Golder Associates Inc.

6241 NW 23rd Street, Suite 500
Gainesville, FL 32653-1500
Telephone (352) 336-5600
Fax (352) 336-6603

Golder Associates

September 10, 2004

0437583

Florida Department of Environmental Protection
Department of Air Resources Management
2600 Blair Stone Road, MS 5500
Tallahassee, FL 32399-2400

Attention : Mr. A.A. Linero, P. E., Administrator

RE: UNITED STATES SUGAR CORPORATION (U.S. SUGAR) – CLEWISTON MILL
NEW WHITE SUGAR DRYER

Dear Mr. Linero:

Please find enclosed six (6) copies of a PSD air construction permit application for addition of a new white sugar dryer to the refinery located at the Clewiston Mill. The proposed modification results in an increase in actual emissions of PM/PM_{10} above the PSD significant emission rates, and therefore PSD review applies. I have forwarded one (1) copy of the application to Ron Blackburn of the Department's Ft. Myers office. Also enclosed is the application fee of $7,500.

Please call or e-mail me if you have any questions concerning this application.

Sincerely,

GOLDER ASSOCIATES INC.

David A. Buff

David A. Buff, P.E., Q.E.P.
Principal Engineer

DB/nav

Enclosure

cc: Don Griffin, USSC (w/1 copy)
Ron Blackburn, FDEP (w/1 copy)

Y:\Projects\2004\0437583 USSC Scrubber\4\4.1\L091004.doc

Department of Environmental Protection

Jeb Bush
Governor

Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

Colleen M. Castille
Secretary

September 23, 2004

Mr. John Bunyak, Chief
Policy, Planning & Permit Review Branch
NPS – Air Quality Division
P. O. Box 25287
Denver, Colorado 80225

RE: U.S. Sugar Corporation
Clewiston Mill
0510003-026-AC

Dear Mr. Bunyak:

Enclosed for your review and comment is a PSD application submitted by U.S. Sugar Corporation for the addition of a new white sugar dryer to the refinery located at the Clewiston Mill in Hendry County, Florida.

Your comments may be forwarded to my attention at the letterhead address or faxed to the Bureau of Air Regulation at 850/921-9533. If you have any questions, please contact Jeff Koerner, review engineer, at 850/921-9536.

Sincerely,

Patty Adams
for
A. A. Linero, P.E.
Administrator
South Permitting Section

AAL/pa

Enclosure

cc: J. Koerner

Jeb Bush
Governor

Department of Environmental Protection

Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

Colleen M. Castille
Secretary

September 23, 2004

Mr. Gregg M. Worley, Chief
Air Permits Section
U.S. EPA, Region 4
61 Forsyth Street
Atlanta, Georgia 30303-8960

RE: U.S. Sugar Corporation
Clewiston Mill
0510003-026-AC

Dear Mr. Worley:

Enclosed for your review and comment is a PSD application submitted by U.S. Sugar Corporation for the addition of a new white sugar dryer to the refinery located at the Clewiston Mill in Hendry County, Florida.

Your comments may be forwarded to my attention at the letterhead address or faxed to the Bureau of Air Regulation at 850/921-9533. If you have any questions, please contact Jeff Koerner, review engineer, at 850/921-9536.

Sincerely,

Patty Adams

for A. A. Linero, P.E.
Administrator
South Permitting Section

AAL/pa

Enclosure

cc: J. Koerner

PSD PERMIT APPLICATION

GEORGIA-PACIFIC CORPORATION

Proposed Oriented Strandboard Facility
Hosford, Florida

January 2000

Tammy Wyles 404-652-7281
Paul Vasquez " " 7327

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ATTACHMENT A	PERMIT APPLICATION FORMS
ATTACHMENT B	EMISSION CALCULATIONS AND VENDOR DOCUMENTATION
ATTACHMENT C	US EPA MEMORANDUM ON NSPS APPLICABILITY
ATTACHMENT D	COMPLIANCE ASSURANCE MONITORING (CAM) PLAN
ATTACHMENT E	AQRV ASSESSMENT AND ADDITIONAL IMPACTS ANALYSIS
ATTACHMENT F	AIR QUALITY ANALYSIS
ATTACHMENT G	BACT ANALYSIS

1. EXECUTIVE SUMMARY

Georgia-Pacific Corporation (G-P) proposes to construct and operate an oriented strandboard (OSB) facility near Hosford, Florida in northeastern Liberty County. The facility will be located approximately 7 kilometers (km) northeast of Hosford and 2 km north of Lowry. The plant will be bordered by State Route 65 on the east. The Apalachicola & Northern Railway will define the western boundary of the plant site. The plant entrance will be located along State Route 65.

Liberty County has been designated by the U.S. Environmental Protection Agency (US EPA) as in attainment or unclassified for all criteria pollutants. Under Prevention of Significant Deterioration (PSD) definitions, the Hosford OSB facility will be constructed as a major stationary source since it will have the potential-to-emit more than 250 tons per year (tpy) of at least one regulated air pollutant. As a new major source in an attainment region, the facility will be subject to PSD permitting requirements as described in 40 CFR 52.21.

The proposed OSB plant will have the capacity to produce 475 million square feet per year, on a 3/8-inch basis. Major pieces of equipment will include five dryers, a press, a thermal oil heating system, and associated materials handling equipment. Logs will be unloaded and stored in the log yard. The logs will then be cut to size, debarked, and processed into flakes. The flakes will be dried in the five rotary dryers and then mixed with resin and wax and formed into a mat. The mats will then move into the thermal oil-heated press, where they will be compressed and heated to bond the resin to the flakes. The OSB will be cut to size, cooled, and the edges will be sprayed with sealant to prevent swelling. The finished OSB will then be packed and shipped off-site. Bark from the debarkers and other green end material from the log yard will be shipped off-site for use as wood fuel or for use in horticultural applications. Dry end material will either be burned to heat the dryers and thermal oil system or shipped off-site for use as wood fuel or as furnish in other wood products manufacturing operations. The press will be heated with thermal oil, using wood suspension burners, and will utilize natural gas as a back-up fuel.

The dryers and press will be controlled by three regenerative thermal oxidizers (RTOs). Two of the RTOs will be dedicated to the dryers and the third will control emissions from the press. The dryer RTOs will be preceded by multiclones. Emissions from the thermal oil system will be controlled by an electrostatic precipitator (ESP). During normal operations, the exhaust gases from the thermal oil system burners will be routed through the dryer system where they, along with the exhaust gases from the dryers, will pass through the multiclones and RTOs prior to exiting to the atmosphere. Particulate matter emissions resulting from material handling will be controlled by a series of bag filters.

The proposed plant is subject to PSD review for particulate matter (PM) (both total suspended particulate matter (TSP) and particulate matter less than 10 microns in diameter (PM_{10})), ozone (based on a significant increase in volatile organic compound (VOC) emissions), carbon monoxide (CO), and nitrogen oxides (NO_x).

This completed PSD permit application contains an air quality modeling analysis, Best Available Control Technology (BACT) review, Class I areas analysis, additional impacts analysis, and completed permit application forms.

2. PERMIT APPLICATION FORMS

The completed permit application forms are included in Attachment A.

3. INTRODUCTION

Georgia-Pacific Corporation (G-P) proposes to construct and operate an oriented strandboard (OSB) facility near Hosford, Florida in northeastern Liberty County. The facility will have the capacity to produce 475 million square feet (MMSF) (3/8-inch basis) of OSB annually.

Liberty County has been designated by the U.S. Environmental Protection Agency (US EPA) as in attainment or unclassified for all criteria pollutants. Under Prevention of Significant Deterioration (PSD) definitions, the Hosford OSB facility will be constructed as a major stationary source since it will have the potential-to-emit more than 250 tons per year (tpy) of at least one regulated air pollutant. As a new major source in an attainment region, the facility will be subject to PSD permitting requirements as described in 40 CFR 52.21.

3.1 Facility Location

The facility will be located approximately 7 kilometers (km) northeast of Hosford and 2 km north of Lowry. The plant will be bordered by State Route 65 on the east. The Apalachicola & Northern Railway will define the western boundary of the plant site. The plant entrance will be located along State Route 65. The proposed location for the facility is shown on a United States Geological Survey (USGS) map in Figure 3-1.

3.2 Process Description

A drawing of the plant layout, showing the property boundary, is included as Figure 3-2. A more detailed plot plan, showing the equipment layout, is included as Figure 3-3. Two process flow diagrams are included as Figures 3-4a and 3-4b.

Logs, resin (liquid or powdered), and wax are the primary raw materials used in OSB panel production. The production process will be comprised of four principal manufacturing processes: (1) furnish production, which includes debarking, slashing, and flaking; (2) flake drying; (3) forming and pressing; and (4) finishing, which consists of sawing and sanding.

Logs will be unloaded and temporarily stored in the log yard. The logs will then be cut to size, debarked, and processed into flakes.

The drying process will consist of five (5) flake dryers (horizontal, cylindrical rotary drum-type) heated by suspension-type burners, and a pneumatic system which conveys the flakes through the dryers. The suspension burners will be designed to burn ground wood fuel. Raw wood fuel will first be ground in the hammermill and then stored in a metering bin. From the metering bin, the ground wood fuel will be pneumatically transferred and blown into the burner. Maximum heat input to each dryer will be 40 million British thermal units per hour (MMBtu/hr). The wood fuel will be introduced tangentially to the burners, creating a cyclonic flow pattern, thereby promoting combustion efficiency. The flue gases leaving the combustion zone will be at approximately 1600 degrees Fahrenheit (°F), but will be immediately cooled down to between 600 and 1200°F by the addition of dilution air between the burner

0770010-AC ①

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

Figure 3-1. Area Map for Proposed G-P OSB Plant, Hosford, FL

HOSFORD QUADRANGLE
FLORIDA
7.5 MINUTE SERIES (TOPOGRAPHIC)

Produced by the United States Geological Survey
in cooperation with State of Florida agencies
Control by USGS and NOS/NOAA
Topography by photogrammetric methods from aerial photographs taken 1975. Revised from aerial photographs taken 1983
Field checked 1989. Map edited 1990
Supersedes map dated 1945
Projection and 10,000-foot grid ticks: Florida coordinate system, north zone (Lambert conformal conic)
1000-meter Universal Transverse Mercator grid, zone 16
1927 North American Datum
To place on the predicted North American Datum 1983, move the projection lines 18 meters south and 8 meters west as shown by dashed corner ticks
There may be private inholdings within the boundaries of the National or State reservations shown on this map
Fine red dashed lines indicate selected fence and field lines where generally visible on aerial photographs. This information is unchecked
Dotted land lines established by private subdivision of the Forbes Purchase

UTM GRID AND 1990 MAGNETIC NORTH DECLINATION AT CENTER OF SHEET

SCALE 1:24 000

CONTOUR INTERVAL 5 FEET
NATIONAL GEODETIC VERTICAL DATUM OF 1929

THIS MAP COMPLIES WITH NATIONAL MAP ACCURACY STANDARDS
FOR SALE BY U. S. GEOLOGICAL SURVEY, DENVER, COLORADO 80225, OR RESTON, VIRGINIA 22092
A FOLDER DESCRIBING TOPOGRAPHIC MAPS AND SYMBOLS IS AVAILABLE ON REQUEST

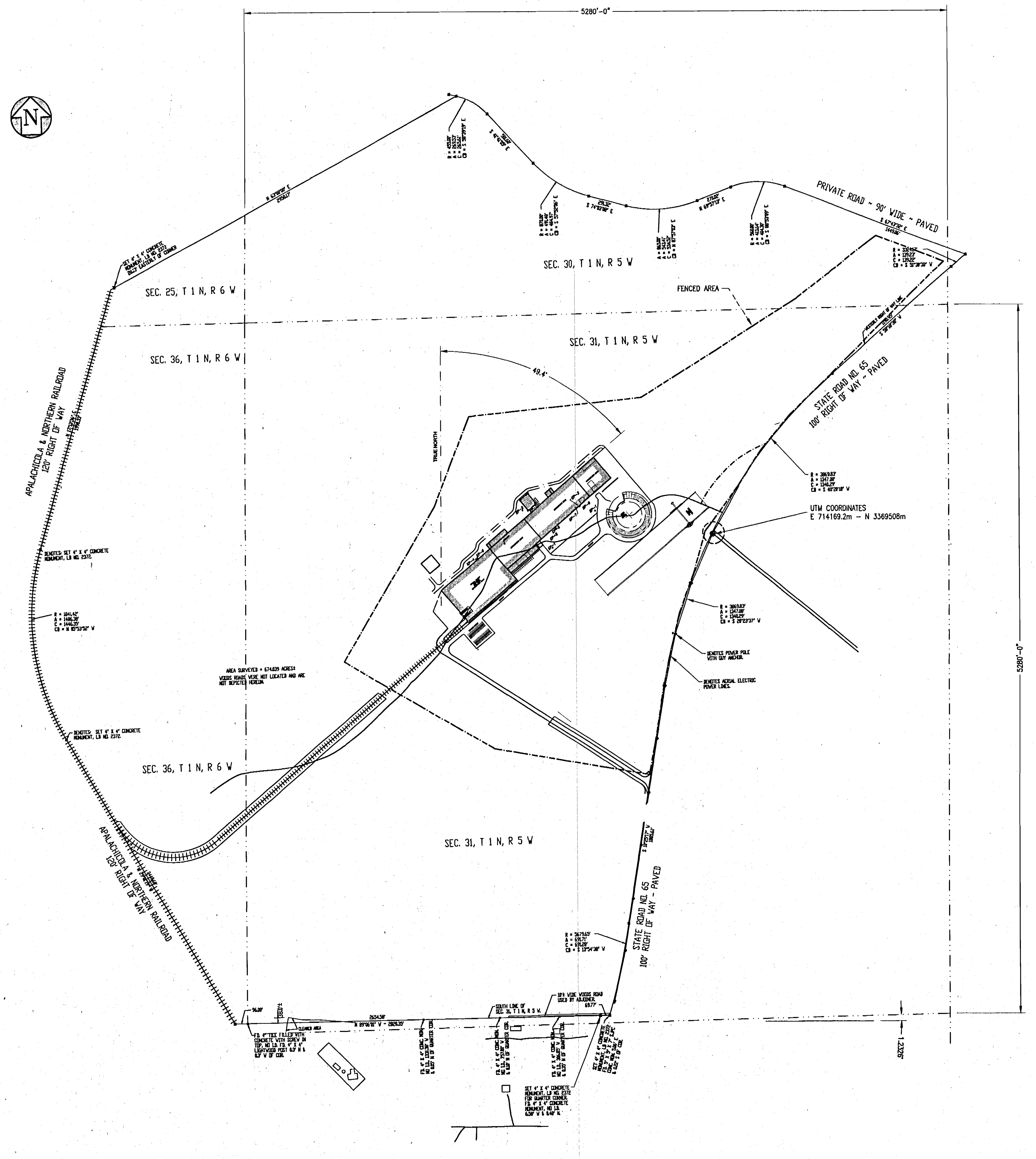
QUADRANGLE LOCATION

FOR GEORGIA PACIFIC TO KEEP

ROAD CLASSIFICATION
Primary highway, hard surface
Light-duty road, hard or improved surface
Secondary highway, hard surface
Unimproved road
Interstate Route
U. S. Route
State Route
County Route

HOSFORD, FLA.
30084-D7-TF-024
1990
DMA 4044 IV NE-SERIES V847

0770010-AC ②



EMISSION POINT (EP)

- EP-1 EMISSION UNIT ID 001: FLAKE DRYERS EXHAUST (2 STACKS)
- EP-2 EMISSION UNIT ID 002: PANEL PRESS EXHAUST STACK
- EP-3 EMISSION UNIT ID 003: SCREEN FINES W/SAW TRIM TRANSFER BAG FILTER EXHAUST
- EP-4 EMISSION UNIT ID 004: SAW TRIM/FINISHING LINE BAG FILTER EXHAUST
- EP-5 EMISSION UNIT ID 005: MAT REJECT/FLYING SAW BAG FILTER EXHAUST
- EP-6 EMISSION UNIT ID 006: SPECIALTY SAW/SANDER BAG FILTER EXHAUST
- EP-7 EMISSION UNIT ID 007: FUEL SYSTEM PNEUMATICS BAG FILTER EXHAUST
- EP-8 EMISSION UNIT ID 008: FORMING BINS BAG FILTER EXHAUST
- EP-9 EMISSION UNIT ID 009: HAMMER MILL SYSTEM BAG FILTER EXHAUST
- EP-10 EMISSION UNIT ID 010: HOT OIL HEATER ESP EXHAUST STACK

NO.	REVISIONS	BY	DATE	APP'D. BY
A	RELEASED FOR APPROVAL	RPS	11/30/99	

GEORGIA-PACIFIC CORPORATION
BUILDING PRODUCTS ENGINEERING DIVISION
133 Peachtree St. 18th Floor
ATLANTA, GEORGIA 30303
"Safety in Engineering, We Take It Seriously"

PLANT LOCATION: LIBERTY, CO. FL. OSB

SITE PLAN LAYOUT
AIR EMISSION POINTS

Fig 3-2

SCALE: 1"=400'	DRAWN BY: RPS	DRAWING NUMBER	REV. NO.
DATE: 11/30/99	CHECKED BY:	342-165-G-001-05	A
LOCATION: 342-165	APPROVED BY:	SHEET: 5 of 5	

G:\342\165 Hosford, Fl OSB\342-165-G-001-05.Dwg Mon Jan 03 14:36:07 2000 PLOTTED BY RPS

0770010-AC (3)

TOTAL BUILDING AREA 388,400 SQ.FT.

