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## **1.0 INTRODUCTION**

### **1.1 Project Summary**

International Paper proposes to modify its Augusta Lumber Mill located in Augusta, Richmond County, Georgia

The proposed modification involves modifying the infeed of the sharp chain in the sawmill area by installing a mini double length infeed. In addition to increase operating flexibility International Paper would like to remove production restrictions on two of the three kilns at the mill.

### **1.2 Project Objectives**

International Paper has several objectives with regard to obtaining permit modifications for the existing Augusta Lumber Mill. Besides obtaining authority to construct and operate the mini double length infeed, this permit application formally addresses other components and issues related to the existing facility.

Specific objectives of this permit application are listed below:

1. Obtain authorization to remove the permitted production restriction on Kilns #2 and #3, which limits total (combined) kiln-dried lumber to 131.5 million board feet per any twelve consecutive months.
2. Obtain authorization to make changes to each of the three kilns to improve drying efficiency. Changes proposed include but are not limited to the installation of moisture meters to optimize drying time.

As a result of the objectives described above, the maximum quantity of kiln-dried lumber that can be produced at the Augusta lumber mill will be 157 million board feet per year.

### **1.3 Compliance Summary**

International Paper will comply with all applicable statutes and regulations for the equipment that is being installed as part of this project.

There are no New Source Performance Standards (NSPS) that apply to this project. International Paper should also have no problems complying with any of Georgia's air quality regulations. A regulatory review indicated that there are no other regulations, such as National Emissions Standards for Hazardous Air Pollutants (NESHAPS) that could potentially apply to this project at this time.

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There was no need to conduct air dispersion modeling other than what is required for air toxics. Although the project was subject to the Prevention of Significant Deterioration (PSD) Program, there was no need to conduct dispersion modeling since the only pollutant that is expected to increase above the PSD significant level is volatile organic compounds (VOC). An analysis has been provided to demonstrate that the project complies with the air toxics policy for the State of Georgia.

## **1.4 Report Organization**

International Paper's permit application has been subdivided into several sections:

- Chapter 2.0 contains relevant project information, including the site location as well as descriptions of the operations from both the existing and modified lumber mill.
- Chapter 3.0 gives the facility emissions inventory data, including information on allowable and potential-to-emit for the modified facility;
- Chapter 4.0 contains the regulatory analysis, which includes applicable regulations and classification of ambient air quality. This section also discusses the net emissions increases associated with the proposed modifications and defines the PSD applicability for each pollutant;
- Control technology requirements, such as Best Available Control Technology (BACT), are discussed for applicable pollutants and sources in Chapter 5.0. BACT review was conducted only for the pollutant VOC;
- Chapter 6.0 addresses the air quality related values (AQRV) analyses, including visibility, soils and vegetation, and regional population growth;
- Chapter 7.0 contains a summary of applicable rules and demonstrates source compliance with each rule; and
- Technical references cited in the application are listed in Chapter 8.0.

The application also contains several technical appendices, which provide additional details, such as specific calculations and information associated with the equipment that is being proposed for this project. Georgia EPD permit forms are provided in Appendix A.

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## **2.0 PROJECT DESCRIPTION**

### **2.1 Project Location**

International Paper's Augusta lumber mill is located in Richmond County within the city limits of Augusta, Georgia. A site location map is included as Figure 2-1.

### **2.2 Existing Facility**

The primary activity at the Augusta lumber mill is lumber production (Standard Industrial Classification [SIC] code 2421). Primary operations at the mill include, sawmill operations, wood drying operations, planer mill operations, and additional activities and equipment necessary to support these operations. A plot plan of the facility is included as Figure 2-2.

### **2.3 Proposed Facility Modifications**

In August 1995, the Augusta lumber mill applied for a construction permit to install a new wood drying kiln. At that time the mill had a potential to emit of greater than 250 tons per year for volatile organic compounds, classifying the facility as a major source. In order to permit the new kiln without subjecting the permit application to PSD review, the mill voluntarily accepted the restriction addressed above for Kilns #2 and 3.

The Augusta lumber mill has been burdened by the restriction on Kilns #2 and 3 and would like to remove the restriction. In order to do this it will be necessary to go through retroactive PSD review, whereby the emissions increase associated with the kiln that was permitted in 1995 will be evaluated with the understanding that the mill was a major facility since there will no longer be a PSD avoidance condition in the permit.

In addition to removing the production restriction, International Paper would like to improve the production capability of the mill. It is proposed that this will be accomplished by modifying the infeed of the sharp chain in the sawmill area by installing a mini double length infeed and to take measures to optimize the lumber drying process. The primary measure proposed at this time is the installation of moisture meters.

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## **3.0 EMISSIONS INVENTORY**

### **3.1 Current Emissions**

#### **3.1.1 Allowable Emissions**

The operations at the Augusta lumber mill are authorized by the initial Title V permit (Air Quality Permit No. 2421-245-0047-V-01-0), which was issued to the facility on April 27, 2000. Since that time two revisions have been made. The first revision was for the curve saw project (Air Quality Permit No. 2421-245-0047-V-01-1). Recently the permit was revised again (Air Quality Permit No. 2421-245-0047-V-01-2) to address re-skinning the No. 3 Kiln.

The majority of the permit conditions and emissions limitations in the operating permit address the operation of the three existing direct-fired lumber drying kilns. Also addressed in the operating permit are the Planer Mill, and paved/unpaved road dust. In each case the emissions limitations contained in the operating permit are for particulate emissions and are based on the process weight standard for a given piece of equipment. For road dust the conditions state that reasonable precautions be used for control and that opacity of fugitive dust be limited to 20%. The three existing direct-fired kilns also have an opacity limit (40%). Also two of the kilns (KD02 and KD03) have been limited to avoid PSD review. Specifically, the permit indicates that a maximum of 131.5 million board feet can be dried in kilns KD02 and KD03 (total for kilns 2 and 3) per any twelve consecutive months.

### **3.2 Project Emissions Increases**

The proposed changes to the equipment at the mill will not increase the mill's physical capability to increase emissions, based on the quantity of lumber that can be dried in the kilns. Any emissions increases associated with this project for both criteria pollutants and air toxics will be attributed to the difference between current actual and future potential emissions. From a potential to emit perspective the mill's physical capability to emit air pollutants (capacity to produce kiln-dried lumber) will not change.

When the application for the construction of a new kiln (Kiln #1) was prepared and submitted to the Georgia EPD in August 1995, the restriction on Kilns #2 and #3 was voluntarily taken so that the facility was justified as being a minor source in accordance with the PSD regulations. By approaching the permitting in this manner, the new kiln (Kiln #1) could be permitted without being subject to PSD review. Permitting the kiln without having to be subject to PSD was an important consideration at that time since it was understood that PSD review would delay issuance of the permit and the time frame for constructing the new kiln was tight (See cover letter to August 1995 application in Appendix B).

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At the time that the new kiln (Kiln #1) was permitted in 1995, the proposed production level was stated as being 25.3 million board feet per year (See Section II-A of application form in Appendix B). Taking this production rate into consideration with the 131.5 million board feet per year limit for Kilns #2 and #3, the total production rate for all kilns combined would be 156.8 million board feet per year. International Paper now believes that the maximum production level for Kiln #1 is closer to 26.4 million and the combined production level for Kilns #2 and #3 will be slightly below the 131.5 million board feet per year permitted level. As this is the case, International is requesting that the a production rate of 157 million board feet per year be established as the maximum amount of kiln-dried lumber that can be produced by the three kilns combined.

It should be noted that this production rate of 157 million board feet per year is greater than the current permitted level of 148.5 million board feet which was established as a condition for a recently permitted project which involves replacing the existing band saw with a new curve saw. Here again, a limitation was taken on the production of kiln-dried lumber to a level below design capacity to avoid any permitting delays associated with PSD review. Without taking the 131.5 million board feet production restriction the curve saw project would have been subject to PSD review due to the net significant increase in emissions that would be calculated when comparing two-year actual emissions to the future potential to emit.

### **3.2.1 Direct-Fired Kilns**

Because International Paper is requesting that the PSD avoidance permit condition of limiting the production from Kilns #2 and #3 to a maximum of 131.5 million board feet per any twelve consecutive months be removed, the potential emissions from Kiln #1 will be evaluated on the basis that the Augusta lumber mill was a major PSD source at the time that application was made for a construction permit. Thus in order to operate the mill such that the combined output of the kilns is equivalent to 157 million board feet per year, it will be necessary to re-evaluate the potential increase in emissions from Kiln #1 with the assumption that Kiln #1 could produce a maximum 26.4 million board feet per year. The potential to emit for Kiln #1 would then be compared to the significant emissions rate on a pollutant by pollutant basis to determine what pollutants are subject to PSD review.

