosol portions leave the uncontrolled vents as a vapor but condense at normal atmospheric temperatures to form liquid particles or mist that creates a visible blue haze. Both the VOCs and condensable PM are compounds evaporated from the wood in the kilns. Operational factors affecting VOC emissions include wood species, the "green nature" of the wood processes, and kiln operating temperature.

AP-42 of 9/1997 (chapter 10.5 Plywood Manufacturing) indicates that a VOC control technology gaining popularity in the wood products industry for controlling dryer and press exhaust gases is the regenerative thermal oxidizer (RTO). This is a type of incinerator that can destroy VOC, CO, and other condensable organics by burning them at high temperature. The Rome Lumber Mill has identified available control technologies by reviewing the EPA's RBLC (RACT/BACT/LAER clearinghouse) database. They found a total of 35 determinations made for lumber mills and the furniture industry, which utilize kilns for drying. None of the kilns used add-on controls. Table 3 lists the determinations.

Table 3

Facility Name	RBLC ID	Control Requirement	VOC Emission Limit	Notes
Potlatch Corp, Nevada Co., AR	AR-0083	Proper Operation	3.5 lb/MBF 119 lb/hr	265MMBF/yr kiln. Compliance not verified.
Potlatch Corp, Nevada Co., AR	AR-0084	Proper Operation	3.5 lb/MBF 119 lb/hr	265MMBF/yr steam-heated kiln. Compliance not verified.
Deltic Timber Corp., Columbia Co., AR	AR-0080	None	3.5 lb/MBF	BACT - 225.1 MMBF/yr steam-heated kiln. Compliance not verified.
Elliot Sawmilling Co., Hampton Co., SC	SC-0085	Work Practices	4.5 lb/MBF	LAER – 53 MMBF/hr direct-fired w/ wood waste kiln.
New South Lumber Co., Horry Co., SC	SC-0090	Work Practices	4.2 lb/MBF 363.7 tpy	BACT/LAER – five steam-heated kilns. Unknown compliance.
Bowater, Inc., Marshall Co., AL	AL-0195	Good Op. Practices, Routine equip. inspections, recordkeeping	7.0 lb/MBF 125 MMBF/yr	BACT – 150 MBF steam-heated kiln. VOC reported as pinene.
New South Lumber Co. Inc., Kershaw Co., SC	SC-0082	Work Practices & Production Limit	4.2 lb/MBF 182 MMBF/yr	BACT/LAER – 182.1 MMBF/yr steam-heated kiln.
GA-Pacific Corp., Union, AR	AR-0062	Proper Maintenance & Op., all available control technologies infeasible	5572 lb/charge 304.0 tpy	BACT – 160 MMBF/yr steam-heated & natural gas fired kilns. Compliance verification unknown.
West Frazier (South), Union Co., AR	AR-0065	None	3.5 lb/MBF 91.9 lb/hr	230 MMBF/yr steam-heated kiln. Unknown compliance