PLAN

EMISSION POINT (EP)

EP–1 EMISSION UNIT ID 001: FLAKE DRYERS EXHAUST (2 STACKS)
EP–2 EMISSION UNIT ID 002: PANEL PRESS EXHAUST STACK
EP–3 EMISSION UNIT ID 003: SCREEN FINES W/SAW TRIM TRANSFER BAG FILTER EXHAUST
EP–4 EMISSION UNIT ID 004: SAW TRIM/FINISHING LINE BAG FILTER EXHAUST
EP–5 EMISSION UNIT ID 005: MAT REJECT/FLYING SAW BAG FILTER EXHAUST
EP–6 EMISSION UNIT ID 006: SPECIALTY SAW/SANDER BAG FILTER EXHAUST
EP–7 EMISSION UNIT ID 007: FUEL SYSTEM PNEUMATICS BAG FILTER EXHAUST
EP–8 EMISSION UNIT ID 008: FORMING BINS BAG FILTER EXHAUST
EP–9 EMISSION UNIT ID 009: HAMMER MILL SYSTEM BAG FILTER EXHAUST
EP–10 EMISSION UNIT ID 010: HOT OIL HEATER ESP EXHAUST STACK

NO.	REVISIONS	BY	DATE	APP'D BY
A	RELEASED FOR APPROVAL	RPS	12/14/99	
B	REVISED BUILDING AREA WAS 359,200	RPS	1/4/00	

GEORGIA–PACIFIC CORPORATION
BUILDING PRODUCTS ENGINEERING DIVISION
133 Peachtree St. 18th Floor
ATLANTA, GEORGIA 30303
"Safety in Engineering, We Take It Seriously"

PLANT LOCATION: Hosford, Fl — OSB

SITE PLAN LAYOUT
AIR EMISSION POINTS

Fig 3-3

SCALE: 1"=50' DRAWN BY: RPS
DATE: 21/14/99 CHECKED BY:
LOCATION: 342-165 APPROVED BY:

DRAWING NUMBER: 342-165-G-001-04 — REV. NO. B
SHEET: 4 of 5

G:\342\165 Hosford, Fl OSB\342-165-G-001-04.dwg Tue Jan 04 13:20:03 2000 PLOTTED BY RPS

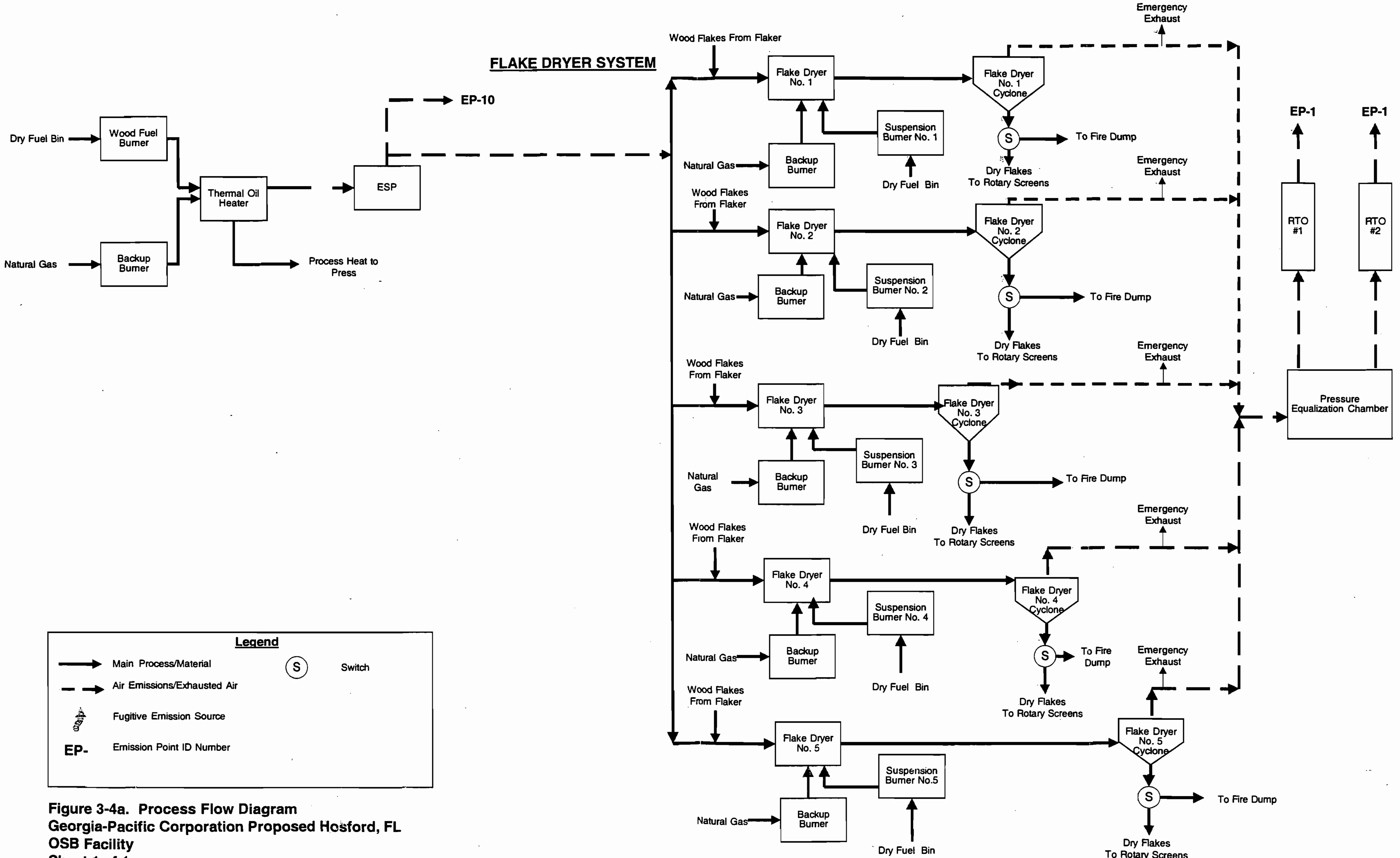


Figure 3-4a. Process Flow Diagram
Georgia-Pacific Corporation Proposed Hosford, FL OSB Facility
Sheet 1 of 1

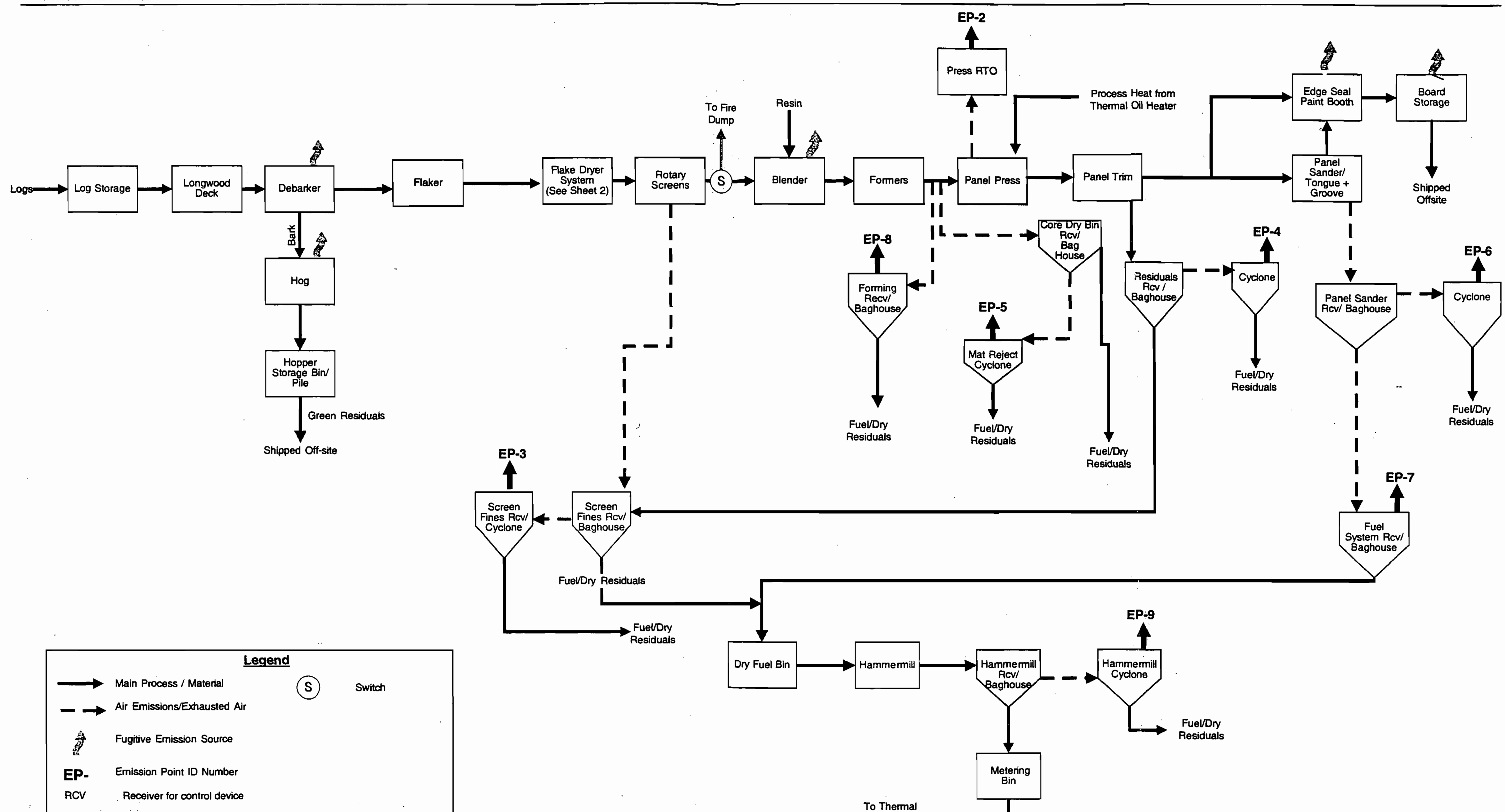


Figure 3-4b. Process Flow Diagram
Georgia-Pacific Corporation Proposed Hosford, FL
OSB Facility
Sheet 1 of 1

and the dryer. The hot exhaust from the burner combines with ambient air pulled through by the dryer's pneumatic system to dry the flakes. The amount of dilution air, and resulting gas temperature, are dependent on the dryer operating rate, wood moisture content, desired moisture content of the furnish, etc. Air pollutant emissions associated with the drying operation will include products of wood fuel combustion, such as particulate matter (PM), volatile organic compounds (VOCs), carbon monoxide (CO), nitrogen oxides (NO_x), and sulfur dioxide (SO_2). They will also include additional PM, VOCs, CO, and formaldehyde, which are produced in the wood drying process.

The dried wood flakes will be blended with resin and wax and will then be placed as a mat on the forming line in layers oriented at right angles to provide structural integrity. The mat will then be moved into the thermal oil-heated press, where it will be compressed and heated to bond the resin to the flakes. The thermal oil will be heated to the appropriate temperature in a separate system, consisting of two, wood fuel, suspension-type burners. During normal operations, the exhaust gases from the thermal oil system burners will be routed through the dryer system. Air pollutant emissions associated with the board press operation will include PM, VOCs, CO, NO_x and formaldehyde.

The pressed mats will be cut to size, cooled, and the edges will be sprayed with sealant to prevent swelling. The finished OSB will then be packed and shipped off-site. Dry end material will either be burned to heat the dryers and thermal oil system or shipped off-site for use as wood fuel or as furnish in other wood products manufacturing operations.

Numerous material handling operations, which represent both point sources and fugitive emission sources, will be associated with the production of the OSB. Those operations that can be characterized as point sources include the screen fines with saw trim transfer pneumatics, saw trim and finishing line pneumatics, materials reject and flying saw pneumatics, specialty saw and sander pneumatics, fuel system pneumatics, forming bin pneumatics, and hammermill system pneumatics. The pollutant emissions from these operations are limited to PM. Fugitive sources of PM include the bark handling (batch drops and wind erosion from storage piles), paved and unpaved roads, debarkers, bark hog, and edge-sealing of finished boards.

Additional fugitive emission sources of VOCs and/or formaldehyde include the resin storage tanks, blend house, and finished product storage.

The dryers and press will be controlled by three regenerative thermal oxidizers (RTOs). Two of the RTOs will be dedicated to the dryers and the third will control emissions from the press. The dryer RTOs will be preceded by multiclones Emissions from the thermal oil system will be controlled by an electrostatic precipitator (ESP). During normal operations, the exhaust gases from the thermal oil system burners will be routed through the dryer system where they, along with the exhaust gases from the dryers, will pass through the multiclones and RTOs prior to exiting to the atmosphere. Particulate matter emissions resulting from material handling will be controlled by a series of bag filters.

4. EMISSION RATES

The methodologies used to quantify emissions for the proposed emission units to be installed at the Hosford OSB Plant are summarized in this section of the permit application. The emission rates are calculated for all point and fugitive emission sources, although only point source emissions have to be considered in the evaluation of PSD applicability. The detailed emission calculations, as well as the supporting documentation from the vendor, are contained in Attachment B. It should be noted that the vendor sheets are titled, "Fordyce, Arkansas". Georgia-Pacific currently has another, near identical facility under construction near Fordyce. The emission estimates provided by the vendor apply to both Fordyce and Hosford.

The estimated hourly and annualized emission rates are summarized in Table 4-1.

4.1 EP-1 Dryers

The five dryers will be equipped with TherMec Burners (suspension-type). With the exception of sulfur dioxide, the emission rates are supplied by the vendor and take into account control by the multiclones and RTOs. Removal efficiencies of 90, 90, and 75 percent are assumed for particulate matter, volatile organic compounds, and carbon monoxide, respectively. Emission estimates for sulfur dioxide (for the burners associated with the dryers and thermal oil system) are made based on wood fuel combustion factors contained in the US EPA emission estimation document, AP-42.

4.2 EP-2 Press

Emissions information for the press was supplied by the vendor based on tests performed at a similar Louisiana-Pacific (L-P) plant located in Hanceville, Alabama. The vendor scaled the L-P test values by the ratio of the production rates between the two facilities. The G-P OSB Plant will have a production level of 475 MMSF/year, while the L-P tests were conducted at a production level of 350 MMSF/year. RTO removal efficiencies of 75, 90, and 75 percent are assumed for particulate matter, volatile organic compounds, and carbon monoxide, respectively.

4.3 EP-3 - EP-9 Material Handling Sources

Two methodologies are used in estimating particulate matter emissions for the bag filters. First, emission estimates are made using material throughput rates and a removal efficiency of 99.96 percent. The second methodology utilizes air flow rates and assumes a particulate matter loading of 0.01 grain per dry standard cubic foot (gr/dscf) exiting the bag filters. Both sets of calculations are included in Attachment B. The vendor is only willing to guarantee the higher of the two values for each of the sources. For emission points EP-3, EP-7, and EP-9, the first methodology (material throughput and removal efficiency) yields the highest estimates. For emission points EP-4, EP-5, EP-6, and EP-8, the second methodology (air flow rate and loading) yields the highest estimates.