In each case the emissions factors that have been used for computing the potential to emit are the factors that have been provided by NCASI for direct-fired kilns. International Paper has been using these factors on a company wide basis where possible to promote consistency from mill to mill in the preparation of Title V permit renewal applications. These factors, each expressed in pounds per thousand board feet, are 0.370 lb/MBF for particulate matter (PM), 0.21 lb/MBF for nitrogen oxides and 0.89 lb/MBF for carbon monoxide (CO). For volatile organic compounds (VOC) the NCASI factor is 3.2 lb/MBF on an as carbon basis. When making the adjustment from an as carbon basis to a terpene based factor the VOC factor increases to 3.6 lb/MBF. This factor (3.6 lb/MBF) has been used to compute the potential to emit for VOC. A summary of the potential to emit for Kiln #1, based on a maximum production capacity of 26.4 million board feet per year has been summarized in Table 3-1 as

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follows. The basis used to calculate the potential to emit for the kilns is provided in Appendix C of this application.

**TABLE 3-1**  
**Summary of Future Potential Emissions from Lumber Drying Kiln**  
**(TPY)**

Emissions		PM	SO <sub>2</sub>	NO <sub>x</sub>	CO	VOC
Kiln No. 1 Future Potential		4.88	-	2.77	11.7	47.5
Note: The future potential to emit for Kiln No. 1 has been calculated assuming a maximum annual production rate of 26,400 MBF. International Paper would like the flexibility of operating all three kilns such that the combined production level from all kilns combined does not exceed 157,000 MBF based on any twelve-month consecutive period.						

### 3.2.2 Other Equipment

The only other point sources of air emissions that have not been addressed are the cyclones that are used to; recover trimmer sawdust, handle dried hogged material, handle dried planer shavings, and deliver green sawdust to the burners that provide direct heat to the kilns. With the exception of the No. 2 Cyclone (planer shavings), each of these four cyclones has been considered to be product recovery units and have been exempted as emissions sources in accordance with Georgia rules 3.17 (i) (1) and 3.17 (i) (2). International Paper believes that the No. 2 Cyclone also operates as a product recovery unit and is justified as being exempt under the same rule. A request that the No. 2 Cyclone be exempt as an emissions source is included as part of the Title V renewal application that has been submitted to Georgia EPD.

Note that fugitive emissions from the sawmill and other activities are not a concern for this project. This is because PSD regulations exempt modifications from the substantive requirements of PSD review if the fugitive emissions are what cause the source or modification to become major and the source is not a listed source category [40 CFR 52.21(i)(4)(vii)].

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### 3.2.3 Air Toxics

Similar to criteria pollutants, the emissions of air toxics will increase solely to the difference between current actual and future potential emissions. From a potential to emit perspective the mill's physical capability to emit air toxics (capacity to produce kiln-dried lumber) will not change.

As explained for criteria pollutants, the emissions factors that have been used for air toxics are those which have been provided by NCASI. Based on testing direct-fired kilns NCASI has determined that the air toxics are limited to acetaldehyde, formaldehyde and methanol. The potential to emit air toxics (HAPs) at the 26,400 MBF production level from Kiln #1 are provided as follows in Table 3-2.

**TABLE 3-2**

**Summary of Future Potential HAP Emissions from Kiln #1  
(TPY)**

<b>Year</b>	<b>Volume Dried (MBF/Yr.)</b>	<b>Acetaldehyde</b>	<b>Formaldehyde</b>	<b>Methanol</b>	<b>Total HAPs</b>
Future Potential	26,400	0.37	0.53	2.11	3.01
Note: Emissions based on using factors of 0.028 lb/MBF for acetaldehyde, 0.04 lb/MBF for formaldehyde and 0.16 lb/MBF for methanol. Future potential HAPs emissions assume that entire lumber production of 26,400 MBF per year will be kiln dried.					

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## **4.0 REGULATORY ANALYSIS**

This section presents a review of the federal and Georgia state air quality regulations that govern the operations associated with the proposed modification of International Paper's Augusta lumber mill and demonstrates project compliance with all applicable rules.

### **4.1 Federal PSD/NSR Regulations**

The federal regulatory programs administered by the EPA have been developed under the authority of the Clean Air Act (CAA). The following subsections review the key elements of the federal regulatory program and their impact on operations at the Augusta lumber mill. Special attention will be placed on National Ambient Air Quality Standards (NAAQS) (40 CFR 50), New Source Performance Standards (NSPS) (40 CFR 60), National Emission Standards for Hazardous Air Pollutants (NESHAPS) (40 CFR 61 and 40 CFR 63), and Prevention of Significant Deterioration (PSD) (40 CFR 52.21). Many of the federal programs have been adopted by the State of Georgia.

PSD review requirements (as described in 40 CFR 52.21) apply to construction of a "major stationary source or modification to a major source" in attainment or unclassifiable areas. In these areas, the ambient air quality is acceptable, and the NAAQS for the criteria pollutants carbon monoxide, nitrogen oxides, sulfur dioxide, particulate matter, and ozone (VOC) have not been exceeded. Sources subject to PSD review must apply BACT, conduct an air quality and additional impacts analyses, and undergo public participation during the permitting process (U.S. EPA, October 1990).

#### **4.1.1 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 4-1. 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 modification to existing sources located in attainment areas are required to obtain a Prevention of Significant Deterioration (PSD) permit prior to initiation of construction. Similarly sources located in nonattainment areas, or that adversely impact such areas, 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 4-1**

**National and State Ambient Air Quality Standards  
( $\mu\text{g}/\text{m}^3$ )**

	Averaging Period	EPA Standards		Georgia Standards
		Primary	Secondary	
PM-10	24-hour <sup>(1)</sup>	150	150	150 <sup>(3)</sup>
	annual	50	50	
SO <sub>2</sub>	3-hour <sup>(3)</sup>	---	1,300	1,300
	24-hour <sup>(3)</sup>	365	---	260
	Annual <sup>(3)</sup>	80	---	60
CO	1-hour <sup>(3)</sup>	---	40,000	40,000
	8-hour <sup>(3)</sup>	10,000	---	10,000
NO <sub>2</sub>	annual <sup>(2)</sup>	100	100	100
O <sub>3</sub>	1-hour <sup>(3)</sup>	235	235	235
<sup>(1)</sup> Not to be exceeded on more than 3 days over 3 years <sup>(2)</sup> Never to be exceeded. <sup>(3)</sup> Not to be exceeded more than once per year. Sources: 40CFR50; 36FR22384.				

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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 Richmond County is listed in Table 4-2 for each criteria pollutant.

**TABLE 4-2**  
**Classification of Richmond County**  
**for Each Criteria Pollutant**

Carbon Monoxide	Unclassifiable/Attainment
Oxides of Nitrogen	Unclassifiable/Attainment
Sulfur Dioxide	Better than Standards
Particulate Matter (PM-10)	Not Designated
Total Suspended Particulate	Better than Standards
Ozone	Unclassifiable/Attainment

Sources: 40 CFR 81.300, 1991  
FR56694

#### **4.1.2 PSD Requirements**

The 1977 CAA Amendments added Part C - Prevention of Significant Deterioration to the Act. This part requires proposed new major stationary sources or major modifications in an area that has attained the NAAQS to secure a preconstruction permit that includes a detailed analysis of the source's emissions and its impacts.

PSD regulations are codified 40 CFR 52.21. The portion of the Georgia State Implementation Plan (SIP) related to PSD regulation has been approved by the EPA, and authority for the PSD program has been transferred to the state. EPA maintains oversight review authority.

For the PSD regulations to apply, the proposed project must be in an area that has been classified as attainment or as unclassifiable for a particular pollutant. A project's potential to emit is then reviewed to determine whether it constitutes a new stationary source or a major modification of an existing major stationary source.

A major stationary source is one that has a potential to emit 100 tons per year (tpy) or more of any regulated pollutant if the source is listed as one of the 28 source categories identified in 40 CFR 52.21. Otherwise, any stationary source that has the potential to emit 250 tpy or more of a regulated pollutant is classified as major. Lumber mills are not one of the 28 listed source categories; therefore, the 250-

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tpy threshold applies. "Potential to emit" is determined by annual emissions after the application of air pollution control equipment, or any other federally enforceable restriction.