Facility Name	RBLC ID	Control Requirement	VOC Emission Limit	Notes
International Paper Co., Grant Co., AR	AR-0064	None	423 lb/charge 88.2 tpy	BACT – one steam heated kiln limited to 29.41 MMBF/yr. Unknown compliance.
Collum's Lumber Mill, Allendale Co., SC	SC-0059	None	195 tpy for 2 kilns	LAER - 55.75 MMBF/yr for two steam heated kilns.
International Paper, Scott Co., MS	MS-0048	None	5.2 lb/MBF 137 tpy, limits are for each kiln	Three existing direct fired wood waste kilns. 52.55 MMBF/yr. Unknown compliance.
International Paper, Scott Co., MS	MS-0048	None	5.2 lb/MBF 78 tpy	New 30 MMBF/yr direct fired wood waste kiln. Unknown compliance.
Charles Ingram Lumber Co., Florence Co., SC	SC-0070	Work Practices, Inspections, & Maintenance	192.5 tpy	LAER – 110 MMBF/yr direct fired wood waste kiln. Unknown compliance status.
Potlatch, Nevada Co., AR	AR-0046	None	3.5 lb/MBF	BACT – 230 MMBF/yr steam heated kiln.
Weyerhaeuser Co., Pike Co., MS	MS-0054	Annual Throughput Limits. No control feasible.	4.2 lb/MBF 467.5 tpy for all 5 kilns	BACT – 222.5 MMBF/yr direct fired wood waste kilns. VOCs as carbon.
Temple – Inland Forest Products Corp., Sabine Co., TX	TX-0292	No control required	11.46 lb/hr 47.5 tpy, limits are for each unit	BACT – 200 MMBF/yr. Four kilns. Unknown compliance status.
Chesterfield Lumber Co., Darlington Co., SC	SC-0050	None	353.5 lb/day 64.51 tpy rolling avg	LAER – steam heated kilns. Compliance demonstrated every 2 years using 3.5 lb/MBF.
Willamette Industries, Chester Co., SC	SC-0052	Work Practices	3.8 lb/MBF	BACT/LAER – 60 MMBF/yr steam heated kiln. Compliance by production tracking
Champion International Corp., Escambia Co., FL	FL-0217	Proper Operation		BACT – 225 MMBF/yr steam heated kilns (3). Unknown compliance status.
Rayonier, Inc., Appling Co., GA	GA-0122	None		BACT/RACT – six steam heated kilns limited to 219 MMBF/yr
Freeman Brothers, Inc., Pope Co., AR	AR-0032	Clean Fuel	3.5 lb/MBF	70 MMBF/yr kiln
Champion International Corp., Polk Co., TX	TX-0367	None	28.8 lb/hr for each kiln 249.83 tpy total	BACT – 194.7 MMBF/yr steam heated kilns (3). Unknown compliance status.
Rayonier, Inc., GA	GA-0080	Good Engineering Practices	219 MMBtu cap	BACT – six indirect fired kilns, 150 MMBF/yr
Gulf States Paper Co., Hale Co., AL	AL-0122	None	5.48 lb/MBF	BACT – 5 dry kilns: 2 @ 116 MBF, 2 @ 143 MBF, 1 @ 84 MBF.

Facility Name	RBLC ID	Control Requirement	VOC Emission Limit	Notes
International Paper, Bowie Co., TX	TX-0285	None	2 @ 61.6 lb/hr 1 @ 30.8 lb/hr 468 lb/hr	BACT – 180 MMBF/yr steam heated kilns (3). Unknown compliance status.
Willamette Industries, Winn Co., LA	LA-0116	None	33.3 lb/hr	BACT – 40 MMBF/yr kiln
Weyerhaeuser Co., McCurtain Co., OK	OK-0082	None	162.84 tpy 79.44 MMBF/yr	BACT – 7.9 MMBF/mo steam heated kiln. Unknown compliance status,
MacMillan Bloedel Packaging, Wilcox, AL	AL-0119	None	4.52 lb/MBF 384.2 tpy	BACT – Unknown compliance status.
Weyerhaeuser Co., Lamar Co., AL	AL-0157	Emission Limits for VOC as carbon	4.52 lb/MBF 248.6 tpy	BACT – 110 MMBF/kiln for two kilns.
Weyerhaeuser Co., McCurtain Co., OK	OK-0081	See OK-0061		
Hankins Lumber Co., Grenada Co., MS	MS-0034	None	3.6 lb/MBF	BACT – five steam heated kilns @ 200 MBF/yr. Unknown compliance status.
Vaughan Furniture Co., Patrick Co., VA	VA-0237	None	1.2 tpy	BACT – 11.44 MMBF/yr indirect fired kiln. Unknown compliance status.
Potlatch Corp., Nevada Co., AR	AR-0073	None	77.0 lb/hr	BACT – 145 MMBtu/hr indirect fired kiln.
Weyerhaeuser Co., McCurtain Co., OK	OK-0061	None	31.0 lb/hr 135.0 tpy	BACT – 6.597 MMBF/mo. Unknown compliance status.

The RBLC search results as provided in Table 3 indicate that the operation of the kilns without VOC controls is the only economically feasible approach and is consistent with approved industry practices. However, as indicated, a number of PSD determinations require good operating practices, routine equipment inspection, and recordkeeping and some included BACT VOC emission limits based on Method 25A test results on kilns. The Rome Lumber Mill has proposed an extensive checklist requiring good kiln operating practices, but did not propose a BACT VOC emission limit.

Top-Down BACT Alternatives Review: Common VOC control methods are:

1. Carbon Adsorption,

2. Oxidation: thermal, catalytic, and regenerative

The major disadvantages that would be posed for the above common VOC control methods are as follows:

Carbon Adsorption: Carbon adsorption would not be practical because of the high moisture content of the exhaust air from the kilns.