Table 4-1. Estimated Hourly and Annual Emission Rates, Proposed Hosford OSB Plant

Emission Source	Point	TSP		PM_{10}		VOC		CO		NO_x		SO_2		Pb		HCOH	
		lb/hr	tpy	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy
Dryers (RTO)	EP-1	74.45	326.10	74.45	326.10	126.25	553.00	33.60	147.15	73.30	321.05	2.30	10.20	–	–	1.85	8.10
Press (RTO)	EP-2	2.83	12.40	2.83	12.40	20.05	87.82	7.25	31.76	10.73	47.00	–	–	–	–	0.24	1.05
Screen Fines with Saw Trim Transfer (Bag Filter)	EP-3	2.10	9.20	2.10	9.20	–	–	–	–	–	–	–	–	–	–	–	–
Saw Trim/Finishing Line (Bag Filter)	EP-4	2.63	11.52	2.63	11.52	–	–	–	–	–	–	–	–	–	–	–	–
Mat Reject/Flying Saw (Bag Filter)	EP-5	3.90	17.08	3.90	17.08	–	–	–	–	–	–	–	–	–	–	–	–
Specialty Saw/Sander (Bag Filter)	EP-6	2.17	9.50	2.17	9.50	–	–	–	–	–	–	–	–	–	–	–	–
Fuel System (Bag Filter)	EP-7	0.34	1.50	0.34	1.50	–	–	–	–	–	–	–	–	–	–	–	–
Forming Bins (Bag Filter)	EP-8	1.90	8.32	1.90	8.32	–	–	–	–	–	–	–	–	–	–	–	–
Hammermill System (Bag Filter)	EP-9	2.10	9.20	2.10	9.20	–	–	–	–	–	–	–	–	–	–	–	–
Thermal Oil System[1]	EP-10	8.00	35.00	8.00	35.00	2.00	8.60	120.90	529.50	13.30	58.40	0.70	2.90	.0001	.0006	0.073	0.32

[1] During normal operation, source exhaust exits with the dryers' exhaust via EP-1; emission estimates for EP-1 include this source. Annual average estimates provided for this source are extreme overestimates given fact that these emissions only occur during a bypass.

4.4 EP-10 Thermal Oil System

The thermal oil system, used to heat the press, will be comprised of two thermal oil heaters. Each thermal oil heater will contain one wood-fired burner and one natural gas-fired burner. The wood-fired burners will have a capacity of 40 MMBtu/hr, while the natural gas burners will have a capacity of 30 MMBtu/hr. Each of the heaters will be controlled independently. Neither heater can be fired simultaneously on wood and natural gas. The plant will be able to operate both heaters simultaneously on wood or natural gas. Also, one heater could be fired on wood, while the other is fired on natural gas. Therefore, the maximum hourly heat input rate to the heaters will not exceed 80 MMBtu/hr under any of the firing combinations.

Emissions are estimated using AP-42 emission factors for wood firing. In all cases, the factors for wood firing are higher than for natural gas firing.

4.5 Fugitive Emission Sources

While not required in evaluating PSD applicability, emission estimates are made for fugitive sources of PM, VOCs, and formaldehyde. Fugitive sources of PM include the bark handling (batch drops and wind erosion from storage piles), paved and unpaved roads, debarkers, bark hog, and edge-sealing of finished boards. Fugitive emission sources of VOCs and/or formaldehyde include the resin storage tanks, blend house, and finished product storage. The emissions for the fugitive sources are estimated using material balance, AP-42 emission factors, and Version 3.1 of the EPA TANKS program.

5. REGULATORY APPLICABILITY

5.1 PSD Applicability

The PSD regulatory program is contained in 40 CFR 52.21. Since emissions for at least regulated pollutant will exceed 250 tons per year, the plant will be constructed as a "major stationary source", subject to PSD permitting requirements.

The estimated emissions are summarized and compared to the PSD significant increase levels in Table 5-1. The proposed plant will be subject to PSD review for total suspended particulate matter (TSP), particulate matter less than 10 microns in diameter (PM_{10}), ozone (based on a significant increase in VOC emissions), CO, and NO_x.

5.2 NSPS Applicability

A few of the emission sources are potentially subject to the New Source Performance Standards (NSPS), as defined in 40 CFR 60, based on construction date. However, as described below, based on an analysis of the individual NSPS, none of the sources are found to be subject to regulation.

Dryers, NSPS Subparts Db and Dc

NSPS Subpart Db applies to steam generating units, with a capacity greater than 100 MMBtu/hr, commencing construction after June 19, 1984. Subpart Dc is applicable for steam generating units, with a capacity of 100 MMBtu/hr or less, but greater than 10 MMBtu/hr, commencing construction after June 9, 1989. Depending on whether the dryers are considered individually or jointly, Subparts Db and Dc are potentially applicable.

The issue of applicability of NSPS Subparts Db and Dc has been evaluated in the past with regard to process dryers. In a memorandum, dated November 17, 1992, US EPA recognized that there are both similarities and differences between traditional steam generating units and process dryers. In this memorandum, US EPA concludes that NSPS Subparts Db and Dc do not apply to process dryers. A copy of the memorandum is included in Attachment C.

Thermal Oil System, NSPS Subpart Dc

As stated above, Subpart Dc is applicable for steam generating units, with a capacity of 100 MMBtu/hr or less, but greater than 10 MMBTU/hr, commencing construction after June 9, 1989. As stated previously, during normal operations, the combustion products from the burners associated with the thermal oil heat exchangers combine with outside air to provide heat to the flake dryers. As such, the combustion products are intermixed and come into direct contact with the dryers' heat transfer medium.

Table 5-1. PSD Applicability Summary

Emission Source	Emission Point Number	Emissions (tons per year)						
		TSP	PM_{10}	VOC	CO	NO_X	SO_2	Pb
Dryers (multiclones/RTO)	EP-1	326.10	326.10	553.00	147.15	321.05	10.20	–
Press (RTO)	EP-2	12.40	12.40	87.82	31.76	47.00	–	–
Screen Fines with Saw Trim Transfer (Bag Filter)	EP-3	9.20	9.20	–	–	–	–	–
Saw Trim/Finishing Line (Bag Filter)	EP-4	11.52	11.52	–	–	–	–	–
Mat Reject/Flying Saw (Bag Filter)	EP-5	17.08	17.08	–	–	–	–	–
Specialty Saw/Sander (Bag Filter)	EP-6	9.50	9.50	–	–	–	–	–
Fuel System (Bag Filter)	EP-7	1.50	1.50	–	–	–	–	–
Forming Bins (Bag Filter)	EP-8	8.32	8.32	–	–	–	–	–
Hammermill System (Bag Filter)	EP-9	9.20	9.20	–	–	–	–	–
Thermal Oil System (ESP)[1]	EP-10	35.00	35.00	8.60	529.50	58.40	2.90	0.0006
TOTAL		439.82	439.82	649.42	708.41	426.45	13.10	0.0006
PSD Significance Level		25	15	40	100	40	40	0.6

[1] During normal operation, source exhaust exits with the dryers' exhaust via EP-1; emission estimates for EP-1 include this source. Annual average estimates provided for this source are extreme overestimates given fact that these emissions only occur during a bypass.

Fugitive Emission Sources (not included in PSD applicability determination):

	PM/PM_{10} (tpy)	VOC (tpy)
Resin storage tanks	-------	0.30
Bark handling (batch drop)	0.019/0.014	-------
Bark handling (wind erosion)	0.088/0.044	-------
Paved roads	136.0/26.5	-------
Unpaved roads	9.11/8.02	-------
Debarker	14.1/6.5	-------
Bark Hog	1.4/0.65	-------
Blend House	-------	0.41
Finished product storage	-------	0.18
Edge sealing	0.0034/0.0026	-------

The key point in determining applicability of Subpart Dc is hinged upon the existence of intermixing of combustion gases and the heat transfer medium, as expressed clearly in US EPA's 1992 determination memorandum (see Attachment C). While it is true that the thermal oil will be indirectly heated, under normal operations the final combustion gases are intermixed and come into "direct" contact with the wood flake dryers' heat transfer medium. As such, the thermal oil system would not be subject to NSPS Subpart Dc under normal operating conditions.

A possible exception is the case where the combustion gases from the thermal oil suspension burners exit through a bypass stack, as opposed to being routed to the dryers. In order to insure that the system meets the requirements when operating in bypass mode, an electrostatic precipitator and continuous opacity monitor will be installed. Also, daily records will be maintained of fuel usage as required under 40 CFR 60.48c(g).

Resin Storage Tanks, NSPS Subpart Kb

NSPS Subpart Kb applies to storage tanks, constructed after July 23, 1984, with a volume of 40 cubic meters (m^3) or greater, storing volatile organic liquids. The storage tanks to be installed at Hosford will have a capacity of 10,000 gallons, or approximately 38 m^3. As such, these tanks will not be subject to NSPS Subpart Kb.

5.3 NESHAP Applicability

Section 112(d) of the Clean Air Act, as amended in November 1990, requires that the US EPA, "promulgate regulations establishing emission standards for each category or subcategory of major sources and area sources of hazardous air listed for regulation...". These National Emission Standards for Hazardous Air Pollutants (NESHAPs), to be published in 40 CFR 63, are to be based on the Maximum Achievable Control Technology (MACT). The US EPA currently has studies underway to identify the MACT standards for the building products sector, including standards for hazardous air pollutant sources at oriented strandboard plants. Those standards are expected to be promulgated in November 2000. As such, there are no NESHAPs currently applicable for this type of facility. Furthermore, there are no existing NESHAPs (40 CFR 61) applicable for this type of facility.

Section 112(g) of the Clean Air Act requires that each newly constructed "major" emission source of hazardous air pollutants (HAPs) meet emission limits specified in the applicable 112(d) MACT standard or resulting case-by-case MACT determination when the 112(d) standard has not yet been promulgated by the US EPA for the specified source category. A major source of HAPs is defined as one that emits 10 tons per year or more of a single HAP or 25 tons per year or more of all HAPs combined. Emissions information supplied by the vendor, and obtained by Georgia-Pacific, indicates that plantwide formaldehyde emissions will be slightly greater than 10 tons per year, considering both point and fugitive emission sources. As such, the proposed OSB facility will be subject to MACT review under Section 112(g).

Under Section 112(g), the Maximum Achievable Control Technology limitation for new sources is defined in 40 CFR 63.41 as:

> *"...the emission limitation which is not less stringent than the emission limitation achieved in practice by the best controlled similar source, and which reflects the maximum degree of reduction in emissions that the permitting authority, taking into consideration the cost of achieving such emission reduction , and any non-air quality health and environmental impacts and energy requirements, determines is achievable by the constructed or reconstructed major source."*

The RTOs proposed for installation on the dryers and press are estimated to be at least 90% efficient in the removal of formaldehyde. The total, controlled formaldehyde emissions from these two sources are estimated at 9.15 tons per year (see Table 4-1). Fugitive emission sources of formaldehyde and potential uncontrolled emissions from the thermal oil system operating in bypass mode add an additional 0.91 ton per year (0.32 tpy from the thermal oil system in bypass mode, assuming 8,760 hours/year in bypass; 0.41 tpy from the blend house, assuming all of the VOCs are formaldehyde; and 0.18 tpy from finished product storage, assuming all of the VOCs are formaldehyde). Thus, total formaldehyde emissions, from all sources, are estimated at 10.1 tons per year, just over the 10-ton-per-year threshold for triggering 112(g) applicability. This is a very conservative estimate that assumes that the thermal oil system will operate in bypass mode continuously.

The proposed BACT for the dryers and press (see Section 8), regenerative thermal oxidation, satisfies the 112(g) MACT requirement for formaldehyde from these sources. The remaining sources, the thermal oil system (in bypass mode), the blend house, and finished product storage, are very minimal sources that are not typically controlled.

5.4 Compliance Assurance Monitoring

In order for the Compliance Assurance Monitoring (CAM) Rule to apply to a specific emission unit/pollutant, the following, four criteria must be met:

1) The emission unit must be located at a major source for which a Part 70 or Part 71 permit is required.
2) The emission unit must be subject to an emission limitation or standard.
3) The emission unit must use a control device to achieve compliance.
4) The emission unit must have potential, pre-controlled emissions of the pollutant of at least 100 percent of the major source threshold.

The CAM Plan proposed for the Hosford facility is included as Attachment D.

6. ADDITIONAL IMPACTS AND CLASS I AREAS ANALYSIS

The PSD regulations require that applicants address additional impacts that may result from the proposed modification or installation. The additional impacts analysis addresses growth, impacts on soils and vegetation, and the potential for visibility impairment. In addition, applicants are required to address potential impacts in Class I areas. Class I areas are areas of special national or regional value from a natural, scenic, recreational, or historic perspective. The PSD regulations provide for special protection of these areas.

If a proposed major source or major modification may affect a Class I area, PSD regulations require the reviewing authority to provide written notification to the Federal Land Manager (FLM). The meaning of the term "may affect" is interpreted by the US EPA to include all major sources or modifications located with 100 km of a Class I area. Two Class I areas, the Bradwell Bay and St. Marks National Wilderness Areas (NWAs), are located within 100 km of the proposed site. The Bradwell Bay and St. Marks NWAs are located approximately 35 and 45 km southeast of the proposed site, respectively.

The results of the Class I area increment analysis are summarized in Section 7 of this report, while the assessment of air quality related values (AQRVs) and other impacts (*e.g.*, growth, visibility, etc.) is included as Attachment E. The results of the analysis indicate that the proposed plant will not have an adverse impact on any of these parameters.

7. AIR QUALITY ANALYSIS

An applicant for a PSD permit is required to conduct an air quality analysis to determine the ambient impacts associated with the construction and operation of the proposed source. The primary purpose is to demonstrate that new emissions will not cause or contribute to a violation of the National Ambient Air Quality Standards (NAAQS) or a PSD increment.

The results of the air quality analysis are contained in Attachment F. The facility, as proposed, will not cause or contribute to a violation of the NAAQS or PSD increments.

8. BACT ANALYSIS

As part of this PSD permit application, a Best Available Control Technology (BACT) analysis is required. The requirement is set forth in the PSD regulations at 40 CFR 52.21(b)(12):

> "*... 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...which the Administrator, on a case-by-case basis, taking into account energy, environmental, and economic impacts and other costs, determines is achievable...*"

For this permit application, a BACT analysis is required for particulate matter (TSP and PM_{10}), volatile organic compounds, carbon monoxide, and nitrogen oxides.

8.1 Technical Approach

The BACT analysis is based on the "top-down" approach outlined in US EPA's December 1, 1987 policy memorandum, and their "New Source Review Workshop Manual". The steps followed for each pollutant/source combination are as follows:

- Characterize the emission stream;
- Identify all potential control options;
- Evaluate and reject infeasible options;
- Evaluate the economic, environmental, and energy impacts associated with the most effective option(s);
- Document the BACT determination.

8.2 Information Sources for Potential Control Options

A comprehensive review of potential control technologies was conducted, utilizing the following sources:

- The BLIS database (the RACT/BACT/LAER Clearinghouse);
- Pollution control technology vendors;
- US EPA control technology documents;
- Experts familiar with both the OSB manufacturing industry; and
- G-P experience with similar pollution control technologies in OSB manufacturing.

8.3 BACT Determination

The results of the full BACT analysis are contained in Attachment G.