According to EPA's New Source Review Workshop Manual (EPA 1990a), for a modification to be classified as "major" and, therefore, subject to PSD review:

1. The modification must occur at an existing major stationary source and the net emissions increase of any regulated pollutant emitted by the source, as a result of modification, must be "significant"; or
2. The modification must result in an emissions increase, which if considered alone, would constitute a major source.

"Significant" emission rates are defined as amounts equal to or greater than the emission rates given in Table 4-3.

**TABLE 4-3**

**PSD Significant Emission Rates**

<b>Pollutant</b>	<b>Emission Rate (tpy)</b>
Carbon Monoxide	100
Nitrogen Oxides	40
Sulfur Dioxide	40
Total Suspended Particulates	25
PM-10	15
Ozone (VOC) <sup>1</sup>	40
Lead	0.6
Fluorides	3
Sulfuric Acid Mist	7
Total Reduced Sulfur	10
Hydrogen Sulfide	10

<sup>1</sup>VOC = volatile organic compound.

Major new facilities and major modifications are required to undergo the following analyses and reviews related to PSD for each pollutant emitted in significant amounts:

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- Increments/ Classifications;
  - Control Technology Review;
  - Air quality Monitoring Analysis;
  - Source Impact Analysis;
  - Additional Impact Analyses; and
  - Good Engineering Practice (GEP) Stack Height Analysis.

The application will evaluate the applicability of PSD to determine if the analyses listed above are warranted for this project.

#### **4.1.2.1 Increment/Classifications**

In 1977, EPA promulgated PSD regulation 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." An area is designated as being Class I, II or III depending on the criteria listed in Table 4-4.

The current federal PSD increments for different area classifications are shown in Table 4-5. 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, SO<sub>2</sub>, and NO<sub>2</sub>. There are no Class III PSD areas currently designated.

The area around the Augusta lumber mill is PSD Class II. The nearest Class I area to the Augusta lumber mill is located over 100 kilometers from the facility. The PSD rules require that an evaluation be conducted to demonstrate that there are no violations of increment in the Class II areas and also for Class I areas that are located within 100 kilometers of the proposed source. In this case however there is also no need to evaluate impacts on either the Class II area or the Class I area since the only pollutant, which will increase significantly, is VOC for which there is no PSD increment established as can be seen in Table 4-5.

#### **4.1.2.2 Control Technology Review**

The PSD regulations require that all applicable federal and state emission-limiting standards be met and that BACT be applied to control emissions from the source. The BACT requirements are applicable to any source that increases emissions of a regulated pollutant for which the facility-wide increase in emissions exceeds the significant emission rate (see Table 4-3).

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Application of BACT may not result in emissions of any pollutant that would exceed the emissions allowed by any applicable standard under 40 CFR 60 or 61 (i.e. NSPS or NESHAPS).

**TABLE 4-4**

**PSD Area Class Definitions**

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**CLASS I**

All of the following areas that were in existence on August 7, 1977, shall be Class I and may not be redesignated:

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- International parks;
  - National wilderness areas that exceed 5,000 acres in size;
  - National memorial parks that exceed 5,000 acres in size; and
  - National parks that exceed 6,000 acres in size.
  - Areas that were redesignated as Class I under regulations promulgated before August 7, 1977, shall remain Class I, but may be redesignated.
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**CLASS II**

Any other area, unless otherwise specified in the legislation creating such area, is initially designated Class II, but may be redesignated.

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**CLASS III**

Any area other than Class I areas for which a request for redesignation has been received may be designated as Class III.

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The following areas may be redesignated only as Class I or II:

- An area as of August 7, 1977, exceeding 10,000 acres in size and that was a national monument, a national primitive area, a national preserve, a national recreation area, a national wild and scenic river, a national wildlife refuge, a national lakeshore or seashore; and
- A national park or national wilderness area established after August 7, 1977, that exceeds 10,000 acres in size.

No areas are currently designated as Class III.

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Sources: 40CFR52.21(e); §335-3-14-.04, A.A.C.

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**TABLE 4-5**

**Allowable PSD Increments and Impact Significance Levels ( $\mu\text{g}/\text{m}^3$ )**

Pollutant	Averaging Time	PSD Increments		Significant Impact Levels
		Class I	Class II	
Particulate Matter	Annual Geometric Mean	5	19	1
	24-hour Maximum	10	37	5
Particulate Matter (PM-10)	Annual Arithmetic Mean	4 <sup>a</sup>	17 <sup>a</sup>	1
	24-hour Maximum	8 <sup>a</sup>	30 <sup>a</sup>	5
Sulfur Dioxide	Annual Arithmetic Mean	2	20	1
	24-hour Maximum	5	91	5
	3-hour Maximum	25	512	25
Carbon Monoxide	8-hour Maximum	NA	NA	500
	1-hour Maximum	NA	NA	2,000
Nitrogen Dioxide	Annual Arithmetic Mean	2.5	25	1

\*No Class III Areas have been designated; therefore, there are no Class III increments.

<sup>a</sup>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  $\leq 10 \mu\text{m}$

$\mu\text{g}/\text{m}^3$  = 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.

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The BACT requirements are intended to ensure that the control systems incorporated in the design of a proposed facility reflect the latest in control technologies used in a particular industry. An evaluation of alternative air pollution control techniques and systems is required. A decision on BACT is to be based on balancing environmental benefits with energy, economic, and other impacts (EPA 1990a).

A "top-down" BACT approach as currently applied starts with most stringent (or "top") technology and emission limit that has been applied elsewhere to the same or a similar source category. A basis must be provided for rejecting this technology in favor of the next most stringent technology. Rejection of control alternatives may be based on technical or economic grounds. Such decisions are made on the basis of physical differences that may exist in the environmental, economic, or energy impacts. The differences between the proposed facility and the facility on which the control technique was applied previously must be justified. EPA has issued a draft guidance document on the top-down approach entitled Top-Down Best Available Control Technology Guidance Document (EPA 1990b).

A top-down BACT analysis is presented in Chapter 5.0, Best Available Control Technology.

#### **4.1.2.3 Air Quality Monitoring Analysis**

In accordance with PSD requirements, any application for a PSD permit must contain an analysis of ambient air quality data in the affected area for any criteria pollutants emitted in significant rates.

Existing data from the vicinity of the proposed sources may be utilized if the data meet certain quality assurance requirements; otherwise, additional data may need to be gathered. Ambient air monitoring for a period of up to 1 year may be required to satisfy the PSD monitoring requirements. Requirements for collecting PSD monitoring data are provided in EPA's Ambient Monitoring Guidelines for Prevention of Significant Deterioration (EPA 1987b). The *de minimis* levels pertaining to the air quality monitoring analysis are presented in Table 4-6.

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**TABLE 4-6*****De Minimis* Monitoring Concentration ( $\mu\text{g}/\text{m}^3$ )**

<b>Pollutant</b>	<b>Concentration (Averaging Time)</b>
Carbon monoxide	575 (8-hour)
Nitrogen dioxide	14 (annual)
Sulfur dioxide	13 (24-hour)
Total suspended particulates	10 (24-hour)
Ozone	<sup>1</sup>
Lead	0.1 (3-month)

<sup>1</sup>All cases where VOC emissions are less than 100 tpy.

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**4.1.2.4 Ambient Air Quality Impact Analysis**

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 4-3). 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 4-5.

As previously stated, a review of Table 4-7 indicates that the project will be significant for the pollutant 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, however, an exception is made since the national and state air quality standards are expressed as ozone and not VOC and 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.



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#### **4.1.2.5 Air Quality-Related Values Analyses**

In addition to an air quality impact analysis, PSD regulation require analyses of the impairment to visibility and the impacts on soils and vegetation that would occur as a result of the proposed source. These analyses are to be conducted primarily for PSD Class I areas. Impacts due to general commercial, residential, industrial, and other growth associated with the source must also be addressed. These analyses are presented in Chapter 6.0.

#### **4.1.2.6 Good Engineering Practices (GEP) Stack Height**

The 1977 CAA Amendments require that the degree of emission limitation required for control of any pollutant be unaffected by a stack that exceeds GEP height. Further, no dispersion credit is given during air quality modeling for stacks that exceed GEP. GEP stack height is defined as the highest of:

- 65 meters; or
- a height established by applying the formula

$$H_{GEP} = H + 1.5L$$

Where:

$H_{GEP}$  = GEP stack height

H = height of the structure or nearby structure; and

L = lesser dimension (height or projected width) of the nearby structure; or

- a height demonstrated by fluid modeling or field study.