Oxidation: An oxidizer would be excessively expensive to build and operate because of the high moisture content, high flow rate, low VOC concentration, and low exit temperature of the exhaust air. Essentially all of the heat needed to achieve oxidation temperature would have to be furnished by combustion of an

auxiliary fuel, which would be cost prohibitive with the high flow rates and moisture content involved. In addition, the fluctuations in exhaust air VOC concentrations and the start-and-stop nature of kiln operations are not well suited to control by oxidation.

So far as is known, no direct fired (flue gas heated) or indirect fired (steam-heated) lumber dry kilns in the U.S. are equipped to control VOC emissions. This conclusion is based on the following: (1) a review of the U. S. Environmental Protection Agency (EPA) RACT/BACT/ LAER Clearinghouse which disclosed no entries for lumber dry kilns: (2) a review of National Council of the Paper Industry for Air and Steam Improvement (NCASI) documents, (3) a review of PSD documents received from South Carolina and Alabama, and (4) a review of recent lumber kiln projects in Georgia, all of which were permitted without VOC controls.

In conclusion, operation of the lumber drying kilns without VOC controls is the only economically feasible approach and is consistent with approved industry practices.

9.0 VOLATILE ORGANIC COMPOUNDS (VOC) BACT SUMMARY

Emissions of VOCs (primarily terpenes) will increase as a result of the increased kiln throughput at the Rome Lumber Mill. These emissions result from the drying of green wood. The net increase in potential VOC emissions is projected to be 97.39 tpy. Because this increase exceeds the PSD significance level for VOC (i.e., 40 tpy), affected VOC emissions sources must apply BACT. BACT for lumber drying kilns has been shown to be operating the kiln using good operating practices, but without add-on control devices. As illustrated in Table 3, there have been no instances in which air emissions controls were required for a lumber drying kiln, either as a BACT or LAER requirement.

EPA approved emission factors for emissions from lumber drying kilns have not been finalized at present; this work is in progress. Based on the initial Title V Permit and modifications issued, VOCs from the drying of southern yellow pine lumber was estimated to be at 3.5 lbs VOC per thousand board feet for steam-heated lumber kilns. This emission factor was previously deemed acceptable for regulatory applicability purposes. However, the Rome Lumber Mill the Rome Lumber Mill has based all calculations on a more conservative VOC emission factor of 4.0 lbs VOC per thousand board feet.

Based on information provided by the applicant, the increase in the crib height of each kiln, the optimization of kiln scheduling and other changes that will result in fewer by-products per board foot of lumber produced the lumber drying capacity of the kilns will be 180 MMBF/yr. The Permittee will operate the new kilns without air pollution control devices, but with good operating practices. The Division believes that this determination is consistent with recent BACT determinations.

10.0 AMBIENT AIR QUALITY REVIEW

10.1 General

PSD requires a demonstration that the allowable emissions from the proposed source, in conjunction with all other applicable emissions increases or decreases, will not cause or contribute to a violation of:

1. Any National Ambient Air Quality Standard (NAAQS) in any air quality control region (AQCR); or

2. Any applicable maximum allowable increase over the baseline concentration in any area (i.e., PSD Increment).

For the Rome Lumber Mill's proposed increase in lumber drying kiln production, only emission increases of VOC exceeded the significant emission levels established by the PSD regulations. Unlike the other criteria pollutants, there is no established NAAQS for VOCs. Rather, VOCs are recognized as precursor compounds that contribute to the secondary atmospheric formation of the criteria pollutant, ozone (O_3).

Since the Rome Lumber Mill is outside the Atlanta ozone non-attainment area, EPD does not require an ambient air quality impact analysis from VOC sources regarding the secondary formation of O_3. However, the Rome Lumber Mill submitted dispersion modeling analysis for O_3 impacts from this facility. The facility satisfactorily met the criteria of Georgia's Air Toxics program.

10.2 Monitoring

As Georgia EPD does not require an ambient air quality analysis for O_3 by sources of VOC, no background O_3 concentration needed to be estimated for the purposes of this PSD application.

10.3 Modeling

As indicated above, dispersion modeling was not required. So EPD did not evaluate the impact of the proposed Rome Lumber Mill project on O_3 concentrations in Floyd County. The facility is subject to the Georgia Air Toxics Guideline. However, the modeling analysis, which was conducted for a previous application as indicated in Section 13, demonstrated that this modification would comply with the toxic guidelines.