For the dryers, the following, potential controls are identified:

- Regenerative thermal oxidation (RTO) with particulate matter control (controls VOCs, PM, and CO)
- Regenerative catalytic oxidation (RCO) with particulate matter control (controls VOCs, PM, and CO)
- Biofilter with particulate matter control (controls VOCs, PM, CO, and potentially NO_x)
- Recycle system with indirect heat exchange and particulate matter control (controls VOCs, PM, and CO)
- Wet electrostatic precipitator (controls PM, and potentially controls VOCs)
- Wet scrubber (controls PM, and potentially controls VOCs)
- Selective catalytic reduction (SCR) and selective non-catalytic reduction (SNCR) (controls NO_x)

Biofiltration technology is limited to gas streams which can be consistently maintained at a temperature less than 105 °F. The exit temperature from the dryers is predicted by the vendor to be in the range of 265 °F. As such, biofiltration technology is found to be technically infeasible for the dryers. SCR and SNCR are also found to be technically infeasible due to temperature constraints (both require a higher temperature and longer residence time). Recycling of the dryer exhaust represents an example of a process change that eliminates the need for end-of-the-pipe control. Although the system is based on proven components, the higher temperature heat exchanger necessary to transfer heat from the heat source to the ambient air used to dry the wood requires costly materials of construction. As such, this technology is eliminated from further consideration on the basis of engineering and cost considerations. Of the remaining technologies, multiclones, followed by an RTO, represent the most efficient control for VOCs, PM, and CO. As such, this technology is proposed as BACT for the dryers.

For the board press, the technologies considered are the same as those considered for the dryers, although multiclones are not considered in conjunction with the RTO/RCO due to the fact that PM emissions from the press are much lower and some degree of control (approximately 75%) is achieved with the RTO alone. In addition, biofilters are considered technically feasible for the press due to the lower operating temperature for the press. The RTO is found to be the most efficient control device and is proposed as BACT for the board press.

For the thermal oil system, an electrostatic precipitator is proposed to control particulate matter. During normal operations, the exhaust from the burners associated with the thermal oil system will exit with the exhaust from the dryers through the multiclones and RTO after passing through the ESP. As discussed in the BACT analysis (Attachment G), the combined particulate matter control efficiency from the multiclones and RTO is expected to be 90%. In bypass mode, the thermal oil system exhaust will still pass through the ESP for an expected control efficiency for particulate matter of 85.8 percent.

For the material handling sources, bagfilter-type dust collectors are proposed as BACT. For these sources, the vendor has provided information showing that these devices should be in the range of 98.35 to 99.96 percent efficient in the removal of particulate matter, depending on the source and emission estimation method used.

Attachment A

PERMIT APPLICATION FORMS

Department of
Environmental Protection

DIVISION OF AIR RESOURCES MANAGEMENT

APPLICATION FOR AIR PERMIT - LONG FORM

I. APPLICATION INFORMATION

Identification of Facility Addressed in This Application

1. Facility Owner/Company Name : Georgia-Pacific Corporation	
2. Site Name : Georgia-Pacific Hosford OSB Plant	
3. Facility Identification Number :	[X] Unknown
4. Facility Location : State Route 65 Street Address or Other Locator : City : Hosford County : Liberty Zip Code : 32334	
5. Relocatable Facility? [ ] Yes [X] No	6. Existing Permitted Facility? [ ] Yes [X] No

Owner/Authorized Representative or Responsible Official

1. Name and Title of Owner/Authorized Representative or Responsible Official :

Name : Mr. Ronald L. Paul

Title : Executive Vice President, Wood Products and Distribution

2. Owner or Authorized Representative or Responsible Official Mailing Address :

Organization/Firm : Georgia-Pacific Corporation

Street Address : 133 Peachtree St

City : Atlanta

State : GA Zip Code : 30303

3. Owner/Authorized Representative or Responsible Official Telephone Numbers :

Telephone : 404/652-6308 Fax : 404/230-1674

4. Owner/Authorized Representative or Responsible Official Statement :

I, the undersigned, am the owner or authorized representative of the non-Title V source addressed in this Application for Air Permit or the responsible official, as defined in Rule 62-210.200, F.A.C., of the Title V source addressed in this application, whichever is applicable. I hereby certify, based on information and belief formed after reasonable inquiry, that the statements made in this application are true, accurate and complete and that, to the best of my knowledge, any estimates of emissions reported in this application are based upon reasonable techniques for calculating emissions. The air pollutant emissions units and air pollution control equipment described in this application will be operated and maintained so as to comply with all applicable standards for control of air pollutant emissions found in the statutes of the State of Florida and rules of the Department of Environmental Protection and revisions thereof. I understand that a permit, if granted by the Department, cannot be transferred without authorization from the Department, and I will promptly notify the Department upon sale or legal transfer of any permitted emissions units.*

Ronald L. Paul (signature) 1/12/00

Signature Date

* Attach letter of authorization if not currently on file.

Scope of Application

Emissions Unit ID	Description of Emissions Unit	Permit Type
001	Five Flake Dryers	AC1A
002	Panel Press	AC1C
003	Screen Fines with Saw Trim Transfer	AC1E
004	Saw Trim/Finishing	AC1E
005	Mat Reject/Flying Saw	AC1E
006	Specialty Saw/Sander	AC1E
007	Fuel System	AC1F
008	Forming Bins	AC1E
009	Hammermill System	AC1E
010	Thermal Oil System	AC1C

Purpose of Application and Category

Category I : All Air Operation Permit Applications Subject to Processing Under Chapter 62-213, F.A.C.

This Application for Air Permit is submitted to obtain :

[ ] Initial air operation permit under Chapter 62-213, F.A.C., for an existing facility which is classified as a Title V source.

[ ] Initial air operation permit under Chapter 62-213, F.A.C., for a facility which, upon start up of one or more newly constructed or modified emissions units addressed in this application, would become classified as a Title V source.

Current construction permit number :

[ ] Air operation permit renewal under Chapter 62-213, F.A.C., for a Title V source.

Operation permit to be renewed :

[ ] Air operation permit revision for a Title V source to address one or more newly constructed or modified emissions units addressed in this application.

Current construction permit number :

Operation permit to be revised :

[ ] Air operation permit revision or administrative correction for a Title V source to address one or more proposed new or modified emissions units and to be processed concurrently with the air construction permit application.

Operation permit to be revised/corrected :

[ ] Air operation permit revision for a Title V source for reasons other than construction or modification of an emissions unit.

Operation permit to be revised :

Reason for revision :

Category II : All Air Operation Permit Applications Subject to Processing Under Rule 62-210.300(2)(b), F.A.C.

This Application for Air Permit is submitted to obtain :

[ ] Initial air operation permit under Rule 62-210.300(2)(b), F.A.C., for an existing facility seeking classification as a synthetic non-Title V source.

Current operation/construction permit number(s) :

[ ] Renewal air operation permit under Fule 62-210.300(2)(b), F.A.C., for a synthetic non-Title V source.

Operation permit to be renewed :

[ ] Air operation permit revision for a synthetic non-Title V source.

Operation permit to be revised :

Reason for revision :

Category III : All Air Construction Permit Applications for All Facilities and Emissions Units

This Application for Air Permit is submitted to obtain :

[**X**] Air construction permit to construct or modify one or more emissions units within a facility (including any facility classified as a Title V source).

Current operation permit number(s), if any :
NA

[ ] Air construction permit to make federally enforceable an assumed restriction on the potential emissions of one or more existing, permitted emissions units.

Current operation permit number(s) :

[ ] Air construction permit for one or more existing, but unpermitted, emissions units.

Application Processing Fee

Check one :

[X] Attached - Amount : $7500.00 [ ] Not Applicable.

Construction/Modification Information

1. Description of Proposed Project or Alterations : Construction of a new Oriented Strandboard (OSB) plant with the capacity to produce 475 million square feet (MMSF) (3/8-inch basis) in Liberty County	
2. Projected or Actual Date of Commencement of Construction :	01-Aug-2000
3. Projected Date of Completion of Construction :	28-Mar-2001

Professional Engineer Certification

1. Professional Engineer Name : Mark Aguilar Registration Number : 52248	
2. Professional Engineer Mailing Address : Organization/Firm : Georgia-Pacific Corporation Street Address : P.O. Box 105605 City : Atlanta	State : GA Zip Code : 30348-5605
3. Professional Engineer Telephone Numbers : Telephone : (404)652-4293	Fax : (404)654-4695

4. Professional Engineer Statement :

I, the undersigned, hereby certify, except as particularly noted herein, that :*

(1) To the best of my knowledge, there is reasonable assurance that the air pollutant emissions unit(s) and the air pollutant control equipment described in this Application for Air Permit, when properly operated and maintained, will comply with all applicable standards for control of air pollutant emissions found in the Florida Statutes and rules of the Department of Environmental Protection; and

(2) To the best of my knowledge, any emission estimates reported or relied on in this application are true, accurate, and complete and are either based upon reasonable techniques available for calculating emissions or, for emission estimates of hazardous air pollutants not regulated for an emissions unit addressed in this application, based solely upon the materials, information and calculations submitted with this application.

If the purpose of this application is to obtain a Title V source air operation permit (check here [ ] if so), I further certify that each emissions unit described in this Application for Air Permit, when properly operated and maintained, will comply with the applicable requirements identified in this application to which the unit is subject, except those emissions units for which a compliance schedule is submitted with this application.

If the purpose of this application is to obtain an air construction permit for one or more proposed new or modified emissions units (check here [X] if so), I further certify that the engineering features of each such emissions unit described in this application have been designed or examined by me or individuals under my direct supervision and found to be in conformity with sound engineering principles applicable to the control of emissions of the air pollutants characterized in this application.

If the purpose of this application is to obtain an initial air operation permit or operation permit revision for one or more newly constructed or modified emissions units (check here [ ] if so), I further certify that, with the exception of any changes detailed as part of this application, each such emissions has been constructed or modified in substantial accordance with the information given in the corresponding application for air construction permit and with all provisions contained in such permit.

Signature: [signature] Date: 1-11-2000

(seal)

* Attach any exception to certification statement.

Application Contact

1. Name and Title of Application Contact : Name : Paul Vasquez Title : Manager, Str. Panels Env. Engrng
2. Application Contact Mailing Address : Organization/Firm : Georgia-Pacific Corp Street Address : PO Box 105605, 17th Floor City : Atlanta State : GA Zip Code : 30348-5605
3. Application Contact Telephone Numbers : Telephone : (404)652-7327 Fax : (404)588-3975

Application Comment

II. FACILITY INFORMATION

A. GENERAL FACILITY INFORMATION

Facility, Location, and Type

1. Facility UTM Coordinates : Zone : 16	East (km) : 713.50	North (km) : 3369.50	
2. Facility Latitude/Longitude : Latitude (DD/MM/SS) :	Longitude (DD/MM/SS) :		
3. Governmental Facility Code : 0	4. Facility Status Code : C	5. Facility Major Group SIC Code : 24	6. Facility SIC(s) : 2493
7. Facility Comment : Oriented Strandboard Manufacturing			

II. FACILITY INFORMATION

A. GENERAL FACILITY INFORMATION

Facility Contact

1. Name and Title of Facility Contact : Paul Vasquez Manager, Str Panels Env. Egrng
2. Facility Contact Mailing Address : Organization/Firm : Georgia-Pacific Corporation Street Address : PO Box 105605 City : Atlanta State : GA Zip Code : 30348-5605
3. Facility Contact Telephone Numbers :

Telephone : (404)652-7327 Fax : (404)588-3957

Facility Regulatory Classifications

1. Small Business Stationary Source?	N
2. Title V Source?	Y
3. Synthetic Non-Title V Source?	N
4. Major Source of Pollutants Other than Hazardous Air Pollutants (HAPs)?	Y
5. Synthetic Minor Source of Pollutants Other than HAPs?	N
6. Major Source of Hazardous Air Pollutants (HAPs)?	Y
7. Synthetic Minor Source of HAPs?	N
8. One or More Emissions Units Subject to NSPS?	Y
9. One or More Emission Units Subject to NESHAP?	N
10. Title V Source by EPA Designation?	N
11. Facility Regulatory Classifications Comment : Facility is subject to PSD review.	

B. FACILITY REGULATIONS

Rule Applicability Analysis

Title V Core List (see attached list)

B. FACILITY REGULATIONS

List of Applicable Regulations

Title V Core List (see attached list)

Title V Core List Effective: 03/21/96

[**Note:** The Title V Core List is meant to simplify the completion of the "List of Applicable Regulations" for DEP Form No. 62-210.900(1), Application for Air Permit - Long Form. The Title V Core List is a list of rules to which all Title V Sources are presumptively subject. The Title V Core List may be referenced in its entirety, or with specific exceptions. The Department may periodically update the Title V Core List.]

Federal: ***(description)***

40 CFR 61, Subpart M: NESHAP for Asbestos.

40 CFR 82: Protection of Stratospheric Ozone.
40 CFR 82, Subpart B: Servicing of Motor Vehicle Air Conditioners (MVAC).
40 CFR 82, Subpart F: Recycling and Emissions Reduction.

State: ***(description)***

CHAPTER 62-4, F.A.C.: PERMITS, effective 10-16-95

62-4.030, F.A.C.: General Prohibition.
62-4.040, F.A.C.: Exemptions.
62-4.050, F.A.C.: Procedure to Obtain Permits; Application.
62-4.060, F.A.C.: Consultation.
62-4.070, F.A.C.: Standards for Issuing or Denying Permits; Issuance; Denial.
62-4.080, F.A.C.: Modification of Permit Conditions.
62-4.090, F.A.C.: Renewals.
62-4.100, F.A.C.: Suspension and Revocation.
62-4.110, F.A.C.: Financial Responsibility.
62-4.120, F.A.C.: Transfer of Permits.
62-4.130, F.A.C.: Plant Operation - Problems.
62-4.150, F.A.C.: Review.
62-4.160, F.A.C.: Permit Conditions.
62-4.210, F.A.C.: Construction Permits.
62-4.220, F.A.C.: Operation Permit for New Sources.

CHAPTER 62-103, F.A.C.: RULES OF ADMINISTRATIVE PROCEDURE, effective 04-18-95

62-103.150, F.A.C.: Public Notice of Application and Proposed Agency Action.
62-103.155, F.A.C.: Petition for Administrative Hearing; Waiver of Right to Administrative Proceeding.

CHAPTER 62-210, F.A.C.: STATIONARY SOURCES - GENERAL REQUIREMENTS, effective 01-01-96

62-210.300, F.A.C.: Permits Required.
62-210.300(1), F.A.C.: Air Construction Permits.
62-210.300(2), F.A.C.: Air Operation Permits.
62-210.300(3), F.A.C.: Exemptions.
62-210.300(5), F.A.C.: Notification of Startup.

62-210.350, F.A.C.: Public Notice and Comment.
62-210.350(3), F.A.C.: Additional Public Notice Requirements for Sources Subject to Operation Permits for Title V Sources.

62-210.360, F.A.C.: Administrative Permit Corrections.

62-210.370(3), F.A.C.: Annual Operating Report for Air Pollutant Emitting Facility.

62-210.400, F.A.C.: Emission Estimates.
62-210.650, F.A.C.: Circumvention.
62-210.700, F.A.C.: Excess Emissions.

62-210.900, F.A.C.: Forms and Instructions.
62-210.900(1) Application for Air Permit - Long Form, Form and Instructions.
62-210.900(5) Annual Operating Report for Air Pollutant Emitting Facility, Form and Instructions.

CHAPTER 62-212, F.A.C.: STATIONARY SOURCES - PRECONSTRUCTION REVIEW, effective 01-01-96

62-212.700, F.A.C.: Source Reclassification.

CHAPTER 62-213, F.A.C.: OPERATION PERMITS FOR MAJOR SOURCES OF AIR POLLUTION, effective 01-01-96

62-213.205, F.A.C.: Annual Emissions Fee.
62-213.210, F.A.C.: Permit Application Processing Fee.
62-213.400, F.A.C.: Permits and Permit Revisions Required.
62-213.410, F.A.C.: Changes Without Permit Revision.
62-213.412, F.A.C.: Immediate Implementation Pending Revision Process.
62-213.420, F.A.C.: Permit Applications.
62-213.430, F.A.C.: Permit Issuance, Renewal, and Revision.
62-213.440, F.A.C.: Permit Content.
62-213.460, F.A.C.: Permit Shield.

62-213.900, F.A.C.: Forms and Instructions.
62-213.900(1) Major Air Pollution Source Annual Emissions Fee Form and Instructions.

CHAPTER 62-296, F.A.C.: STATIONARY SOURCES - EMISSION STANDARDS, effective 01-01-96

62-296.310(3), F.A.C.: Unconfined Emissions of Particulate Matter.

62-296.320(2), F.A.C.: Objectionable Odor Prohibited.