Although a general requirement for PSD review there is no need for the GEP stack height analysis since the only pollutant which will be emitted in significant amounts is VOC and VOC is exempt from the modeling requirements as described in Section 4.1.2.4.

#### **4.1.3 PSD Applicability**

The Augusta lumber mill is located in Richmond County. Richmond County is currently designated as an attainment or unclassifiable area for all six criteria pollutants. For the purposes of this application (retroactive PSD review), the Augusta lumber mill is classified as a major stationary source because, without taking voluntary restrictions, it had the potential to emit 250 tons per year of any regulated pollutant when the application to obtain a construction permit for Kiln #1 was submitted in August 1995. The proposed modification to the Augusta lumber mill would have been a major modification to an existing major stationary source located in a PSD area, and would have been subject to PSD review if the project would have resulted in a significant emissions increase of any regulated pollutant.

The cumulative change in emissions from the No. 1 Kiln project is the summation of the change in emissions that would have occurred when the application was prepared in 1995. Using recent emissions factors these emissions changes were presented in Table 3-1. Table 4-7 reflects that the cumulative change in emissions from the No. 1 Kiln project would have been greater than the PSD significance level for VOC, therefore, this project, which in part removes the 131,500 MBF permit limitation on Kilns #2 and #3 does constitute a major modification and PSD regulations do apply. It should be noted, however, that the dispersion modeling requirements that have been previously addressed in this application would not apply to this project. This is because there are no PSD increment levels established for VOC as illustrated in Table 4-5.

**TABLE 4-7**  
**Cumulative Increases in Emissions**  
**from**  
**Proposed Project**

<b>Pollutant</b>	<b>Lumber Kilns (TPY)</b>	<b>Cyclones</b>	<b>Total Net Change (TPY)</b>	<b>PSD Significant Emission Rate (TPY)</b>	<b>PSD Applicability</b>
PM	4.88	0*	4.88	15	No
SO <sub>2</sub>	-	-	-	40	No
NO <sub>x</sub>	2.77	-	2.77	40	No
CO	11.7	-	11.7	100	No
VOC	47.5	-	47.5	40	Yes
* Note: The cyclones are exempt as an emissions source since they are considered to be product recovery units.					

### **4.3 New Source Performance Standards (NSPS)**

NSPS prescribe minimum requirements for control of emissions from new and/or modified emission sources. The NSPS may be described in one or more ways including maximum mass emission limits (i.e., lb/MMBtu, gr/dscf), control efficiency requirements (i.e., minimum percentage removal of inlet pollutants), technological requirements (i.e., a specific reference technology or equivalent), or operational/work practice standards. The NSPS must be met by all new or modified sources that meet the applicability requirements specified under each subpart. There is no general exclusion from NSPS based on emission levels; however, many NSPS apply only when source capacity exceeds a given threshold. Currently, NSPS limits are promulgated for 72 separate source categories in 40 CFR Part 60. However, there are no sources at the mill for which an NSPS has been promulgated.

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#### **4.4 National Emission Standards for Hazardous Air Pollutants (NESHAP) and Related Air Toxics Requirements**

The current 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 (recently revised to 188) 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 188 regulated HAPs in combination. These requirements, codified in 40 CFR 63, are to be phased in during future years.

On July 30, 2004, the final MACT rule for Plywood and Composite Wood Products Manufacture (Subpart DDDD) was published in the Federal Register. Lumber drying kilns will become subject to some of the requirements in Subpart DDDD. The requirements for kilns are limited to monitoring, record keeping and reporting requirements.

Projects which will cause a source (facility) to become major for HAPs are required to conduct a case-by case MACT determination in cases where a MACT standard has not been promulgated. However, since the MACT standard has been promulgated as discussed above there is no requirement for a case-by case MACT determination in this instance.

Another way that the impacts of HAPs (in this case air toxics) are evaluated is through dispersion modeling. The requirement to conduct dispersion modeling for air toxics is a Georgia EPD policy. 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 toxics modeling was conducted as part of the permit application that was prepared in August 2003 for the recently permitted curve saw project. The permit application 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. Since this permit application in no way increases the capacity or production capability of the kilns at the Augusta lumber mill, the previous air toxics modeling that was included in the application for the curve saw project should continue to suffice for this permit application. The summary of the previous modeling results for air toxics using worst-case assumptions is provided as follows in Table 4-8.

**Table 4-8**  
**Summary of Air Toxics Analysis**

<b>Air Toxic</b>	<b>Threshold Limit Value (mg/m<sup>3</sup>)</b>	<b>Acceptable Value (mg/m<sup>3</sup>)</b>	<b>Max. 24 Hour Conc. (mg/m<sup>3</sup>)</b>	<b>Short-Term Exposure Limit (mg/m<sup>3</sup>)</b>	<b>Acceptable Value (mg/m<sup>3</sup>)</b>	<b>Max. 15 min Conc. (mg/m<sup>3</sup>)</b>	<b>Exceeds Guidelines (Yes/no)</b>
Acetaldehyde	-	-	-	45	4.5	0.007	No
Formaldehyde	-	-	-	0.37	0.037	0.008	No
Methanol	260	2.6	0.010	655	65.5	0.034	No
In accordance with Georgia Air Toxics Guideline the Acceptable Value has been determined based on dividing the TLV by 100 and the STEL by 10. The maximum 24-hour concentration is equivalent to multiplying the 1-hour concentration by 0.4 and the 15-minute concentration is equivalent to multiplying the 1hour concentration by 1.32. Acetaldehyde also has an Inhalation Reference Concentration (RfC) of 0.009 mg/m <sup>3</sup> that will not be exceeded.							

#### **4.4 Georgia Air Quality Regulations**

With the exception of fuel burning operations and process industries, the regulations, which address air pollution control in the State of Georgia, generally are organized on a pollutant-by-pollutant basis. A review of Georgia's air regulations indicates that there are no regulations that will specifically apply to this project. There are some general regulations, however, which could potentially apply to this permit. These regulations are addressed on an equipment or pollutant-by-pollutant basis as follows:

##### **4.4.1 Fuel Burning Operations**

It is anticipated that there will be no additional requirements addressing the direct-fired kilns as a result of this project. Although there are some minor physical and operational changes proposed for the kilns, the present capacity of the kilns to produce kiln-dried lumber will not change (the charging capacity of the kilns remains the same). As this is the case the kilns will remain subject to the current regulatory requirements in the Title V permit. These requirements include a general limitation that the opacity from the kilns does not exceed 40% (GA Rule 391-3-1-02(2)(b)) and that particulate matter does not exceed a specified level based on heat input (GA Rule 391-3-1-02(2)(d)2.). The kilns should have no problem complying with both of these regulations.

---

Fuel burning equipment is also subject to requirements for nitrogen oxides (GA Rule 391-3-1-02(2)(d)4.) and sulfur dioxide (GA Rule 391-3-1-02(2)(g)2.). For nitrogen oxides the heat input to each of the kilns are less than 250MMBtu/hr therefore the requirement does not apply. For sulfur dioxide the fuel (green sawdust) has a sulfur content well below the 2.5% limit.

#### **4.4.2 Process Industries**

The proposed project should not result in any problems complying with regulations for process industries. The requirements for process industries include process weight limitations for particulate matter emissions from the kilns and the Planer Mill at the Augusta lumber mill in accordance with GA Rule 391-3-1-02(2)(e). Again the kilns and the Planer Mill should have no problem with this regulation which is based on input weight rate to the equipment.

#### **4.4.3 Volatile Organic Compounds Regulations Review**

The State of Georgia has several requirements pertaining to the emissions of volatile organic compounds in accordance with GA Rule 391-3-1-02(2)(t). These requirements address specific operations such as surface coating, the storage of volatile organic compounds, etc. Not included among the sources addressed is fuel burning or the kiln drying of lumber. As this is the case, the requirements of GA Rule 391-3-1-02(2)(t) will not apply to this project.

#### **4.4.4 Toxic Air Pollutants Regulations Review**

The State of Georgia has established requirements to regulate the emissions of air toxics, including the requirement that air dispersion modeling be conducted to demonstrate that acceptable ambient levels have not been exceeded. As addressed in Section 4.4 of this application the resulting levels of air toxics will not exceed the acceptable levels, therefore compliance with the air toxics regulations should continue to be maintained.

#### **4.4.5 Other Emissions Regulations Review**

The only other State of Georgia regulation that appears applicable to this project is the Control of Fugitive Particulate Matter addressed by GA Rule 391-3-1-02(2)(n). The requirements are very general and compliance should not be an issue.