10.4 Increment Consumption

In 1977, EPA promulgated PSD regulations related to the requirements for classifications, increments, and area designations as set forth by Congress. A PSD increment "is the maximum allowable increase in concentration that is allowed to occur above a baseline concentration for a pollutant." The PSD regulations establish specific maximum allowable increases in ambient concentrations (or increments) for PM_{10}, NO_x, SO_2, and CO for all areas in compliance with the NAAQS. All areas of the country are categorized as a function

of overall use. The regulations were designed to prevent significant air quality deterioration by specifying allowable incremental changes in PM_{10}, NO_X, SO_2 and CO concentrations within each area category. EPA has established three air quality classifications as a function of land use:

1. Class I Areas - Those areas where almost any deterioration of current air quality is unwanted, and little or no industrial development is normally allowed (e.g., national parks, wilderness areas, etc.);

2. Class II Areas - Those areas where moderate, well-controlled energy or industrial growth is desired without air quality deterioration up to the NAAQS (all attainment areas that are not Class I areas were originally designated as Class II areas); and

3. Class III Areas - Those areas where substantial energy or industrial development is intended and where modest increases in ambient concentrations above Class II increments, but below the NAAQS, would be allowed (designation to Class III must follow strict redesignation procedures).

The current federal PSD increments for different area classifications are shown in Table 4. Class I increments are the most stringent, allowing the smallest amount of air quality deterioration, while the Class II increments allow moderate deterioration. Georgia EPD has adopted the EPA class designations and allowable PSD increments for TSP, SO2, and NO2. There are no Class III PSD areas currently designated

Floyd County and all other attainment areas in Georgia are designated as Class II areas. Because no Federal increments are established for O_3, increment consumption is not evaluated for VOC sources.

10.5 Classification of Ambient Air Quality

The 1970 Amendments to the CAA gave the EPA specific authority to establish minimum standards for air quality that all states would be required to achieve. These standards were developed in order to protect the public health (primary standards) and welfare (secondary standards). The federally promulgated standards, and similar standards adopted by the State of Georgia, are presented in Table 5. Areas of the country that have ambient concentrations less than a standard are designated as "attainment areas," while those where monitoring indicates air quality is worse than standards are known as "nonattainment areas." The designation of an area has particular importance for a proposed project as it determines the type of permit review the application will undergo.

Major new sources or major modifications to existing sources located in attainment areas are required to obtain Prevention of Significant Deterioration (PSD) permit prior to initiation of construction. Similarly sources located in nonattainment areas, or those adversely impact such areas, must undergo more stringent New Source Review (NSR). In either case it is necessary, as a first step, to determine the air quality classification of a project site.

Table 4

Pollutant	Averaging Time	PSD Increments		Significant Impact Levels
PM	Annual Geometric Mean	5	19	1
	24-hour Maximum	10	37	5
PM_{10}	Annual Arithmetic Mean	4[a]	17[a]	1
	24-hour Maximum	8[a]	30[a]	5
SO_2	Annual Arithmetic Mean	2	20	1
	24-hour Maximum	5	91	5
	3-hour Maximum	25	512	25
CO	8-hour Maximum	NA	NA	500
	1-hour Maximum	NA	NA	2,000
NO_2	Annual Arithmetic Mean	2.5	25	1

*

a Proposed by EPA in the Federal Register on October 5, 1989.
Note: Particulate Matter (TSP) = total suspended particulate matter.
Particulate Matter (PM-10) = particulate matter with aerodynamic diameter =10 µm
µg/m3 = micrograms per cubic meter.
NA = Not applicable; i.e., no standard exists.
Source: Federal Register, Vol. 43, NO. 188, June 19, 1978; 40CFR50; 40CFR52.21; Chap. 335-3-14-.04, A.A.C.

Table 5
National and State Ambient Air Quality Standards (µg/m3)

Pollutant	Averaging Period	EPA Standards	Georgia Standards
PM_{10}	24-hour (1)	150	150
	Annual	50	
SO_2	3-hour (3)	1,300	1,300
	24-hour (3)	365	260
	Annual	80	60
CO	1-hour (3)	40,000	40,000
	8-hour (3)	10,000	10,000
NO_2	Annual (2)	100	100

(1) Not to be exceeded on more than 3 days over 3 years
(2) Never to be exceeded.
(3) Not to be exceeded more than once per year.
Sources: 40CFR50; 36FR22384.