CHAPTER 62-297, F.A.C.: STATIONARY SOURCES - EMISSIONS MONITORING, effective 01-01-96

62-297.310, F.A.C.: General Test Requirements.
62-297.330, F.A.C.: Applicable Test Procedures.
62-297.340, F.A.C.: Frequency of Compliance Tests.
62-297.345, F.A.C.: Stack Sampling Facilities Provided by the Owner of an Emissions Unit.
62-297.350, F.A.C.: Determination of Process Variables.
62-297.570, F.A.C.: Test Report.
62-297.620, F.A.C.: Exceptions and Approval of Alternate Procedures and Requirements.

Miscellaneous:

62-256, F.A.C.: Open Burning and Frost Protection Fires, effective 11-30-94
62-257, F.A.C.: Asbestos Notification and Fee, effective 12-31-95
62-281, F.A.C.: Motor Vehicle Air Conditioning Refrigerant Recovery and Recycling, effective 04-16-92

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C. FACILITY POLLUTANTS

Facility Pollutant Information

1. Pollutant Emitted	2. Pollutant Classification
CO	A
NOX	A
PM	A
PM10	A
SO2	B
VOC	A
H095	A
HAPS	B

D. FACILITY POLLUTANT DETAIL INFORMATION

Facility Pollutant Information Pollutant 1

1. Pollutant Emitted : CO		
2. Requested Emissions Cap :	(lbs/hour)	(tons/year)
3. Basis for Emissions Cap Code :		
4. Facility Pollutant Comment : No emission cap requested.		

D. FACILITY POLLUTANT DETAIL INFORMATION

Facility Pollutant Information Pollutant 2

1. Pollutant Emitted : NOX		
2. Requested Emissions Cap :	(lbs/hour)	(tons/year)
3. Basis for Emissions Cap Code :		
4. Facility Pollutant Comment : No emission cap requested.		

D. FACILITY POLLUTANT DETAIL INFORMATION

Facility Pollutant Information Pollutant 3

1. Pollutant Emitted : PM		
2. Requested Emissions Cap :	(lbs/hour)	(tons/year)
3. Basis for Emissions Cap Code :		
4. Facility Pollutant Comment : No emission cap requested.		

D. FACILITY POLLUTANT DETAIL INFORMATION

Facility Pollutant Information Pollutant 4

1. Pollutant Emitted : PM10		
2. Requested Emissions Cap :	(lbs/hour)	(tons/year)
3. Basis for Emissions Cap Code :		
4. Facility Pollutant Comment : No emission cap requested.		

D. FACILITY POLLUTANT DETAIL INFORMATION

Facility Pollutant Information Pollutant 5

1. Pollutant Emitted : SO2		
2. Requested Emissions Cap :	(lbs/hour)	(tons/year)
3. Basis for Emissions Cap Code :		
4. Facility Pollutant Comment : No emission cap requested.		

D. FACILITY POLLUTANT DETAIL INFORMATION

Facility Pollutant Information Pollutant 6

1. Pollutant Emitted : VOC		
2. Requested Emissions Cap :	(lbs/hour)	(tons/year)
3. Basis for Emissions Cap Code :		
4. Facility Pollutant Comment : No emission cap requested.		

D. FACILITY POLLUTANT DETAIL INFORMATION

Facility Pollutant Information Pollutant 7

1. Pollutant Emitted : H095		
2. Requested Emissions Cap :	(lbs/hour)	(tons/year)
3. Basis for Emissions Cap Code :		
4. Facility Pollutant Comment : No emission cap requested.		

D. FACILITY POLLUTANT DETAIL INFORMATION

Facility Pollutant Information Pollutant 8

1. Pollutant Emitted : HAPS		
2. Requested Emissions Cap :	(lbs/hour)	(tons/year)
3. Basis for Emissions Cap Code :		
4. Facility Pollutant Comment : No emission cap requested.		

D. FACILITY SUPPLEMENTAL INFORMATION

Supplemental Requirements for All Applications

1. Area Map Showing Facility Location :	Fig. 3-1
2. Facility Plot Plan :	Fig. 3-2,3-3
3. Process Flow Diagram(s) :	Fig. 3-4a, 3-4b
4. Precautions to Prevent Emissions of Unconfined Particulate Matter :	NA
5. Fugitive Emissions Identification :	Attachment B
6. Supplemental Information for Construction Permit Applica	Attachment B

Additional Supplemental Requirements for Category I Applications Only

7. List of Proposed Exempt
8. List of Equipment/Activities Regulated under Title
9. Alternative Methods of Operation :
10. Alternative Modes of Operation (Emissions
11. Identification of Additional Applicable
12. Compliance Assurance Monitoring
13. Risk Management Plan Verification :
14. Compliance Report and Plan :
15. Compliance Certification (Hard-copy Requir

III. EMISSIONS UNIT INFORMATION

A. TYPE OF EMISSIONS UNIT
(Regulated and Unregulated Emissions Units)

Emissions Unit Information Section 1

Five Flake Dryers

Type of Emissions Unit Addressed in This Section

1. Regulated or Unregulated Emissions Unit? Check one :

[X] The emissions unit addressed in this Emissions Unit Information Section is a regulated emissions unit.

[ ] The emissions unit addressed in this Emissions Unit Information Section is an unregulated emissions unit.

2. Single Process, Group of Processes, or Fugitive Only? Check one :

[X] This Emissions Unit Information Section addresses, as a single emissions unit, a single process or production unit, or activity, which produces one or more air pollutants and which has at least one definable emission point (stack or vent).

[ ] This Emissions Unit Information Section addresses, as a single emissions unit, a group of process or production units and activities which has at least one definable emission point (stack or vent) but may also produce fugitive emissions.

[ ] This Emissions Unit Information Section addresses, as a single emissions unit, one or more process or production units and activities which produce fugitive emissions only.

B. GENERAL EMISSIONS UNIT INFORMATION
(Regulated and Unregulated Emissions Units)

Emissions Unit Description and Status

1. Description of Emissions Unit Addressed in This Section : Five Flake Dryers		
2. Emissions Unit Identification Number : 001 [ ] No Corresponding ID [ ] Unknown		
3. Emissions Unit Status Code : C	4. Acid Rain Unit? [ ] Yes [X] No	5. Emissions Unit Major Group SIC Code : 24
6. Emissions Unit Comment : Flake system controlled by multiclones and two RTO's.		

Emissions Unit Information Section 1

Five Flake Dryers

Emissions Unit Control Equipment 1

1. Description : Multiclones control Particulate Matter.	
2. Control Device or Method Code :	9

Emissions Unit Information Section 1

Five Flake Dryers

Emissions Unit Control Equipment 2

1. Description : Two regenerative thermal oxidizers (RTO's) that destroy volatile organic compounds by raising the temperature (1500-1600 F) in a retention chamber. PM, CO, formald, and Total HAPS are also controlled.	
2. Control Device or Method Code :	99

C. EMISSIONS UNIT DETAIL INFORMATION
(Regulated Emissions Units Only)

Emissions Unit Information Section 1

Five Flake Dryers

Emissions Unit Details

1. Initial Startup Date :	01-Aug-2000	
2. Long-term Reserve Shutdown Date :		
3. Package Unit : Manufacturer :		Model Number :
4. Generator Nameplate Rating :	MW	
5. Incinerator Information : Dwell Temperature : Dwell Time : Incinerator Afterburner Temperature :	 0 0.00 	 Degrees Fahrenheit Seconds Degrees Fahrenheit

Emissions Unit Operating Capacity

1. Maximum Heat Input Rate :	200	mmBtu/hr	
2. Maximum Incinerator Rate :		lb/hr	tons/day
3. Maximum Process or Throughput Rate :	0		
4. Maximum Production Rate :	475	mmsf / year	
5. Operating Capacity Comment : These values are for all five flake dryers.			

Emissions Unit Operating Schedule

Requested Maximum Operating Schedule :		
	24 hours/day	7 days/week
	52 weeks/year	8,760 hours/year

D. EMISSIONS UNIT REGULATIONS
(Regulated Emissions Units Only)

Emissions Unit Information Section 1

Five Flake Dryers

Rule Applicability Analysis

E. EMISSION POINT (STACK/VENT) INFORMATION

Emissions Unit Information Section 1

Five Flake Dryers

Emission Point Description and Type :

1. Identification of Point on Plot Plan or Flow Diagram : 001		
2. Emission Point Type Code : 3		
3. Descriptions of Emission Points Comprising this Emissions Unit : Two RTO stacks		
4. ID Numbers or Descriptions of Emission Units with this Emission Point in Common : Five flake dryers exhausted to two RTO stacks preceded by multiclones.		
5. Discharge Type Code :	V	
6. Stack Height :	130	feet
7. Exit Diameter :	8.50	feet
8. Exit Temperature :	259	°F
9. Actual Volumetric Flow Rate :	0	acfm
10. Percent Water Vapor :		%
11. Maximum Dry Standard Flow Rate :		dscfm
12. Nonstack Emission Point Height :	120	feet
13. Emission Point UTM Coordinates : Zone : 16 East (km) : 713.799 North (km) : 3,369.490		
14. Emission Point Comment : The Flowrate is 170,973 acfm for each stack. The UTM's above are for one stack, and the UTM's for the second identical stack is 713.898 east, and 3369.574 north		

F. SEGMENT (PROCESS/FUEL) INFORMATION

Emissions Unit Information Section 1

Five Flake Dryers

Segment Description and Rate : Segment 1

1. Segment Description (Process/Fuel Type and Associated Operating Method/Mode) : Oven dried ton of wood material processed in the flake dryers.	
2. Source Classification Code (SCC) : 30701001	
3. SCC Units : Tons Processed	
4. Maximum Hourly Rate : 0.00	5. Maximum Annual Rate : 550,216.00
6. Estimated Annual Activity Factor :	
7. Maximum Percent Sulfur :	8. Maximum Percent Ash :
9. Million Btu per SCC Unit : 0	
10. Segment Comment : The values are for all five Flake Dryers	

G. EMISSIONS UNIT POLLUTANTS
(Regulated and Unregulated Emissions Units)

Emissions Unit Information Section 1
Five Flake Dryers

1. Pollutant Emitted	2. Primary Control Device Code	3. Secondary Control Device Code	4. Pollutant Regulatory Code
1 - CO	099		NS
2 - NOX	024		NS
3 - PM	009	099	NS
4 - PM10	009	099	NS
5 - VOC	099		NS
6 - H095	099		NS
7 - SO2			NS

H. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION
(Regulated Emissions Units Only - Emissions Limited Pollutants Only)

Emissions Unit Information Section 1

Five Flake Dryers

Pollutant Potential/Estimated Emissions : Pollutant 1

1. Pollutant Emitted : **CO**

2. Total Percent Efficiency of Control : 75.00 %

3. Potential Emissions :
   33.6000000 lb/hour 147.1500000 tons/year

4. Synthetically Limited?
   [ ] Yes [X] No

5. Range of Estimated Fugitive/Other Emissions:
   to tons/year

6. Emissions Factor Units
   Reference :

7. Emissions Method Code : 1

8. Calculations of Emissions :

   See attachment B. CO emissions come from both the wood fuel burners and the drying of the flakes themselves.

9. Pollutant Potential/Estimated Emissions Comment :

H. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION
(Regulated Emissions Units Only - Emissions Limited Pollutants Only)

Emissions Unit Information Section 1

Five Flake Dryers

Pollutant Potential/Estimated Emissions : Pollutant 2

1. Pollutant Emitted : **NOX**
2. Total Percent Efficiency of Control : %
3. Potential Emissions : 73.3000000 lb/hour 321.0500000 tons/year
4. Synthetically Limited? [ ] Yes [X] No
5. Range of Estimated Fugitive/Other Emissions: to tons/year
6. Emissions Factor Units Reference :
7. Emissions Method Code : 1
8. Calculations of Emissions : See Attachment B.
9. Pollutant Potential/Estimated Emissions Comment : NOx is added from the thermal oil heater burners and the RTO burners to the NOx from the dryers' burners.

H. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION
(Regulated Emissions Units Only - Emissions Limited Pollutants Only)

Emissions Unit Information Section 1

Five Flake Dryers

Pollutant Potential/Estimated Emissions : Pollutant 3

1. Pollutant Emitted : **PM**	
2. Total Percent Efficiency of Control : 90.00 %	
3. Potential Emissions : 74.4500000 lb/hour	326.1000000 tons/year
4. Synthetically Limited? [ ] Yes [X] No	
5. Range of Estimated Fugitive/Other Emissions: to	tons/year
6. Emissions Factor Units Reference :	
7. Emissions Method Code : 1	
8. Calculations of Emissions : See Attachment B	
9. Pollutant Potential/Estimated Emissions Comment : PM values above are for all five dryers and the thermal oil heater burners exhaust through the multiclones and RTO's. The combined efficiency of 90% from the multiclone and 33.3% from the RTO is 85%.	

H. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION

(Regulated Emissions Units Only - Emissions Limited Pollutants Only)

Emissions Unit Information Section 1

Five Flake Dryers

H. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION
(Regulated Emissions Units Only - Emissions Limited Pollutants Only)

Emissions Unit Information Section 1

Five Flake Dryers

Pollutant Potential/Estimated Emissions : Pollutant 4

1. Pollutant Emitted : **PM10**	
2. Total Percent Efficiency of Control : 90.00 %	
3. Potential Emissions : 74.4500000 lb/hour	326.1000000 tons/year
4. Synthetically Limited? [ ] Yes [X] No	
5. Range of Estimated Fugitive/Other Emissions: to	tons/year
6. Emissions Factor Reference :	Units
7. Emissions Method Code : 1	
8. Calculations of Emissions : See Attachment B.	
9. Pollutant Potential/Estimated Emissions Comment : PM10 values above are for five dryers and the thermal oil heater burners exhaust through the multiclones and RTO's. The combined efficiency of 90% from the multiclone and 33.3% from the RTO is 85%.	

H. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION
(Regulated Emissions Units Only - Emissions Limited Pollutants Only)

Emissions Unit Information Section 1

Five Flake Dryers

H. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION
(Regulated Emissions Units Only - Emissions Limited Pollutants Only)

Emissions Unit Information Section 1

Five Flake Dryers

Pollutant Potential/Estimated Emissions : Pollutant 5

1. Pollutant Emitted : **VOC**	
2. Total Percent Efficiency of Control : 90.00 %	
3. Potential Emissions : 126.2500000 lb/hour	553.0000000 tons/year
4. Synthetically Limited? [ ] Yes [X] No	
5. Range of Estimated Fugitive/Other Emissions: to tons/year	
6. Emissions Factor Reference :	Units
7. Emissions Method Code : 1	
8. Calculations of Emissions : See Attachment B.	
9. Pollutant Potential/Estimated Emissions Comment : VOC emissions come from the wood fuel burners (Dryers and Thermal Oil System) and from the drying of the wood.	

H. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION
(Regulated Emissions Units Only - Emissions Limited Pollutants Only)

Emissions Unit Information Section 1

Five Flake Dryers

Pollutant Potential/Estimated Emissions : Pollutant 6

1. Pollutant Emitted : **H095**	
2. Total Percent Efficiency of Control : 90.00 %	
3. Potential Emissions : 1.8500000 lb/hour	8.1000000 tons/year
4. Synthetically Limited? [ ] Yes [X] No	
5. Range of Estimated Fugitive/Other Emissions: to	tons/year
6. Emissions Factor Reference :	Units
7. Emissions Method Code : 1	
8. Calculations of Emissions : See Attachment B.	
9. Pollutant Potential/Estimated Emissions Comment : Formaldehyde emissions come from the wood fuel burners (Dryers and Thermal Oil System) and from the drying of the wood.	

H. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION
(Regulated Emissions Units Only - Emissions Limited Pollutants Only)

Emissions Unit Information Section 1

Five Flake Dryers

Pollutant Potential/Estimated Emissions : Pollutant 7

1. Pollutant Emitted : **SO2**			
2. Total Percent Efficiency of Control :	%		
3. Potential Emissions :	2.3000000 lb/hour		10.2000000 tons/year
4. Synthetically Limited? [ ] Yes [X] No			
5. Range of Estimated Fugitive/Other Emissions:		to	tons/year
6. Emissions Factor 0 Reference : AP-42		Units lb/ton	
7. Emissions Method Code : 3			
8. Calculations of Emissions : See Attachment B.			
9. Pollutant Potential/Estimated Emissions Comment : SO2 comes from the burning of wood (dryers and thermal oil system.) Emission factor is 0.075 lb/ton.			

H. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION
(Regulated Emissions Units Only - Emissions Limited Pollutants Only)

Emissions Unit Information Section 1

Five Flake Dryers

Pollutant Potential/Estimated Emissions : Pollutant 7

1. Pollutant Emitted : **SO2**	
2. Total Percent Efficiency of Control :	%
3. Potential Emissions : 2.3000000 lb/hour	10.2000000 tons/year
4. Synthetically Limited? [ ] Yes [X] No	
5. Range of Estimated Fugitive/Other Emissions:	to tons/year
6. Emissions Factor 0 Reference : AP-42	Units lb/ton
7. Emissions Method Code : 3	
8. Calculations of Emissions : See Attachment B.	
9. Pollutant Potential/Estimated Emissions Comment : SO2 comes from the burning of wood (dryers and thermal oil system.)	

I. VISIBLE EMISSIONS INFORMATION
(Regulated Emissions Units Only)

Emissions Unit Information Section 1
Five Flake Dryers

Visible Emissions Limitation : Visible Emissions Limitation 1

1. Visible Emissions Subtype : 20	
2. Basis for Allowable Opacity : RULE	
3. Requested Allowable Opacity : Normal Conditions : 20 % Exceptional Conditions : 40 % Maximum Period of Excess Opacity Allowed : 2 min/hour	
4. Method of Compliance : Annual Method 9 Test	
5. Visible Emissions Comment : 62-296.320(4)(b) F.A.C.	

K. PREVENTION OF SIGNIFICANT DETERIORATION (PSD) INCREMENT TRACKING INFORMATION

Emissions Unit Information Section 1

Five Flake Dryers

PSD Increment Consumption Determination

1. Increment Consuming for Particulate Matter or Sulfur Dioxide?

[X] The emissions unit is undergoing PSD review as part of this application, or has undergone PSD review previously, for particulate matter or sulfur dioxide. If so, emissions unit consumes increment.

[ ] The facility addressed in this application is classified as an EPA major source pursuant to paragraph (c) of the definition of "major source of air pollution" in Chapter 62-213, F.A.C., and the emissions unit addressed in this section commenced (or will commence) construction after January 6, 1975. If so, baseline emissions are zero, and emissions unit consumes increment.

[ ] The facility addressed in this application is classified as an EPA major source, and the emissions unit began initial operation after January 6, 1975, but before December 27, 1977. If so, baseline emissions are zero, and emissions unit consumes increment.

[ ] For any facility, the emissions unit began (or will begin) initial operation after December 27, 1977. If so, baseline emissions are zero, and emissions unit consumes increment.

[ ] None of the above apply. If so, the baseline emissions of the emissions unit are nonzero. In such case, additional analysis, beyond the scope of this application, is needed to determine whether changes in emissions have occurred (or will occur) after the baseline date that may consume or expand increment.

2. Increment Consuming for Nitrogen Dioxide?

[X] The emissions unit addressed in this section is undergoing PSD review as part of this application, or has undergone PSD review previously, for nitrogen dioxide. If so, emissions unit consumes increment.

[ ] The facility addressed in this application is classified as an EPA major source pursuant to paragraph (c) of the definition of "major source of air pollution" in Chapter 62-213, F.A.C., and the emissions unit addressed in this section commenced (or will commence) construction after February 8, 1988. If so, baseline emissions are zero, and emissions unit consumes increment.

[ ] The facility addressed in this application is classified as an EPA major source, and the emissions unit began initial operation after February 8, 1988, but before March 28, 1988. If so, baseline emissions are zero, and emissions unit consumes increment.

[ ] For any facility, the emissions unit began (or will begin) initial operation after March 28, 1988. If so, baseline emissions are zero, and emissions unit consumes increment.

[ ] None of the above apply. If so, baseline emissions of the emissions unit are nonzero. In such case, additional analysis, beyond the scope of this application, is needed to determine whether changes in emissions have occurred (or will occur) after the baseline date that may consume or expand increment.

3. Increment Consuming/Expanding Code :		
PM : C	SO2 : C	NO2 : C
4. Baseline Emissions :		
PM :	lb/hour	tons/year
SO2 :	lb/hour	tons/year
NO2 :		tons/year
5. PSD Comment :		

L. EMISSIONS UNIT SUPPLEMENTAL INFORMATION

Emissions Unit Information Section 1

Five Flake Dryers

Supplemental Requirements for All Applications

1. Process Flow Diagram :	Fig. 3-4a, 3-4b
2. Fuel Analysis or Specification :	NA
3. Detailed Description of Control Equipment :	Attachment G
4. Description of Stack Sampling Facilities :	NA
5. Compliance Test Report :	NA
6. Procedures for Startup and Shutdown :	NA
7. Operation and Maintenance Plan :	NA
8. Supplemental Information for Construction Permit Application :	Enclosed Report
9. Other Information Required by Rule or Statue :	NA

Additional Supplemental Requirements for Category I Applications Only

10. Alternative Methods of Operations :	
11. Alterntive Modes of Operation (Emissions Trading) :	

12. Identification of Additional Applicable Requirements :
13. Compliance Assurance Monitoring Plan :
14. Acid Rain Application (Hard-copy Required) : Acid Rain Part - Phase II (Form No. 62-210.900(1)(a)) Repowering Extension Plan (Form No. 62-210.900(1)(a)1.) New Unit Exemption (Form No. 62-210.900(1)(a)2.) Retired Unit Exemption (Form No. 62-210.900(1)(a)3.)

III. EMISSIONS UNIT INFORMATION

A. TYPE OF EMISSIONS UNIT
(Regulated and Unregulated Emissions Units)

Emissions Unit Information Section 2

Panel Press

Type of Emissions Unit Addressed in This Section

1. Regulated or Unregulated Emissions Unit? Check one :

   [X] The emissions unit addressed in this Emissions Unit Information Section is a regulated emissions unit.

   [ ] The emissions unit addressed in this Emissions Unit Information Section is an unregulated emissions unit.

2. Single Process, Group of Processes, or Fugitive Only? Check one :

   [X] This Emissions Unit Information Section addresses, as a single emissions unit, a single process or production unit, or activity, which produces one or more air pollutants and which has at least one definable emission point (stack or vent).

   [ ] This Emissions Unit Information Section addresses, as a single emissions unit, a group of process or production units and activities which has at least one definable emission point (stack or vent) but may also produce fugitive emissions.

   [ ] This Emissions Unit Information Section addresses, as a single emissions unit, one or more process or production units and activities which produce fugitive emissions only.

B. GENERAL EMISSIONS UNIT INFORMATION
(Regulated and Unregulated Emissions Units)

Emissions Unit Description and Status

1. Description of Emissions Unit Addressed in This Section : Panel Press		
2. Emissions Unit Identification Number : 002 [ ] No Corresponding ID [ ] Unknown		
3. Emissions Unit Status Code : C	4. Acid Rain Unit? [ ] Yes [X] No	5. Emissions Unit Major Group SIC Code : 24
6. Emissions Unit Comment : The press shall have 16 openings to press an 8' x 24' mat of wood flakes. Panel press is controlled by an RTO.		

Emissions Unit Information Section 2

Panel Press

Emissions Unit Control Equipment 1

1. Description : One RTO for the press emission unit.	
2. Control Device or Method Code :	99

C. EMISSIONS UNIT DETAIL INFORMATION
(Regulated Emissions Units Only)

Emissions Unit Information Section 2

Panel Press

Emissions Unit Details

1. Initial Startup Date :	01-Aug-2000		
2. Long-term Reserve Shutdown Date :			
3. Package Unit : Manufacturer :		Model Number :	
4. Generator Nameplate Rating :	MW		
5. Incinerator Information :			
Dwell Temperature :	0	Degrees Fahrenheit	
Dwell Time :	0.00	Seconds	
Incinerator Afterburner Temperature :		Degrees Fahrenheit	

Emissions Unit Operating Capacity

1. Maximum Heat Input Rate :	0	mmBtu/hr	
2. Maximum Incinerator Rate :		lb/hr	tons/day
3. Maximum Process or Throughput Rate :	0		
4. Maximum Production Rate :	475	mmsf/yr (3/8 in	
5. Operating Capacity Comment : The value is for two presses.			

Emissions Unit Operating Schedule

Requested Maximum Operating Schedule :			
24	hours/day	7	days/week
52	weeks/year	8,760	hours/year

D. EMISSIONS UNIT REGULATIONS
(Regulated Emissions Units Only)

Emissions Unit Information Section 2

Panel Press

Rule Applicability Analysis

E. EMISSION POINT (STACK/VENT) INFORMATION

Emissions Unit Information Section 2

Panel Press

Emission Point Description and Type :

1. Identification of Point on Plot Plan or Flow Diagram : 2		
2. Emission Point Type Code : 1		
3. Descriptions of Emission Points Comprising this Emissions Unit for VE Tracking : (limit to 100 characters per point)		
4. ID Numbers or Descriptions of Emission Units with this Emission Point in Common : Panel press vents to an RTO.		
5. Discharge Type Code :	V	
6. Stack Height :	100	feet
7. Exit Diameter :	7.2	feet
8. Exit Temperature :	154	°F
9. Actual Volumetric Flow Rate :	0	acfm
10. Percent Water Vapor :	0.00	%
11. Maximum Dry Standard Flow Rate :	0	dscfm
12. Nonstack Emission Point Height :	0	feet
13. Emission Point UTM Coordinates : Zone : 16 East (km) : 713.731	North (km) : 3369.574	

14. Emission Point Comment :

The flowrate is 146,551 acfm

F. SEGMENT (PROCESS/FUEL) INFORMATION

Emissions Unit Information Section 2

Panel Press

Segment Description and Rate : Segment 1

1. Segment Description (Process/Fuel Type and Associated Operating Method/Mode) : Press operation	
2. Source Classification Code (SCC) : 30701053	
3. SCC Units : Thousand Units Produced or Manufactured	
4. Maximum Hourly Rate : 0.00	5. Maximum Annual Rate : 475,000.00
6. Estimated Annual Activity Factor :	
7. Maximum Percent Sulfur :	8. Maximum Percent Ash :
9. Million Btu per SCC Unit :	
10. Segment Comment : Units are 1000 square feet of board produced.	

G. EMISSIONS UNIT POLLUTANTS
(Regulated and Unregulated Emissions Units)

Emissions Unit Information Section 2

Panel Press

1. Pollutant Emitted	2. Primary Control Device Code	3. Secondary Control Device Code	4. Pollutant Regulatory Code
1 - CO	099		NS
2 - NOX	024		NS
3 - PM	099		NS
4 - PM10	099		NS
5 - VOC	099		NS
6 - H095	099		NS

H. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION
(Regulated Emissions Units Only - Emissions Limited Pollutants Only)

Emissions Unit Information Section 2

Panel Press

Pollutant Potential/Estimated Emissions : Pollutant 1

1. Pollutant Emitted : **CO**	
2. Total Percent Efficiency of Control : 75.00 %	
3. Potential Emissions : 7.2500000 lb/hour	31.7600000 tons/year
4. Synthetically Limited? [ ] Yes [X] No	
5. Range of Estimated Fugitive/Other Emissions: to	tons/year
6. Emissions Factor Units Reference :	
7. Emissions Method Code : 1	
8. Calculations of Emissions : See Attachment B.	
9. Pollutant Potential/Estimated Emissions Comment :	

H. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION
(Regulated Emissions Units Only - Emissions Limited Pollutants Only)

Emissions Unit Information Section 2

Panel Press

Pollutant Potential/Estimated Emissions : Pollutant 2

1. Pollutant Emitted : **NOX**	
2. Total Percent Efficiency of Control : %	
3. Potential Emissions : 10.7300000 lb/hour	47.0000000 tons/year
4. Synthetically Limited? [ ] Yes [X] No	
5. Range of Estimated Fugitive/Other Emissions: to	tons/year
6. Emissions Factor Units Reference :	
7. Emissions Method Code : 1	
8. Calculations of Emissions : See Attachment B	
9. Pollutant Potential/Estimated Emissions Comment :	

H. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION
(Regulated Emissions Units Only - Emissions Limited Pollutants Only)

Emissions Unit Information Section 2

Panel Press

Pollutant Potential/Estimated Emissions : Pollutant 3

1. Pollutant Emitted : **PM**	
2. Total Percent Efficiency of Control : 75.00 %	
3. Potential Emissions : 2.8300000 lb/hour	12.4000000 tons/year
4. Synthetically Limited? [ ] Yes [X] No	
5. Range of Estimated Fugitive/Other Emissions: to	tons/year
6. Emissions Factor Units Reference :	
7. Emissions Method Code : 1	
8. Calculations of Emissions : See Attachment B.	
9. Pollutant Potential/Estimated Emissions Comment :	

H. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION
(Regulated Emissions Units Only - Emissions Limited Pollutants Only)

Emissions Unit Information Section 2

Panel Press

Pollutant Potential/Estimated Emissions : Pollutant 4

1. Pollutant Emitted : **PM10**	
2. Total Percent Efficiency of Control : 75.00 %	
3. Potential Emissions : 2.8300000 lb/hour	12.4000000 tons/year
4. Synthetically Limited? [ ] Yes [X] No	
5. Range of Estimated Fugitive/Other Emissions: to	tons/year
6. Emissions Factor Reference :	Units
7. Emissions Method Code : 1	
8. Calculations of Emissions : See Attachment B.	
9. Pollutant Potential/Estimated Emissions Comment :	

H. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION
(Regulated Emissions Units Only - Emissions Limited Pollutants Only)

Emissions Unit Information Section 2

Panel Press

Pollutant Potential/Estimated Emissions : Pollutant 5

1. Pollutant Emitted : **VOC**	
2. Total Percent Efficiency of Control : 90.00 %	
3. Potential Emissions : 20.0500000 lb/hour	87.8200000 tons/year
4. Synthetically Limited? [ ] Yes [X] No	
5. Range of Estimated Fugitive/Other Emissions: to	tons/year
6. Emissions Factor Units Reference :	
7. Emissions Method Code : 1	
8. Calculations of Emissions : See Attachment B.	
9. Pollutant Potential/Estimated Emissions Comment :	

H. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION
(Regulated Emissions Units Only - Emissions Limited Pollutants Only)

Emissions Unit Information Section 2

Panel Press

Pollutant Potential/Estimated Emissions : Pollutant 6

1. Pollutant Emitted : **H095**			
2. Total Percent Efficiency of Control : 90.00 %			
3. Potential Emissions :	0.2400000 lb/hour		1.0500000 tons/year
4. Synthetically Limited? [ ] Yes [X] No			
5. Range of Estimated Fugitive/Other Emissions:		to	tons/year
6. Emissions Factor Reference :		Units	
7. Emissions Method Code : 1			
8. Calculations of Emissions : See Attachment B			
9. Pollutant Potential/Estimated Emissions Comment :			

I. VISIBLE EMISSIONS INFORMATION
(Regulated Emissions Units Only)

Emissions Unit Information Section 2
Panel Press

Visible Emissions Limitation : Visible Emissions Limitation 1

1. Visible Emissions Subtype :	20		
2. Basis for Allowable Opacity :	RULE		
3. Requested Allowable Opacity :			
Normal Conditions :		20	%
Exceptional Conditions :		40	%
Maximum Period of Excess Opacity Allowed :		2	min/hour
4. Method of Compliance :			
Annual Method 9 Test			
5. Visible Emissions Comment :			
62-296.320(4)(b) F.A.C.			

K. PREVENTION OF SIGNIFICANT DETERIORATION (PSD) INCREMENT TRACKING INFORMATION

Emissions Unit Information Section 2

Panel Press

PSD Increment Consumption Determination

1. Increment Consuming for Particulate Matter or Sulfur Dioxide?

[X] The emissions unit is undergoing PSD review as part of this application, or has undergone PSD review previously, for particulate matter or sulfur dioxide. If so, emissions unit consumes increment.

[ ] The facility addressed in this application is classified as an EPA major source pursuant to paragraph (c) of the definition of "major source of air pollution" in Chapter 62-213, F.A.C., and the emissions unit addressed in this section commenced (or will commence) construction after January 6, 1975. If so, baseline emissions are zero, and emissions unit consumes increment.