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## 5.0 BEST AVAILABLE CONTROL TECHNOLOGY

### 5.1 Best Available Control Technology

Best Available Control Technology (BACT) is a fundamental aspect of the PSD rules and regulations. BACT is required for pollutants whose net emissions increase exceed the PSD significance levels. A review of Table 4-7 indicates that the only pollutant that exceeds the significant level and hence requires BACT review is volatile organic compounds.

#### 5.1.1 The BACT Selection Process

For new or modified major stationary sources, BACT is defined as: "An emission limitation based on the maximum degree of reduction for each pollutant...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 control of such pollutant" (see Title 40, Code of Federal Regulations, Part 52.21).

The structure of the BACT analysis is shown in Figure 5-1. This approach reflects the most recent "top-down" BACT guidance (EPA 1990a, 1987a) for PSD permit determinations.

The first step in the "top-down" BACT approach is to determine, for the emission source in question, the most stringent control available for a similar or identical source or source category. If it can be shown that this level of control is technically or economically infeasible for the source, then the next most stringent level of control is determined and similarly evaluated. This process continues until the BACT approach under consideration cannot be eliminated by any substantial or unique technical, environmental, or economic objections.

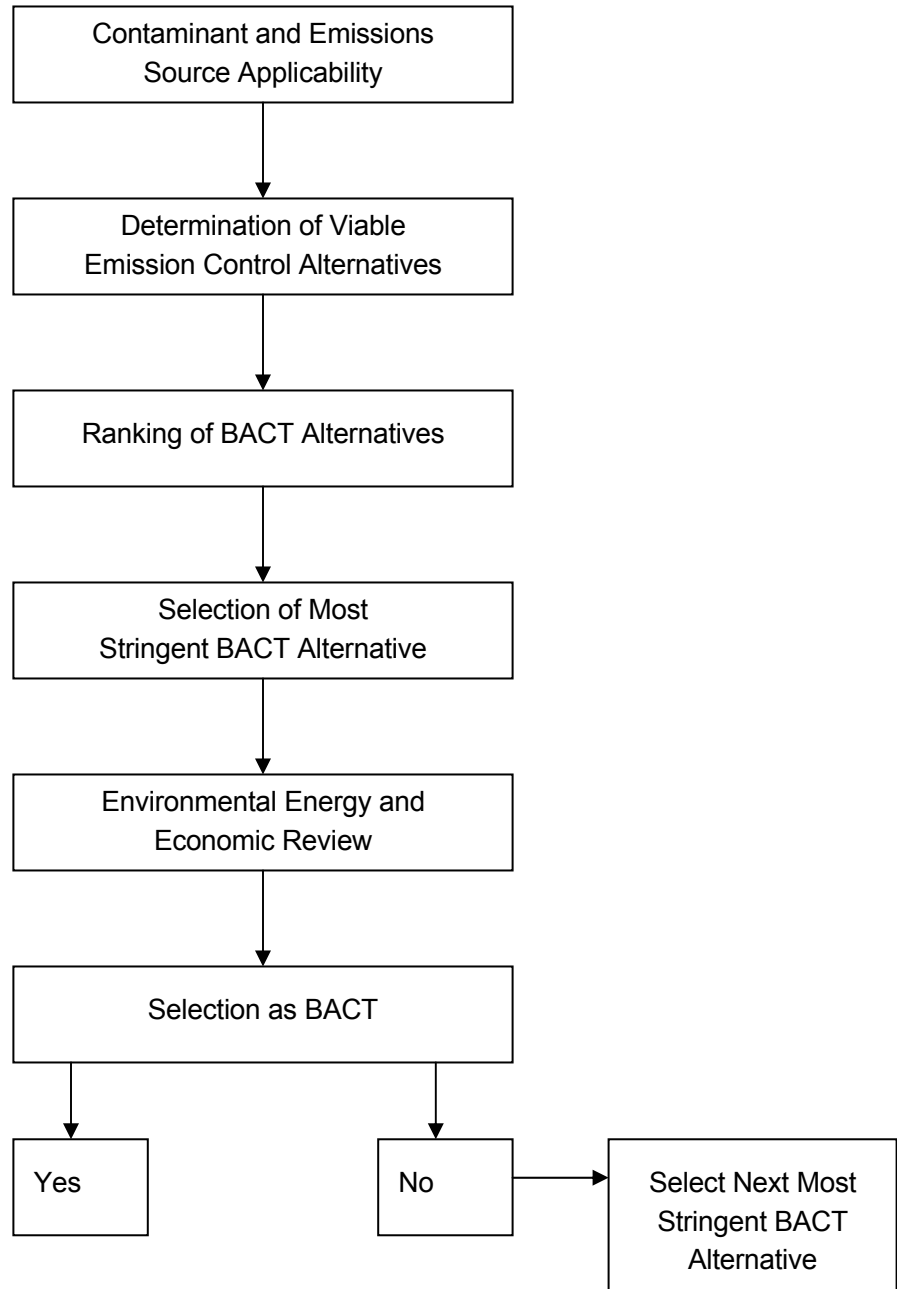
In selecting emission control technologies for evaluation as BACT, no technically feasible alternative is to be ruled out. The review should be broad enough to take into account controls applied to similar source categories and even to consider innovative control technology where energy, environmental or economic impacts so warrant.

Once the appropriate control alternatives have been identified, they should be ranked in order of control effectiveness, with the most effective control alternative at the top. This top-ranked alternative is subjected to review of the environmental, energy, and economic factors related to its operation and potential application as BACT. If the analysis determines that the selected alternative is not BACT for environmental, energy, or economic reasons, the next most stringent alternative would be selected for review. This process would be repeated until the BACT alternative is chosen.

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**Figure 5-1**

**"Top Down" BACT Decision Making Process**



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The environmental impact analysis should estimate the net impact associated with each control alternative. Both beneficial impacts and adverse impacts should be discussed and, where possible, quantified. When weighing environmental impacts, the analysis should consider all pollutants affected by the control alternative. This includes pollutants that are not specifically regulated by PSD (such as air toxics), but that may cause a significant environmental impact. In addition, the environmental analysis should consider appropriate non-air effects, such as water pollution or solid/hazardous waste impacts.

The second part of the analysis is the energy impact analysis, which should estimate in units of energy consumption (Btu's, tons of fuel fired, etc.), the direct energy impacts of the control alternatives. Where possible, the energy requirements of the control options should be shown in terms of total and incremental (units of energy per ton of reduction) energy costs.

The final part of the analysis is the economic analysis. The scope of the economic analysis focuses on determining the expense of controlling emissions to a greater degree. This is typically evaluated from the perspective of what is the estimated expense of controlling a ton of emissions. The cost to control a ton of emissions can be compared to the expense of controlling a given pollutant for other BACT evaluations, thereby enabling the regulatory agency to determine whether a particular control alternative should be considered as being cost effective or rejected as being cost prohibitive.

## **5.2 Volatile Organic Compounds BACT Analysis**

The increase in volatile organic compound emissions expected from this proposal to remove permit restrictions is solely due to the difference between actual emissions and potential to emit. However, since this evaluation has determined that Kiln #1 would have been subject to PSD, an analysis of BACT for the kiln is provided below.

### **5.2.1 Kilns**

The kiln drying of lumber is a process that has not been required to utilize add-on controls. This has been true for projects that required PSD review and therefore BACT and also for projects that required a Lowest Achievable Emission Rate (LAER) determination. The permitting of lumber kilns without a requirement for add-on controls is best illustrated by reviewing the BACT/LAER Clearinghouse.

A review of the BACT/LAER Clearinghouse for BACT determinations that have been added since 1991 indicates a total of 24 listings for lumber mills and the furniture industry which utilize kilns for drying. (Categorized in the BACT/LAER Clearinghouse as Process 30.000 – Forest Products Industry).

A complete listing of all BACT/LAER determinations that are contained in the BACT/LAER Clearinghouse and all listings for determinations that are presently under review is provided in Table 5-



1. A review of the determinations contained in Table 5-1 indicates that in all cases BACT and LAER has been established as operating the kilns without add-on controls.