The NAAQS are established by the Clean Air Act to protect human health and welfare and they must be attained and maintained. These standards are applicable to all AQCR's and are compared to measured ambient air quality concentrations to determine an AQCR's attainment classification.

The 1990 CAA Amendments called for a review of the ambient air quality of all regions of the United States. States were required to file with the EPA by March 15, 1991 designations of all areas as attainment, nonattainment, or unclassifiable. The EPA was then to issue this list of area classifications. The current classification of Floyd County is listed in Table 6 for each criteria pollutant.

Table 6
Classification of Floyd County For Each Criteria Pollutant

Carbon Monoxide	Unclassifiable/Attainment
Oxides of Nitrogen	Unclassifiable/Attainment
Sulfur Dioxide	Better than Standards
Particulate Matter (PM-10)	Unclassifiable/Attainment
Particulate Matter (PM-2.5)	Non-attainment
Total Suspended Particulate	Better than Standards
Ozone	Unclassifiable/Attainment

Sources: 40 CFR 81.300, 1991
FR56694

10.6 Impact on Class I areas

An ambient air quality impact analysis must be performed for a proposed major source or major modification subject to PSD for each pollutant for which the increase in emissions exceeds the significant emission rate (Table 2). The main purpose of the air quality analysis is to demonstrate that emissions emitted from the proposed new major stationary source, in conjunction with other applicable emissions from existing sources (including secondary emissions from growth associated with the new project), will not cause or contribute to a violation of any applicable National Ambient Air Quality Standard (NAAQS) or PSD increment in a Class I or Class II area. NAAQS exist for NO_2, CO, PM_{10}, SO_2, Ozone (O_3), and lead (P_b). PSD increments exist for SO_2, NO_2, and PM_{10}.

The PSD regulations specifically provide for the use of atmospheric dispersion models in performing the impact analysis, which is used for determining compliance with NAAQS and PSD increments. Designated EPA models must normally be used in performing the impact analysis. Specific applications for other than EPA approved models require EPA's consultation and prior approval. Guidance for the use and application of dispersion models is presented in the EPA publication Guideline on Air Quality Models (EPA 1993). The source impacts analysis for criteria pollutants may be limited to only the new or modified source, if the net increase in impacts due to the new or modified source is below significance levels, as presented in Table 7.

Compliance with any NAAQS is based upon the total estimated air quality impact from all possible sources, which is the sum of the ambient estimates resulting from existing sources of air pollution (modeled source impacts plus measured background concentrations) and the modeled ambient impact caused by the applicant’s proposed emission increase and associated growth. It is important to note that the air quality cannot be allowed to deteriorate beyond the concentration allowed by the applicable NAAQS, even if not all of the PSD increment is consumed.

As previously stated, a review of Table 2 indicates that the project will be significant for VOC only. An exceedance of the significance level would generally indicate that dispersion modeling be conducted for the significant pollutant. In the case of VOC, the national and state air quality standards are expressed as ozone and not VOC, there is no PSD increment established for either ozone or VOC. Therefore in cases such as this, where the only pollutant proposed to be emitted in significant quantities is VOC, no dispersion modeling is required.

PSD policies require that sources located within 200 kilometers (km) of a Class I area be evaluated for possible significant impact on that area. Class I areas that are located within 200 km of the Rome Lumber Mill are as follows: Sipsey Wilderness Area, Cohutta Wilderness Area, Joyce Kilmer Wilderness Area, and the Great Smoky Mountain National Park. Since the emissions of concern are VOCs, EPD concludes that the expanded facility operation will not significantly impact the vistas of any Class I area.

11.0 HAZARDOUS AIR POLLUTANT/AIR TOXIC REQUIREMENTS

Regulations that have been developed to control emissions of so-called hazardous air pollutants (HAPs) are the NESHAPs, initially codified in 40 CFR Part 61 only. This part contains a listing of those pollutants that have been designated as being hazardous along with standards applicable to specific industries. Unlike the NSPS, NESHAPs are applicable to both new and existing sources that emit pollutants regulated by this part.

The 1990 CAA Amendments significantly expanded the number of HAPs to be regulated. Under the Amendments, 189 (revised to 187) compounds or classes of compounds are to be regulated. Maximum Achievable Control Technology (MACT) standards are to be applied to sources with controlled HAPs emissions of 10 tpy of any single compound or 25 tpy or more of all 187 regulated HAPs in combination. These requirements are codified in 40 CFR 63.