[ ] The facility addressed in this application is classified as an EPA major source, and the emissions unit began initial operation after January 6, 1975, but before December 27, 1977. If so, baseline emissions are zero, and emissions unit consumes increment.

[ ] For any facility, the emissions unit began (or will begin) initial operation after December 27, 1977. If so, baseline emissions are zero, and emissions unit consumes increment.

[ ] None of the above apply. If so, the baseline emissions of the emissions unit are nonzero. In such case, additional analysis, beyond the scope of this application, is needed to determine whether changes in emissions have occurred (or will occur) after the baseline date that may consume or expand increment.

2. Increment Consuming for Nitrogen Dioxide?

[X] The emissions unit addressed in this section is undergoing PSD review as part of this application, or has undergone PSD review previously, for nitrogen dioxide. If so, emissions unit consumes increment.

[ ] The facility addressed in this application is classified as an EPA major source pursuant to paragraph (c) of the definition of "major source of air pollution" in Chapter 62-213, F.A.C., and the emissions unit addressed in this section commenced (or will commence) construction after February 8, 1988. If so, baseline emissions are zero, and emissions unit consumes increment.

[ ] The facility addressed in this application is classified as an EPA major source, and the emissions unit began initial operation after February 8, 1988, but before March 28, 1988. If so, baseline emissions are zero, and emissions unit consumes increment.

[ ] For any facility, the emissions unit began (or will begin) initial operation after March 28, 1988. If so, baseline emissions are zero, and emissions unit consumes increment.

[ ] None of the above apply. If so, baseline emissions of the emissions unit are nonzero. In such case, additional analysis, beyond the scope of this application, is needed to determine whether changes in emissions have occurred (or will occur) after the baseline date that may consume or expand increment.

3. Increment Consuming/Expanding Code :					
PM :	C	SO2 :	U	NO2 :	C

4. Baseline Emissions :		
PM :	lb/hour	tons/year
SO2 :	lb/hour	tons/year
NO2 :		tons/year
5. PSD Comment :		

L. EMISSIONS UNIT SUPPLEMENTAL INFORMATION

Emissions Unit Information Section 2

Panel Press

Supplemental Requirements for All Applications

1. Process Flow Diagram :	Fig. 3-4a, 3-4
2. Fuel Analysis or Specification :	NA
3. Detailed Description of Control Equipment :	Attachment G
4. Description of Stack Sampling Facilities :	NA
5. Compliance Test Report :	NA
6. Procedures for Startup and Shutdown :	NA
7. Operation and Maintenance Plan :	NA
8. Supplemental Information for Construction Permit Application :	Enclosed Report
9. Other Information Required by Rule or Statue :	NA

Additional Supplemental Requirements for Category I Applications Only

10. Alternative Methods of Operations :
11. Alterntive Modes of Operation (Emissions Trading) :

12. Identification of Additional Applicable Requirements :
13. Compliance Assurance Monitoring Plan :
14. Acid Rain Application (Hard-copy Required) : Acid Rain Part - Phase II (Form No. 62-210.900(1)(a)) Repowering Extension Plan (Form No. 62-210.900(1)(a)1.) New Unit Exemption (Form No. 62-210.900(1)(a)2.) Retired Unit Exemption (Form No. 62-210.900(1)(a)3.)

III. EMISSIONS UNIT INFORMATION

A. TYPE OF EMISSIONS UNIT
(Regulated and Unregulated Emissions Units)

Emissions Unit Information Section ___3___

Screen Fines with Saw Trim Transfer

Type of Emissions Unit Addressed in This Section

1. Regulated or Unregulated Emissions Unit? Check one :

[X] The emissions unit addressed in this Emissions Unit Information Section is a regulated emissions unit.

[ ] The emissions unit addressed in this Emissions Unit Information Section is an unregulated emissions unit.

2. Single Process, Group of Processes, or Fugitive Only? Check one :

[X] This Emissions Unit Information Section addresses, as a single emissions unit, a single process or production unit, or activity, which produces one or more air pollutants and which has at least one definable emission point (stack or vent).

[ ] This Emissions Unit Information Section addresses, as a single emissions unit, a group of process or production units and activities which has at least one definable emission point (stack or vent) but may also produce fugitive emissions.

[ ] This Emissions Unit Information Section addresses, as a single emissions unit, one or more process or production units and activities which produce fugitive emissions only.

Emissions Unit Information Section 3

B. GENERAL EMISSIONS UNIT INFORMATION
(Regulated and Unregulated Emissions Units)

Emissions Unit Description and Status

1. Description of Emissions Unit Addressed in This Section : Screen Fines with Saw Trim Transfer		
2. Emissions Unit Identification Number : 003 [ ] No Corresponding ID [ ] Unknown		
3. Emissions Unit Status Code : C	4. Acid Rain Unit? [ ] Yes [X] No	5. Emissions Unit Major Group SIC Code : 24
6. Emissions Unit Comment : Source controlled by a bagfilter.		

Emissions Unit Information Section 3

Screen Fines with Saw Trim Transfer

Emissions Unit Control Equipment 1

1. Description : Screen fines receiver/baghouse. The one device acts as a bagfilter and also cyclone in one piece of equipment.	
2. Control Device or Method Code :	18

C. EMISSIONS UNIT DETAIL INFORMATION
(Regulated Emissions Units Only)

Emissions Unit Information Section 3

Screen Fines with Saw Trim Transfer

Emissions Unit Details

1. Initial Startup Date :	01-Aug-2000	
2. Long-term Reserve Shutdown Date :		
3. Package Unit : Manufacturer : MAC		Model Number : 144 MCF 153
4. Generator Nameplate Rating :	MW	
5. Incinerator Information : Dwell Temperature : Dwell Time : Incinerator Afterburner Temperature :		 Degrees Fahrenheit Seconds Degrees Fahrenheit

Emissions Unit Operating Capacity

1. Maximum Heat Input Rate :	mmBtu/hr	
2. Maximum Incinerator Rate :	lb/hr	tons/day
3. Maximum Process or Throughput Rate :	26	thousand lb/hr
4. Maximum Production Rate :		
5. Operating Capacity Comment : Throughput is based on 5 (sawtrim) & 21.3 (screen fines) thousand pounds /hour.		

Emissions Unit Operating Schedule

Requested Maximum Operating Schedule :		
	24 hours/day	7 days/week
	52 weeks/year	8,760 hours/year

D. EMISSIONS UNIT REGULATIONS
(Regulated Emissions Units Only)

Emissions Unit Information Section 3

Screen Fines with Saw Trim Transfer

Rule Applicability Analysis

E. EMISSION POINT (STACK/VENT) INFORMATION

Emissions Unit Information Section 3

Screen Fines with Saw Trim Transfer

Emission Point Description and Type :

1. Identification of Point on Plot Plan or Flow Diagram : 003		
2. Emission Point Type Code : 1		
3. Descriptions of Emission Points Comprising this Emissions Unit for VE Tracking : (limit to 100 characters per point)		
4. ID Numbers or Descriptions of Emission Units with this Emission Point in Common :		
5. Discharge Type Code :	V	
6. Stack Height :	110	feet
7. Exit Diameter :	2.3	feet
8. Exit Temperature :	70	°F
9. Actual Volumetric Flow Rate :	13171	acfm
10. Percent Water Vapor :	0.00	%
11. Maximum Dry Standard Flow Rate :	0	dscfm
12. Nonstack Emission Point Height :	0	feet
13. Emission Point UTM Coordinates : Zone : 16 East (km) : 713.861 North (km) : 3369.583		

14. Emission Point Comment :

F. SEGMENT (PROCESS/FUEL) INFORMATION

Emissions Unit Information Section 3

Screen Fines with Saw Trim Transfer

Segment Description and Rate : Segment 1

1. Segment Description (Process/Fuel Type and Associated Operating Method/Mode) : Sawtrim and fines processed, in tons.	
2. Source Classification Code (SCC) : 30700799	
3. SCC Units : Tons Processed	
4. Maximum Hourly Rate : 13.10	5. Maximum Annual Rate : 114,953.00
6. Estimated Annual Activity Factor :	
7. Maximum Percent Sulfur :	8. Maximum Percent Ash :
9. Million Btu per SCC Unit :	
10. Segment Comment : Sawtrim =4.9 Mlb/hr screen fines = 21.3 Mlb/hr SCC based on SIC code 2493- other- tons processed	

G. EMISSIONS UNIT POLLUTANTS
(Regulated and Unregulated Emissions Units)

Emissions Unit Information Section 3

Screen Fines with Saw Trim Transfer

1. Pollutant Emitted	2. Primary Control Device Code	3. Secondary Control Device Code	4. Pollutant Regulatory Code
1 - PM	018		NS
2 - PM10	018		NS

H. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION
(Regulated Emissions Units Only - Emissions Limited Pollutants Only)

Emissions Unit Information Section 3

Screen Fines with Saw Trim Transfer

Pollutant Potential/Estimated Emissions : Pollutant 1

1. Pollutant Emitted : **PM**	
2. Total Percent Efficiency of Control : 99.90 %	
3. Potential Emissions : 2.1000000 lb/hour	9.2000000 tons/year
4. Synthetically Limited? [ ] Yes [X] No	
5. Range of Estimated Fugitive/Other Emissions: to	tons/year
6. Emissions Factor Reference :	Units
7. Emissions Method Code : 2	
8. Calculations of Emissions : See Attachment B.	
9. Pollutant Potential/Estimated Emissions Comment : Actual efficiency estimated at 99.96%.	

H. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION
(Regulated Emissions Units Only - Emissions Limited Pollutants Only)

Emissions Unit Information Section 3

Screen Fines with Saw Trim Transfer

Pollutant Potential/Estimated Emissions : Pollutant 2

1. Pollutant Emitted : **PM10**	
2. Total Percent Efficiency of Control : 99.90 %	
3. Potential Emissions : 2.1000000 lb/hour	9.2000000 tons/year
4. Synthetically Limited? [ ] Yes [X] No	
5. Range of Estimated Fugitive/Other Emissions: to	tons/year
6. Emissions Factor Units Reference :	
7. Emissions Method Code : 2	
8. Calculations of Emissions : See Attachment B.	
9. Pollutant Potential/Estimated Emissions Comment : Actual efficiency estimated at 99.96%.	

I. VISIBLE EMISSIONS INFORMATION
(Regulated Emissions Units Only)

Emissions Unit Information Section 3
Screen Fines with Saw Trim Transfer

Visible Emissions Limitation : Visible Emissions Limitation 1

1. Visible Emissions Subtype :	20		
2. Basis for Allowable Opacity :	RULE		
3. Requested Allowable Opacity :			
Normal Conditions :		20	%
Exceptional Conditions :		40	%
Maximum Period of Excess Opacity Allowed :		2	min/hour
4. Method of Compliance : Annual Method 9 test			
5. Visible Emissions Comment : 62-296.320(4)(b) F.A.C.			

K. PREVENTION OF SIGNIFICANT DETERIORATION (PSD) INCREMENT TRACKING INFORMATION

Emissions Unit Information Section 3

Screen Fines with Saw Trim Transfer

PSD Increment Consumption Determination

1. Increment Consuming for Particulate Matter or Sulfur Dioxide?

[X] The emissions unit is undergoing PSD review as part of this application, or has undergone PSD review previously, for particulate matter or sulfur dioxide. If so, emissions unit consumes increment.

[ ] The facility addressed in this application is classified as an EPA major source pursuant to paragraph (c) of the definition of "major source of air pollution" in Chapter 62-213, F.A.C., and the emissions unit addressed in this section commenced (or will commence) construction after January 6, 1975. If so, baseline emissions are zero, and emissions unit consumes increment.

[ ] The facility addressed in this application is classified as an EPA major source, and the emissions unit began initial operation after January 6, 1975, but before December 27, 1977. If so, baseline emissions are zero, and emissions unit consumes increment.

[ ] For any facility, the emissions unit began (or will begin) initial operation after December 27, 1977. If so, baseline emissions are zero, and emissions unit consumes increment.

[ ] None of the above apply. If so, the baseline emissions of the emissions unit are nonzero. In such case, additional analysis, beyond the scope of this application, is needed to determine whether changes in emissions have occurred (or will occur) after the baseline date that may consume or expand increment.

2. Increment Consuming for Nitrogen Dioxide?

[ ] The emissions unit addressed in this section is undergoing PSD review as part of this application, or has undergone PSD review previously, for nitrogen dioxide. If so, emissions unit consumes increment.

[ ] The facility addressed in this application is classified as an EPA major source pursuant to paragraph (c) of the definition of "major source of air pollution" in Chapter 62-213, F.A.C., and the emissions unit addressed in this section commenced (or will commence) construction after February 8, 1988. If so, baseline emissions are zero, and emissions unit consumes increment.

[ ] The facility addressed in this application is classified as an EPA major source, and the emissions unit began initial operation after February 8, 1988, but before March 28, 1988. If so, baseline emissions are zero, and emissions unit consumes increment.

[ ] For any facility, the emissions unit began (or will begin) initial operation after March 28, 1988. If so, baseline emissions are zero, and emissions unit consumes increment.

[ ] None of the above apply. If so, baseline emissions of the emissions unit are nonzero. In such case, additional analysis, beyond the scope of this application, is needed to determine whether changes in emissions have occurred (or will occur) after the baseline date that may consume or expand increment.

3. Increment Consuming/Expanding Code :		
PM : C	SO2 : U	NO2 : U
4. Baseline Emissions :		
PM :	lb/hour	tons/year
SO2 :	lb/hour	tons/year
NO2 :		tons/year
5. PSD Comment :		
Unit only emits PM.		

L. EMISSIONS UNIT SUPPLEMENTAL INFORMATION

Emissions Unit Information Section 3

Screen Fines with Saw Trim Transfer

Supplemental Requirements for All Applications

1. Process Flow Diagram :	Fig. 3-4a, 3-4b
2. Fuel Analysis or Specification :	Attachment G.
3. Detailed Description of Control Equipment :	NA
4. Description of Stack Sampling Facilities :	NA
5. Compliance Test Report :	NA
6. Procedures for Startup and Shutdown :	NA
7. Operation and Maintenance Plan :	NA
8. Supplemental Information for Construction Permit Application :	Enclosed Report
9. Other Information Required by Rule or Statue :	NA

Additional Supplemental Requirements for Category I Applications Only

10. Alternative Methods of Operations :
11. Alterntive Modes of Operation (Emissions Trading) :

12. Identification of Additional Applicable Requirements :
13. Compliance Assurance Monitoring Plan :
14. Acid Rain Application (Hard-copy Required) : Acid Rain Part - Phase II (Form No. 62-210.900(1)(a)) Repowering Extension Plan (Form No. 62-210.900(1)(a)1.) New Unit Exemption (Form No. 62-210.900(1)(a)2.) Retired Unit Exemption (Form No. 62-210.900(1)(a)3.)

III. EMISSIONS UNIT INFORMATION

A. TYPE OF EMISSIONS UNIT
(Regulated and Unregulated Emissions Units)

Emissions Unit Information Section 4

Saw Trim/Finishing

Type of Emissions Unit Addressed in This Section

1. Regulated or Unregulated Emissions Unit? Check one :

   [X] The emissions unit addressed in this Emissions Unit Information Section is a regulated emissions unit.

   [ ] The emissions unit addressed in this Emissions Unit Information Section is an unregulated emissions unit.

2. Single Process, Group of Processes, or Fugitive Only? Check one :

   [X] This Emissions Unit Information Section addresses, as a single emissions unit, a single process or production unit, or activity, which produces one or more air pollutants and which has at least one definable emission point (stack or vent).

   [ ] This Emissions Unit Information Section addresses, as a single emissions unit, a group of process or production units and activities which has at least one definable emission point (stack or vent) but may also produce fugitive emissions.

   [ ] This Emissions Unit Information Section addresses, as a single emissions unit, one or more process or production units and activities which produce fugitive emissions only.