**TABLE 5-1**  
**BACT/LAER Clearinghouse**  
**Lumber Kilns - Sorted by Date of Permit Issuance**

<b>RBLC ID</b>	<b>FACILITY NAME</b>	<b>Date Permit Issued</b>	<b>Controls Required (Yes/No)</b>	<b>VOC EMISSION LIMIT (LB/MBF)</b>	<b>Notes</b>
SC-0085	Elliot Sawmilling Company	5/23/04	No	4.5	LAER Determination
SC-0090	New South Lumber Company	9/5/03	No	4.2	LAER Determination
AL-0195	Bowater, Inc.	6/4/03	No	7.0	VOC Reported as Pinene
SC-0082	New South Lumber Company	3/7/03	No	4.2	LAER Determination
AR-0062	Georgia-Pacific Corp.	11/7/02	No	-	Limit in lbs/charge
AR-0065	West Frazier (South) Inc.	11/7/02	No	3.5	--
AR-0064	International Paper Company	11/1/02	No	-	Limit in lbs/charge
SC-0059	Collum's Lumber Mill	4/8/02	No	-	LAER Determination in TPY
MS-0048	International Paper Company	9/5/01	No	5.2	Project not Completed
SC-0059	Charles Ingram Lumber Company	8/15/01	No	-	LAER Determination in TPY
AR-0046	Potlach	3/8/01	No	3.5	--
MS-0054	Weyerhaeuser	12/28/00	No	4.2	--

**TABLE 5-1 (Continued)**  
**BACT/LAER Clearinghouse**  
**Lumber Kilns - Sorted by Date of Permit Issuance**

<b>RBLC ID</b>	<b>FACILITY NAME</b>	<b>Date Permit Issued</b>	<b>Controls Required (Yes/No)</b>	<b>VOC EMISSION LIMIT (LB/MBF)</b>	<b>Notes</b>
SC-0050	Chesterfield Lumber Company	4/10/00	No	3.5	LAER Determination
SC-0052	Willamette – Chester Division	9/30/99	No	3.8	--
FL-0138	Champion International Corp.	9/15/99	No	-	Control Estimate \$7,051/ton
AR-0032	Freeman/Bibler Bros. Lumber	11/24/98	No	3.5	Retroactive PSD
AL-0122	Gulf States Paper Corp.	10/14/98	No	5.48	--
LA-0116	Willamette Industries, Inc.	8/18/98	No	-	Retroactive PSD
AR-0031	Bearden Lumber Company	6/8/98	No	3.5	--
AL-0157	Weyerhaeuser Company	10/2/97	No	4.52	--
MS-0035	Weyerhaeuser Company	8/27/97	No	4.0	--
MS-0034	Hankins Lumber Company	9/24/96	No	3.6	--
VA-0237	Vaughan Furniture Company	8/28/96	No	-	--
AL-0079	Weyerhaeuser Company	10/28/94	No	4.52	Retroactive PSD

### 5.3 Volatile Organic Compounds BACT Summary

BACT for Kiln #1 has been justified as operating the kiln without add-on control devices. As illustrated in Table 5-1 there have been no instances in which air emissions controls were required for a lumber drying kiln either as a BACT or LAER requirement. For the facility in which the cost of control was evaluated (FL-0138), the resulting cost of control of \$7,051 per ton was judged to be not economically

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feasible. This implies that although there are measures that can be taken to control VOC's from lumber drying kilns, it is cost prohibitive to require such control. As this is the case, retroactive BACT for the Kiln #1 at the Augusta lumber mill is proposed as being the uncontrolled emission rate of 3.6 lbs/MBF.

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## **6.0 Air Quality-Related Values**

### **6.1 Visibility**

PSD projects are required to assess potential impacts on visibility in any Class I area that is in the vicinity of the source. As previously stated, the only pollutant that is subject to PSD review is volatile organic compounds. Also, there are no Class 1 areas in the vicinity (within 100 kilometers) of the Augusta lumber mill; therefore an assessment of visibility is not required.

### **6.2 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 or decreased as a result of this proposed project. Therefore, no adverse impact to soils and vegetation in the project impact area should occur.

### **6.3 Regional Population Growth**

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.

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**TABLE 6-1**

**Ambient Screening Concentrations for Vegetation Exposure  
to Ambient Air Concentrations**

<b>Pollutant</b>	<b>Averaging Time</b>	<b>Ambient Concentration (<math>\mu\text{g}/\text{m}^3</math>)</b>
SO <sub>2</sub>	1-hour	917
	3-hour	786
	Annual	18
NO <sub>2</sub>	4-hour	3,760
	8-hour	3,760
	Monthly	564
	Annual	100
CO	Weekly	1,800,000
H <sub>2</sub> S	4-hour	28,000
Ethylene	3-hour	47
	24-hour	1.2
Fluoride	240-hour	0.5
Beryllium	Monthly	0.01
Lead	Quarterly	1.5

Source: EPA (1980)

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## **7.0 COMPLIANCE SUMMARY**

International Paper's Augusta 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. It was also determined that the project was exempt from a case-by-case MACT analysis. Dispersion modeling was not required other than air toxics modeling to comply with Georgia's EPD air toxics policy. This modeling analysis, which was conducted for a previous application, 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.



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## 8.0 REFERENCES

Georgia Department of Natural Resources, Environmental Protection Division, Air Protection Branch  
*Rules for Air Quality Control, Chapter 391-3-1*, Effective April 20,2003.

Georgia Department of Natural Resources, Environmental Protection Division, Air Protection Branch  
*Guideline for Ambient Impact Assessment of Toxic Air Pollutant Emissions*, Revised June 21, 1998.

EPA, 1990a. *New Source Review Workshop Manual (Draft) Office of Air Quality Planning and Standards*, Research Triangle Park, North Carolina.

U.S. EPA, 1989a. *BACT/LAER Information System (BLIS) by PEI Associated, Inc.*, prepared for U.S. EPA.

U.S. EPA, 1980. *A Screening Procedure for the Impacts of Air Pollution Sources on Plants, Soils, and Animals*. Office of Air Quality Planning and Standards, Environmental Protection Agency, Research Triangle Park, North Carolina. Includes supplements 1 through 15, AP-42.



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## **APPENDIX A**

### **Georgia EPD Permit Forms**

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## **APPENDIX B**

### **Cover Letter and Application Forms for August 1995 Application**

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## **APPENDIX C**

### **Potential to Emit Calculations**

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## **APPENDIX D**

### **Abbreviations/Acronyms**

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## Abbreviations/Acronyms

### Compounds

CO	-	carbon monoxide
NO <sub>x</sub>	-	nitrogen oxides
O <sub>2</sub>	-	oxygen
O <sub>3</sub>	-	ozone
Pb	-	lead
PM	-	particulate matter
PM-10	-	particulate matter with diameters less than 10 microns
SO <sub>2</sub>	-	sulfur dioxide
VOC	-	volatile organic compounds

### Units

acfm	-	actual cubic feet per minute
Btu	-	British thermal unit
°F	-	degrees Fahrenheit
ft	-	feet
ft/s	-	feet per second
gr/dscf	-	grains/dry standard cubic foot
hr	-	hour
km	-	kilometer
lb	-	pound
MBF	-	thousand board feet
MM	-	million
ppm	-	parts per million
ppmw	-	parts per million weight
psi	-	pounds per square inch
psia	-	pounds per square inch absolute
scf	-	standard cubic feet
scfd	-	standard cubic feet per day
tpy	-	tons per year
µg/m <sup>3</sup>	-	micrograms per cubic meter

### Other

AQRV	-	air quality-related values
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BACT	-	best available control technology
BPIP	-	Building Profile Input Program

**Other Continued**

EPA	-	Environmental Protection Agency
EPD	-	Environmental Protection Division
GEP	-	Good Engineering Practice
ISC	-	Industrial Source Complex Dispersion Model
ISCLT	-	Industrial Source Complex Dispersion Model (Long-Term)
ISCST	-	Industrial Source Complex Dispersion Model (Short-Term)
LAER	-	Lowest Achievable Emission Rate
MACT	-	Maximum Achievable Control Technology
NAAQS	-	National Ambient Air Quality Standards
NESHAPS	-	National Emission Standards for Hazardous Air Pollutants
NSPS	-	New Source Performance Standards
NSR	-	New Source Review
PSD	-	Prevention of Significant Deterioration

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## CONTENTS

<b>1.0 INTRODUCTION.....</b>	<b>1-1</b>
1.1 Project Summary .....	1-1
1.2 Project Objectives.....	1-1
1.3 Compliance Summary .....	1-1
1.4 Report Organization .....	1-2
<b>2.0 PROJECT DESCRIPTION .....</b>	<b>2-1</b>
2.1 Project Location .....	2-1
2.2 Existing Facility .....	2-1
2.3 Proposed Facility Modifications .....	2-1
<b>3.0 EMISSIONS INVENTORY .....</b>	<b>3-1</b>
3.1 Current Emissions .....	3-1
3.1.1 Allowable Emissions .....	3-1
3.2 Project Emissions Increases .....	3-1
3.2.1 Direct - Fired Kilns.....	3-2
3.2.2 Other Equipment. ....	3-3
3.2.3 Air Toxics.....	3-3