The Plywood and Composite Wood Products (PCWP) NESHAP, 40 CFR Part 63 Subpart DDDD, published in the Federal Register (Vol. 69, No. 146/Friday, July 30, 2004), indicates that the MACT is applicable to sawmills with lumber kilns (SIC # 2421) which are major for HAPs. This facility is major for HAPs and therefore this MACT is applicable. The provisions of 40 CFR 63, Subpart DDDD include no control requirements for lumber kilns. However, the rule indicates that facilities with non-colocated lumber kilns (i.e., lumber kilns located at stand-alone kiln-dried lumber manufacturing facilities or at any other type of facility) that are classified as major sources of HAP must submit an initial notification form, by January 26, 2005. Note that the Permittee already submitted the required initial notification on February 5, 2005.

The impacts of HAPs, along with other air toxics, must also be evaluated through dispersion modeling. The requirement to conduct dispersion modeling for air toxics is in the Georgia Air Toxics Guideline. A toxic air pollutant is defined as any substance, which may have an adverse effect on public health, excluding any specific substance that is covered by a State or Federal ambient air quality standard. The impact is evaluated by comparing the modeled results to a threshold limit value for a given air toxic taking into consideration a safety factor.

Air toxic modeling was conducted as part of the permit applications that were prepared in 2000 and 2004 for the permitted increases in production. The ISCST3 computer dispersion model was used to predict the maximum 24-hour and 15-minute average ground level concentration (referred to as MGLCs) for each pollutant in question. The permit applications evaluated the impacts from the kilns using a worst-case analysis (air toxics emissions based on design rate of kilns). The results of that modeling demonstrated that the maximum impacts would be well below the acceptable levels. Note that the modeling report indicates that the short-term maximum emission rates were calculated based on a maximum short-term processing rate of 23.894 MBF/hr. The average annual kiln processing rate of 20.548 MBF/hr was based on the production cap of 180 MMBF/yr and 8760 hours per year of operation. This processing rate was only used for assessments of impacts against the annual AACs.

The maximum capacity of 209.31 MMBF/yr, as extrapolated from the maximum short-term emission rate specified above, is much more than the presently indicated maximum capacity of 180 million board feet per year. It shall be noted that a comprehensive study of the impacts of formaldehyde emissions was performed for the Rome Lumber Mill in 2000. The applicant chose to use those results as the basis for this assessment by scaling the previous results by a ratio of those results to the new emission rates and pollutants. The basis for the modeling performed in 2000 was a production rate of 146.9 MMBF per year with a formaldehyde emission rate of 0.15 pounds per hour from all three kilns, combined. However, since the 2000 study, Temple – Inland has purchased the land and roadway that lies to the northeast of the lumber mill, so that Mays Bridge Road is no longer publicly accessible. Therefore, the

impact results from the 2000 study, where the maximum impacts were all shown to lie along Mays Bridge Road, have been adjusted with the current study to remove consideration of any receptor lying along Mays Bridge Road or within the boundaries of Temple – Inland property. The applicant also assessed the maximum impact for the sum of influences from both the lumber mill and neighboring linerboard mill. The combined maximum impacts from the two sites remain below AAC limits. The complete assessment and previous analysis are included with the documents in Appendix B.

12.0 ADDITIONAL IMPACT ANALYSIS

PSD regulations require an analysis of possible impairment to visibility and adverse impacts on soils and vegetation that may result from the new or modified source. Furthermore, these rules require a review of the air quality impact from adjacent commercial, residential, industrial or other growth that will accompany the affected facility. Other impact analysis requirements may also be required (such as Georgia's Toxic Guidelines).

12.1 Visibility

Visibility impairment is any perceptible change in visibility (visual range, contrast, atmospheric color, etc.) from that which would have existed under natural conditions. Poor visibility is caused when fine solid or liquid particles, usually in the form of volatile organics, nitrogen oxides, or sulfur oxides, absorb or scatter light. This light scattering or absorption actually reduces the amount of light received from viewed objects and scatters ambient light in the line of sight. This scattered ambient light appears as haze. Certain atmospheric conditions, such as temperature inversions, can exacerbate hazy conditions by trapping exhaust plumes and inhibiting rapid dispersion.