---

## CONTENTS (Cont'd)

<b>4.0 REGULATORY ANALYSIS.....</b>	<b>4-1</b>
4.1 Federal PSD/NSR Regulations .....	4-1
4.1.1 Classification of Ambient Air Quality .....	4-1
4.1.2 PSD Requirements .....	4-3
4.1.3 PSD Applicability .....	4-10
4.2 New Source Performance Standards (NSPS) .....	4-11
4.3 National Emission Standards for Hazardous Air Pollutants (NESHAP) and Related Air Toxics Requirements .....	4-12
4.4 Georgia Air Quality Regulations .....	4-13
4.4.1 Fuel Burning Equipment Regulations Review .....	4-13
4.4.2 Process Industries Regulations Review .....	4-14
4.4.3 Volatile Organic Compounds Regulations Review .....	4-14
4.4.4 Toxic Air Pollutants Regulations Review .....	4-14
4.4.5 Other Emissions Regulations Review .....	4-14
<b>5.0 BEST AVAILABLE CONTROL TECHNOLOGY .....</b>	<b>5-1</b>
5.1 Best Available Control Technology .....	5-1
5.1.1 The BACT Selection Process .....	5-1
5.2 Volatile Organic Compounds BACT Analysis .....	5-3
5.2.1 Kilns .....	5-3
5.3 Volatile Organic Compounds BACT Summary .....	5-5
<b>6.0 AIR QUALITY-RELATED VALUES .....</b>	<b>6-1</b>
6.1 Visibility .....	6-1
6.2 Soils and Vegetation .....	6-1
6.3 Regional Population Growth .....	6-1
<b>7.0 COMPLIANCE SUMMARY .....</b>	<b>7-1</b>



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## CONTENTS (Cont'd)

<b>8.0 REFERENCES</b> .....	<b>8-1</b>
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### APPENDICES

Appendix A - Georgia EPD Permit Forms

Appendix B - August 1995 Air Permit Application (includes cover letter)

Appendix C - Potential to Emit Calculations

Appendix D - Abbreviations/Acronyms

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## LIST OF TABLES

<b>Table 3-1</b>	Summary of Future Potential Emissions from Dry Kiln.....	3-3
<b>Table 3-2</b>	Summary of Future Potential HAP Emissions from Dry Kiln.....	3-4
<b>Table 4-1</b>	National and State Ambient Air Quality Standards .....	4-2
<b>Table 4-2</b>	Classification of Richmond County for Each Criteria Pollutant.....	4-3
<b>Table 4-3</b>	PSD Significant Emission Rates .....	4-4
<b>Table 4-4</b>	PSD Area Class Definitions.....	4-6
<b>Table 4-5</b>	Allowable PSD Increments and Impact Significance Levels ( $\mu\text{g}/\text{m}^3$ ) .....	4-7
<b>Table 4-6</b>	<i>De Minimis</i> Monitoring Concentration ( $\mu\text{g}/\text{m}^3$ ) .....	4-9
<b>Table 4-7</b>	Cumulative Change in Emissions from Proposed Project.....	4-11
<b>Table 5-1</b>	BACT/LAER Clearinghouse .....	5-4
<b>Table 6-1</b>	Ambient Screening Concentrations for Vegetation Exposure to Ambient Air Concentrations.....	6-2

---

## LIST OF FIGURES

<b>Figure 2-1</b>	Site Location of Augusta lumber mill.....	2-2
<b>Figure 2-2</b>	Plot Plan of Augusta lumber mill .....	2-3
<b>Figure 5-1</b>	“Top Down” BACT Decision Making Process .....	5-2



**Application for Permit to Construct, Modify or Operate Process Equipment,  
Fuel Burning Equipment And/Or Air Pollution Control Devices**

**SECTION 1 – GENERAL INFORMATION**

**For Use by EPD Only**

**Facility Name:** International Paper Company Augusta Lumber Mill

**Application No.:** \_\_\_\_\_

**Facility Location:** 4206 Mike Padgett Highway  
(street address)

**Permit No.:** \_\_\_\_\_

**City, State Zip:** Augusta Richmond GA 30906  
(city) (county) (zip)

**Date Approved:** \_\_\_\_\_

**Mailing Address:** P.O. Box 1437

**Reviewer:** \_\_\_\_\_

**City, State Zip:** Augusta GA 30903  
(city) (state) (zip)

**Parent/Holding Company:** International Paper Company

**Contact for Application:** Lamar Youmans

**Title:** EHS Coordinator

**Tel No.:** (706) 703-8753

**Ext:** \_\_\_\_\_

**Fax No.:** (706) 793-6738

**Email address:** \_\_\_\_\_

Instructions for each section of this application are found within that section. Please review and follow all instructions carefully to avoid the necessity for resubmission. Feel free to submit additional details as needed. All supplemental and supporting data or information hereafter submitted and all representations hereafter made to EPD with respect to the proposed facility will be construed as part of this application. If there are specific questions or sections that are not understood, please call (404) 363-7000 for assistance. If an operating permit has already been received or applied for, it is only necessary to complete Section 1 and any other section of the application associated with the modification or construction for which authorization is being requested. **Two (2) copies of the application, both bearing original signatures, must be submitted to the Air Protection Branch.**

**A. This application is for:**

- ☐ A permit to operate      ☐ A permit to construct      ☒ A permit to modify existing equipment  
☐ A revision of data submitted in an earlier application

Date and Application Number of previously submitted application: November 1, 1999

**B. Type of Equipment for which Application is being Submitted:**

- ☐ An entire facility      ☒ Process equipment  
☐ Fuel burning equipment      ☐ Air pollution control equipment  
☐ An incinerator only      ☐ Other → Specify: \_\_\_\_\_

**C. Has this operation/equipment been previously permitted?**

☒ - Yes      ☐ - No  
2421-245-0047-V-01-

If above response is "Yes," provide the related permit number: 0      Date issued: April 27, 2000

**D. If this application is for new construction or modification, give best estimates of the following dates:**

Starting Date: January 2006      Completion Date: May 2006

If this is a major modification or construction project, attach details of intermediate dates for completion of projects.

**Section 1 Questions Continued On Next Page**

This application is submitted in accordance with the provisions of the Georgia Rules for Air Quality Control and, to the best of my knowledge, is complete and correct. The following sections of the application are applicable and are included:

☒ 2A    ☒ 2B    ☒ 3A    ☒ 3B    ☐ 4A    ☐ 4B    ☐ 5    ☐ 6    ☒ 7    ☐ 8    ☒ 9    ☒ 10A    ☐ 10B  
☐ 11A    ☐ 11B    ☐ 11C    ☐ 11D    ☐ 11E

**Name of Owner or**

**Authorized Official:** Mal Heaton

**Title:** Plant Manager

**Signature:** \_\_\_\_\_

**Date:** \_\_\_\_\_

Continues on next page

## SECTION 1 – GENERAL INFORMATION (continued)

**E. Is any information in this application considered Confidential Information?**

If your response to this question is "yes", please refer to the latest version of EPD's *Procedures for Requesting that Submitted Information be treated as Confidential* for the necessary steps to be taken and for more information.

☐ - Yes ☒ - No

**If yes, follow instructions provided in the attachment titled "Confidential Business Information."**

**F. Has a consultant been employed or will a consultant be employed for any part of this project, modification or construction?**

☒ - Yes ☐ - No

**If yes, provide the following information pertaining to the consultant employed:**

**Name of Consultant or**

**Consulting Company:** RTP Environmental Associates

**Name of Contact:**

(if Consulting Company Used) Barry D. Andrews

**Mailing Address:** 3115 Northington Ct. Suite 141

**City, State Zip:** Florence

AL 35630

(City)

(State)

(Zip)

**Telephone and Fax Number:** (256) 740-5522

(256) 740-5530

(Telephone & ext)

(Fax)

**In what areas will the consultant be involved in the project, modification or construction?**

Preparation of construction and operating permit application.

**G. Facility Location:**

Latitude: 33° 20' 00" NORTH

Longitude: 81° 57' 30" WEST

UTM Coordinates: EAST

NORTH

**INSTRUCTION:** The SOURCE CODE of an emission unit or air pollution control device is an alphanumeric code with a maximum of four characters (e.g. 27, D1, AA, BLR2, 953). The source code is used to relate information given in different sections of the application. Source codes are unique to each piece of equipment at a facility; emission units, air pollution control devices, and stacks cannot share the same source code. The second columns in the tables in Sections 4A and 6 of the application refer back to the source codes used in Sections 2 and 3. Use the same source code throughout the application whenever giving data on the same piece of equipment. For example, B4 may refer to number 4 boiler, C4A and C4B may be control devices on number 4 boiler, and S4 might be the stack on the boiler and control devices. The actual selection of source codes is up to the applicant.

**Unless previously submitted, the following three items must be included with all applications. If in doubt, resubmit. Place the number of attachments or date of original submittal in the spaces provided.**

**H.**   x   Attach a plot plan showing the location of the facility and points of discharge, identified by source code used in the application, in relation to the surrounding area. Plot plans should show roadways, residences and other permanent structures, the scale used and at least one set of longitude lines or UTM coordinates. In practice, many applicants find it convenient to show a sketch of the plant area on one plot and to locate the general plant site on a separate county or city map.

**I.**   x   Attach a flow diagram identifying process and control equipment, where raw material enters processes, where waste exits, where emissions air emissions are generated and where finished products are handled. Each point should be identified according to the source codes used in the application in addition to its normal description.

**J.**   x   In the space provided below, give a description of the general production process and the specific operation for which a permit is being requested. If necessary, attach additional sheets to give an adequate description. Include layout drawings, as necessary, to describe each process. Reference should be made to source codes used in the application.

**K. Description of general production process and operation for which a permit is being requested:**

The removal of a PSD avoidance condition which limits the production from Kilns #2 and #3 such that their combined production rate cannot exceed 131.5 million board feet per any consecutive 12-month period. It is requested from this point on that the production of kiln-dried lumber from all three kilns combined be established at 157 million board feet per any consecutive 12-month period.

Facility Name: International Paper Company Augusta Lumber Mill Date of Application: \_\_\_\_\_

## SECTION 2A – PROCESS DESCRIPTION AND OPERATIONAL DATA

Normal Operating Schedule: 24 hours/day 7 days/week 52 weeks/yr

Additional Data Attached? ☐ - Yes ☒ - No

Seasonal and/or Peak Operating Periods: \_\_\_\_\_

Dates of Annually Occurring Shutdowns: \_\_\_\_\_

### PRODUCTION INPUT FACTORS

Source Code	Process/ Operation <small>e.g. Chemical mix tank, Grain dryer, Conveyor</small>	Date of Equipment installation	Type of Raw Material	Annual Input <small>Tons/year</small>	Hourly Process Input Rate <small>(Give units: e.g. lb/hr, ton/hr)</small>		
					Design	Normal	Maximum
KD01	Kiln 1	1995	Green Lumber				3,889 BF/hr
KD02	Kiln 2	1996	Green Lumber				7,778 BF/hr
KD03	Kiln 3	1991	Green Lumber				12,778 BF/hr
PL01	Planer		Dried Lumber				18,600 BF/hr

### PRODUCTS OF PRODUCTION

Source Code	Description of Product	SIC* Code of Product	Production Schedule		Hourly Production Rate <small>(Give units: e.g. lb/hr, ton/hr)</small>			
			Ton/yr	Hr/yr	Design	Normal	Maximum	Units
KD01	Dried Lumber	2421		8,760			3,889	BF/hr
KD02	Dried Lumber	2421		8,760			7,778	BF/hr
KD03	Dried Lumber	2421		8,760			12,778	BF/hr
PL01	Finished Lumber	2421		8,760			18,600	BF/hr

\* SIC: Standard Industrial Classification

**Facility Name:** International Paper Company Augusta Lumber Mill **Date of Application:**

## SECTION 2B – LIST OF RAW MATERIALS AND CHEMICALS

List all raw materials, products, process and non-process chemicals, intermediates and toxic materials found at the facility. IUPAC or commonly known chemical names are preferred. If only a trade name is known, indicate manufacturer. Toxicity information should consist of IRIS unit risk factors, inhalation reference concentrations (RFC), OSHA PEL's, ACGIH TLV's, NIOSH REL's, etc. Submit additional data on usages, if appropriate. It is not necessary to list products that are simple mixtures, blends or solutions of chemicals already listed.

[illegible]

Date of Application: \_\_\_\_\_

[illegible]

<sup>1</sup> This section does not have to be completed for natural gas fired equipment. <sup>2</sup> If construction and installation dates are the same, enter only one date.



**Facility Name:** International Paper Company Augusta Lumber Mill

**Date of Application:** \_\_\_\_\_

**SECTION 3B – FUEL DATA\***

Source Code	Fuel Type e.g. coal, natural gas, wood bark	Annual Consumption						Hourly Consumption e.g. lb/hr		Heat Content**		Percent Sulfur**		Percent Ash in Solid Fuel	
		Total Quantity		Percent Use by Season				Max	Avg.	Min	Avg.	Max.	Avg.	Max.	Avg.
		Amount	Unit e.g. Tons, Gal, cf	Mar ↓ May	June ↓ Aug	Sept ↓ Nov	Dec ↓ Feb								
KD01	Sawdust	28 E06	pounds	25	25	25	25	1.67 tons/hr			4,500	2.5			
KD02	Sawdust	56 E06	pounds	25	25	25	25	3.34 tons/hr			4,500	2.5			
KD03	Sawdust	92 E06	pounds	25	25	25	25	5.49 tons/hr			4,500	2.5			

**Fuel Supplier Information\*\***

Fuel Type (Coal, Natural Gas, Fuel Oil)	Name of Supplier	Address	City	State	Zip
Green Sawdust	Produced On-site				

\* Waste fuel, such as saw dust or trash, generated or used at this facility should be described on a separate sheet.

\*\* This section does not need to be completed for natural gas fired units.

**Facility Name:** International Paper Company Augusta Lumber Mill **Date of Application:** \_\_\_\_\_

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**SECTION 7 – FUGITIVE EMISSIONS**

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Describe all precautions to be used for control of fugitive emissions from sources listed below. Use additional sheets if necessary. Show all source codes on plot plan.

Examples of fugitive emission sources to include on this form:

- |                                      |   |
|--------------------------------------|---|
| 1. On-site roads                     | 6. Conveying, handling and transportation systems |
| 2. Bulk loading processes            | 7. Accumulation of material on yards and property |
| 3. Railroad cars and truck clean out | 8. Gas leaks or vapor vents                       |
| 4. Bagging machines                  | 9. Other sources of fugitive emissions            |
| 5. Open hoppers                      |   |

Fugitive Emission Source Code	Description of Source	Emission Reduction Precautions (e.g. Storage Pile Cover, Vent Filters, Special Seals, Water Spray)
RF01	Unpaved Road Dust	
RF02	Paved Road Dust	Sweeper is used to control dust on paved roads

**Date of Application:**

## SECTION 9 – EMISSION DATA

[illegible]

<sup>1</sup> Use a separate line for each pollutant emitted from a stack.

<sup>2</sup> Complete this column only for boilers and other fuel burning equipment.

<sup>3</sup> If emission rates determined by source test, submit the test report indicating the method used.

**Facility Name:** International Paper Company Augusta Lumber Mill **Date of Application:** \_\_\_\_\_

**SECTION 10A – STACK DATA**

Stack Source Code	Emission Unit Source Code (boiler or other process)	Stack Dimensions		Dimensions of largest Structure Near Stack <sup>1</sup>		Exit Gas Conditions at Maximum Emission Rate			
		Height Above Grade, ft.	Inside Diameter, ft.	Height, ft.	Longest Side, ft.	Velocity ft/sec	Temperature °F	Flow Rate (acfm)	
								Average	Maximum
KD01 A-T	Kiln 1 Vents A-T	29.5	21 in. by 21 in (20 vents)						
KD02 A-P	Kiln 2 Vents A-P	30	21 in. by 21 in (16 vents)						
KD03 A-T	Kiln 3 Vents A-T	30	21 in. by 21 in (20 vents)						

<sup>1</sup> These two columns are required only if the height of a stack is greater than 90 feet. A structure is considered near a stack if the distance between the stack and the structure is less than 5 times the height or width of the structure. The structure that the stack is coming from is also considered “near” the stack.

**NOTE:** If emissions are not vented through a stack, describe point of discharge below and, if necessary, on a separate sheet of paper.