Another form of visibility impairment in the form of plume blight occurs when particles and light-absorbing gases are confined to a single elevated haze layer or coherent plume. Plume blight, a white, gray, or brown plume clearly visible against a background sky or other dark object, usually can be traced to a single source such as a smoke stack. Visibility impairment is of most concern for PSD Class I areas.

Since VOC is the only pollutant of concern in this proposed modification, no visibility screening analysis was performed. EPA's visibility impairment model, VISCREEN, considers primarily PM, NO_x, SO_x, and sulfate ion (SO_4^{-2}) formation in evaluating the visibility changes that may result from an increase in criteria air pollutant emissions near Class I areas. The theoretical basis of this model does not consider VOC to be a principal factor in visibility impairment.

As previously mentioned, there are four Class 1 areas in the vicinity (within 200 kilometers) of the Rome Lumber Mill: Sipsey Wilderness Area, Cohutta Wilderness Area, Joyce Kilmer Wilderness Area, and the Great Smoky Mountain National Park. Since the emissions of concern are VOCs, EPD concludes that the expanded facility operation will not significantly impact the vistas of any Class I area.

12.2 Soils and Vegetation

The EPA document, *A Screening Procedure for the Impacts of Air Pollution Sources on Plants, Soils, and Animals* (EPA 1980), lists threshold concentrations for injury to vegetation from exposure to several pollutants. In each case the emissions of each of these pollutants was essentially unchanged as a result of this proposed project. Therefore, no adverse impact to soils and vegetation in the project impact area should occur.

12.3 Regional Population Growth

EPD does not anticipate that the Rome Lumber Mill project will result in additional commercial or industrial growth that would adversely impact the ambient air quality in the mill impact area.

There should be no incremental air pollution effects from regional population increases due to the proposed project. The number of new jobs generated by any physical changes that would be made for this project would easily be supported by the existing area infrastructure. In addition, significant permanent employment increases as a direct result of the proposed project are not likely to occur.

13.0 COMPLIANCE SUMMARY

Temple - Inland's Rome Lumber Mill will comply with all applicable statutes and regulations that address each of the modified and new sources that are part of this project. A review of the NSPS and NESHAPs (both Parts 61 and 63) identifies no NSPS or NESHAPs that will apply to this project at this time. Dispersion modeling was not required other than air toxics modeling to comply with Georgia's EPD air toxics policy. This modeling analysis demonstrated that there would be no problems complying with the guidance. Finally, it was determined that the project would have no difficulty in complying with the State of Georgia's air quality regulations.

14.0 EXPLANATION OF DRAFT PERMIT CONDITIONS

The permit requirements for this proposed modification are included in draft Permit Amendment No. 2421-115-0016-V-01-3.

Section 1.0 Facility Description

EPD has included a description of the project.

Section 3.0 Requirements for Emission Units

Condition No. 3.2.1 is modified to delete references to the PSD avoidance limits. As requested by the Permittee, a production rate of 180 million board feet per year (MBF/year) has been established as the maximum amount of kiln-dried lumber that can be produced by the three kilns combined.

Section 5.0 Requirements for Monitoring

New Condition No. 5.2.5 requires the Permittee to develop and implement a work practice and preventive maintenance program for lumber drying kilns to assure efficient operation of the kilns.

Section 6.0 Other Record Keeping and Reporting Requirements

Condition No. 6.1.7 is modified to include reporting the exceedance of the work practice standards conditions for lumber drying kilns.

Condition No. 6.2.5 is modified to delete references to the PSD avoidance limits, and to establish a new production limit notification threshold of 15,000,000 BF (180 MMBF/yr * 1yr/12 months) during any month, in place of 12,604,166, in view of modified Condition No. 3.2.1.

New Condition No. 6.2.8 requires the Permittee to maintain operation and maintenance records related to work practice and preventive maintenance for the kilns.

15.0 ATTACHMENTS

A. Draft PSD Permit

B. PSD Permit Application and Supporting Data

APPENDIX A: Draft PSD Permit

Temple - Inland, Inc.-Rome Lumber Mill (Floyd County), Georgia

Part 70 Operating Permit Amendment No. 2421-115-0016-V-01-3.

APPENDIX B: PSD Permit Application and Supporting Data

Temple - Inland, Inc.-Rome Lumber Mill (Floyd County), Georgia

Contents include:

1. PSD/Title V Permit Application dated November 22, 2005, Received on November 23, 2005 as Application No. 16496.

2. Air Toxic Modeling Analysis previously submitted by the facility.