B. GENERAL EMISSIONS UNIT INFORMATION
(Regulated and Unregulated Emissions Units)

<u>Emissions Unit Description and Status</u>

1. Description of Emissions Unit Addressed in This Section : Saw Trim/Finishing		
2. Emissions Unit Identification Number : 004 [ ] No Corresponding ID [ ] Unknown		
3. Emissions Unit Status Code : C	4. Acid Rain Unit? [ ] Yes [X] No	5. Emissions Unit Major Group SIC Code : 24
6. Emissions Unit Comment : Source controlled by a bagfilter		

Emissions Unit Information Section 4

Saw Trim/Finishing

Emissions Unit Control Equipment 1

1. Description : Saw Trim /Finishing Line receiver/baghouse. The one device acts as a bagfilter and also cyclone in one piece of equipment.	
2. Control Device or Method Code :	18

C. EMISSIONS UNIT DETAIL INFORMATION
(Regulated Emissions Units Only)

Emissions Unit Information Section 4
Saw Trim/Finishing

Emissions Unit Details

1. Initial Startup Date :	01-Aug-2000	
2. Long-term Reserve Shutdown Date :		
3. Package Unit : Manufacturer : MAC		Model Number : 144 MCF 361
4. Generator Nameplate Rating :	MW	
5. Incinerator Information : Dwell Temperature : Dwell Time : Incinerator Afterburner Temperature :		 Degrees Fahrenheit Seconds Degrees Fahrenheit

Emissions Unit Operating Capacity

1. Maximum Heat Input Rate :	mmBtu/hr	
2. Maximum Incinerator Rate :	lb/hr	tons/day
3. Maximum Process or Throughput Rate :	5	thousand lb/hr
4. Maximum Production Rate :		
5. Operating Capacity Comment :		

Emissions Unit Operating Schedule

Requested Maximum Operating Schedule :		
	24 hours/day	7 days/week
	52 weeks/year	8,760 hours/year

D. EMISSIONS UNIT REGULATIONS
(Regulated Emissions Units Only)

Emissions Unit Information Section 4

Saw Trim/Finishing

Rule Applicability Analysis

E. EMISSION POINT (STACK/VENT) INFORMATION

Emissions Unit Information Section 4

Saw Trim/Finishing

Emission Point Description and Type :

1. Identification of Point on Plot Plan or Flow Diagram : 004		
2. Emission Point Type Code : 1		
3. Descriptions of Emission Points Comprising this Emissions Unit for VE Tracking : (limit to 100 characters per point)		
4. ID Numbers or Descriptions of Emission Units with this Emission Point in Common :		
5. Discharge Type Code :	V	
6. Stack Height :	100	feet
7. Exit Diameter :	3.7	feet
8. Exit Temperature :	70	°F
9. Actual Volumetric Flow Rate :	30733	acfm
10. Percent Water Vapor :	0.00	%
11. Maximum Dry Standard Flow Rate :	0	dscfm
12. Nonstack Emission Point Height :	0	feet
13. Emission Point UTM Coordinates : Zone : 16 East (km) : 713.625 North (km) : 3369.465		

14. Emission Point Comment :

F. SEGMENT (PROCESS/FUEL) INFORMATION

Emissions Unit Information Section 4

Saw Trim/Finishing

<u>Segment Description and Rate :</u> Segment 1

1. Segment Description (Process/Fuel Type and Associated Operating Method/Mode) : Saw Trim /Finishing Line processed, in tons.	
2. Source Classification Code (SCC) : 30700799	
3. SCC Units : Tons Processed	
4. Maximum Hourly Rate : 2.50	5. Maximum Annual Rate : 21,510.00
6. Estimated Annual Activity Factor :	
7. Maximum Percent Sulfur :	8. Maximum Percent Ash :
9. Million Btu per SCC Unit :	
10. Segment Comment :	

G. EMISSIONS UNIT POLLUTANTS
(Regulated and Unregulated Emissions Units)

Emissions Unit Information Section 4
Saw Trim/Finishing

1. Pollutant Emitted	2. Primary Control Device Code	3. Secondary Control Device Code	4. Pollutant Regulatory Code
1 - PM	018		NS
2 - PM10	018		NS

H. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION
(Regulated Emissions Units Only - Emissions Limited Pollutants Only)

Emissions Unit Information Section 4

Saw Trim/Finishing

Pollutant Potential/Estimated Emissions : Pollutant 1

1. Pollutant Emitted : **PM**
2. Total Percent Efficiency of Control : 99.70 %
3. Potential Emissions : 2.6300000 lb/hour 11.5200000 tons/year
4. Synthetically Limited? [ ] Yes [X] No
5. Range of Estimated Fugitive/Other Emissions: to tons/year
6. Emissions Factor Units Reference :
7. Emissions Method Code : 2
8. Calculations of Emissions : See Attachment B.
9. Pollutant Potential/Estimated Emissions Comment : Control efficiency for bag filter based on air flow and grain loading (see Section 4.3 of main text) yielding a control efficiency of 99.73%.

H. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION
(Regulated Emissions Units Only - Emissions Limited Pollutants Only)

Emissions Unit Information Section 4

Saw Trim/Finishing

Pollutant Potential/Estimated Emissions : Pollutant 2

1. Pollutant Emitted : **PM10**		
2. Total Percent Efficiency of Control : 99.70 %		
3. Potential Emissions :	2.6300000 lb/hour	11.5200000 tons/year
4. Synthetically Limited? [ ] Yes [X] No		
5. Range of Estimated Fugitive/Other Emissions:	to	tons/year
6. Emissions Factor Reference :	Units	
7. Emissions Method Code : 2		
8. Calculations of Emissions : See Attachment B.		
9. Pollutant Potential/Estimated Emissions Comment : Control efficiency for bag filter based on air flow and grain loading (see Section 4.3 of main text) yielding a control efficiency of 99.73%.		

I. VISIBLE EMISSIONS INFORMATION
(Regulated Emissions Units Only)

Emissions Unit Information Section 4
Saw Trim/Finishing

Visible Emissions Limitation : Visible Emissions Limitation 1

1. Visible Emissions Subtype :	20		
2. Basis for Allowable Opacity :	RULE		
3. Requested Allowable Opacity :			
Normal Conditions :		20	%
Exceptional Conditions :		40	%
Maximum Period of Excess Opacity Allowed :		2	min/hour
4. Method of Compliance : Annual Method 9 Test			
5. Visible Emissions Comment : 62-296.320(4)(b) F.A.C.			

K. PREVENTION OF SIGNIFICANT DETERIORATION (PSD) INCREMENT TRACKING INFORMATION

Emissions Unit Information Section 4

Saw Trim/Finishing

PSD Increment Consumption Determination

1. Increment Consuming for Particulate Matter or Sulfur Dioxide?

[X] The emissions unit is undergoing PSD review as part of this application, or has undergone PSD review previously, for particulate matter or sulfur dioxide. If so, emissions unit consumes increment.

[ ] The facility addressed in this application is classified as an EPA major source pursuant to paragraph (c) of the definition of "major source of air pollution" in Chapter 62-213, F.A.C., and the emissions unit addressed in this section commenced (or will commence) construction after January 6, 1975. If so, baseline emissions are zero, and emissions unit consumes increment.

[ ] The facility addressed in this application is classified as an EPA major source, and the emissions unit began initial operation after January 6, 1975, but before December 27, 1977. If so, baseline emissions are zero, and emissions unit consumes increment.

[ ] For any facility, the emissions unit began (or will begin) initial operation after December 27, 1977. If so, baseline emissions are zero, and emissions unit consumes increment.

[ ] None of the above apply. If so, the baseline emissions of the emissions unit are nonzero. In such case, additional analysis, beyond the scope of this application, is needed to determine whether changes in emissions have occurred (or will occur) after the baseline date that may consume or expand increment.

2. Increment Consuming for Nitrogen Dioxide?

[ ] The emissions unit addressed in this section is undergoing PSD review as part of this application, or has undergone PSD review previously, for nitrogen dioxide. If so, emissions unit consumes increment.

[ ] The facility addressed in this application is classified as an EPA major source pursuant to paragraph (c) of the definition of "major source of air pollution" in Chapter 62-213, F.A.C., and the emissions unit addressed in this section commenced (or will commence) construction after February 8, 1988. If so, baseline emissions are zero, and emissions unit consumes increment.

[ ] The facility addressed in this application is classified as an EPA major source, and the emissions unit began initial operation after February 8, 1988, but before March 28, 1988. If so, baseline emissions are zero, and emissions unit consumes increment.

[ ] For any facility, the emissions unit began (or will begin) initial operation after March 28, 1988. If so, baseline emissions are zero, and emissions unit consumes increment.

[ ] None of the above apply. If so, baseline emissions of the emissions unit are nonzero. In such case, additional analysis, beyond the scope of this application, is needed to determine whether changes in emissions have occurred (or will occur) after the baseline date that may consume or expand increment.

3. Increment Consuming/Expanding Code :		
PM : C	SO2 : U	NO2 : U
4. Baseline Emissions :		
PM :	lb/hour	tons/year
SO2 :	lb/hour	tons/year
NO2 :		tons/year
5. PSD Comment :		
Unit only emits PM.		

L. EMISSIONS UNIT SUPPLEMENTAL INFORMATION

Emissions Unit Information Section 4

Saw Trim/Finishing

Supplemental Requirements for All Applications

1. Process Flow Diagram :	Fig. 3-4a, 3-4b
2. Fuel Analysis or Specification :	NA
3. Detailed Description of Control Equipment :	Attachment G.
4. Description of Stack Sampling Facilities :	NA
5. Compliance Test Report :	NA
6. Procedures for Startup and Shutdown :	NA
7. Operation and Maintenance Plan :	NA
8. Supplemental Information for Construction Permit Application :	Enclosed Report
9. Other Information Required by Rule or Statue :	NA

Additional Supplemental Requirements for Category I Applications Only

10. Alternative Methods of Operations :
11. Altemtive Modes of Operation (Emissions Trading) :

12. Identification of Additional Applicable Requirements :
13. Compliance Assurance Monitoring Plan :
14. Acid Rain Application (Hard-copy Required) : Acid Rain Part - Phase II (Form No. 62-210.900(1)(a)) Repowering Extension Plan (Form No. 62-210.900(1)(a)1.) New Unit Exemption (Form No. 62-210.900(1)(a)2.) Retired Unit Exemption (Form No. 62-210.900(1)(a)3.)

III. EMISSIONS UNIT INFORMATION

A. TYPE OF EMISSIONS UNIT
(Regulated and Unregulated Emissions Units)

Emissions Unit Information Section 5

Mat Reject/Flying Saw

Type of Emissions Unit Addressed in This Section

1. Regulated or Unregulated Emissions Unit? Check one :

   [X] The emissions unit addressed in this Emissions Unit Information Section is a regulated emissions unit.

   [ ] The emissions unit addressed in this Emissions Unit Information Section is an unregulated emissions unit.

2. Single Process, Group of Processes, or Fugitive Only? Check one :

   [X] This Emissions Unit Information Section addresses, as a single emissions unit, a single process or production unit, or activity, which produces one or more air pollutants and which has at least one definable emission point (stack or vent).

   [ ] This Emissions Unit Information Section addresses, as a single emissions unit, a group of process or production units and activities which has at least one definable emission point (stack or vent) but may also produce fugitive emissions.

   [ ] This Emissions Unit Information Section addresses, as a single emissions unit, one or more process or production units and activities which produce fugitive emissions only.

Emissions Unit Information Section 5

B. GENERAL EMISSIONS UNIT INFORMATION
(Regulated and Unregulated Emissions Units)

Emissions Unit Description and Status

1. Description of Emissions Unit Addressed in This Section : Mat Reject/Flying Saw		
2. Emissions Unit Identification Number : 005 [ ] No Corresponding ID [ ] Unknown		
3. Emissions Unit Status Code : C	4. Acid Rain Unit? [ ] Yes [X] No	5. Emissions Unit Major Group SIC Code : 24
6. Emissions Unit Comment : Source controlled by a bagfilter		

Emissions Unit Information Section 5

Mat Reject/Flying Saw

Emissions Unit Control Equipment 1

1. Description : Mat Reject/Flying Saw receiver/baghouse. The one device acts as a bagfilter and also cyclone in one piece of equipment.	
2. Control Device or Method Code :	18

C. EMISSIONS UNIT DETAIL INFORMATION
(Regulated Emissions Units Only)

Emissions Unit Information Section 5

Mat Reject/Flying Saw

Emissions Unit Details

1. Initial Startup Date :	01-Aug-2000	
2. Long-term Reserve Shutdown Date :		
3. Package Unit : Manufacturer : MAC		Model Number : 144 MCF 361
4. Generator Nameplate Rating :	MW	
5. Incinerator Information : Dwell Temperature : Dwell Time : Incinerator Afterburner Temperature :		 Degrees Fahrenheit Seconds Degrees Fahrenheit

Emissions Unit Operating Capacity

1. Maximum Heat Input Rate :	mmBtu/hr	
2. Maximum Incinerator Rate :	lb/hr	tons/day
3. Maximum Process or Throughput Rate :	1	thousand lb/hr
4. Maximum Production Rate :		
5. Operating Capacity Comment : Throughput based on 0.04 (mat reject) and 1.1 (flying saw) thousand pounds/hour.		

Emissions Unit Operating Schedule

Requested Maximum Operating Schedule :		
	24 hours/day	7 days/week
	52 weeks/year	8,760 hours/year

D. EMISSIONS UNIT REGULATIONS
(Regulated Emissions Units Only)

Emissions Unit Information Section 5
Mat Reject/Flying Saw

Rule Applicability Analysis

E. EMISSION POINT (STACK/VENT) INFORMATION

Emissions Unit Information Section 5

Mat Reject/Flying Saw

Emission Point Description and Type :

1. Identification of Point on Plot Plan or Flow Diagram : 005		
2. Emission Point Type Code : 1		
3. Descriptions of Emission Points Comprising this Emissions Unit for VE Tracking : (limit to 100 characters per point)		
4. ID Numbers or Descriptions of Emission Units with this Emission Point in Common :		
5. Discharge Type Code :	V	
6. Stack Height :	120	feet
7. Exit Diameter :	4.0	feet
8. Exit Temperature :	70	°F
9. Actual Volumetric Flow Rate :	45720	acfm
10. Percent Water Vapor :	0.00	%
11. Maximum Dry Standard Flow Rate :	0	dscfm
12. Nonstack Emission Point Height :	0	feet
13. Emission Point UTM Coordinates : Zone : 16 East (km) : 713.807 North (km) : 3369.534		

14. Emission Point Comment :

F. SEGMENT (PROCESS/FUEL) INFORMATION

Emissions Unit Information Section 5

Mat Reject/Flying Saw

Segment Description and Rate : Segment 1

1. Segment Description (Process/Fuel Type and Associated Operating Method/Mode) : Mat Reject/ flying saw processed, in tons.	
2. Source Classification Code (SCC) : 30700799	
3. SCC Units : Tons Processed	
4. Maximum Hourly Rate : 0.59	5. Maximum Annual Rate : 5,185.00
6. Estimated Annual Activity Factor :	
7. Maximum Percent Sulfur :	8. Maximum Percent Ash :
9. Million Btu per SCC Unit :	
10. Segment Comment :	

G. EMISSIONS UNIT POLLUTANTS
(Regulated and Unregulated Emissions Units)

Emissions Unit Information Section 5
Mat Reject/Flying Saw

1. Pollutant Emitted	2. Primary Control Device Code	3. Secondary Control Device Code	4. Pollutant Regulatory Code
1 - PM	018		NS
2 - PM10	018		NS

H. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION
(Regulated Emissions Units Only - Emissions Limited Pollutants Only)

Emissions Unit Information Section 5

Mat Reject/Flying Saw

Pollutant Potential/Estimated Emissions : Pollutant 1

1. Pollutant Emitted : **PM**	
2. Total Percent Efficiency of Control : 98.40 %	
3. Potential Emissions : 3.9000000 lb/hour	17.0800000 tons/year
4. Synthetically Limited? [ ] Yes [X] No	
5. Range of Estimated Fugitive/Other Emissions: to	tons/year
6. Emissions Factor Reference :	Units
7. Emissions Method Code : 2	
8. Calculations of Emissions : See Attachment B.	
9. Pollutant Potential/Estimated Emissions Comment : Control efficiency for bag filter based on air flow and grain loading (see Section 4.3 of main text) yielding a control efficiency of 98.35%.	

H. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION
(Regulated Emissions Units Only - Emissions Limited Pollutants Only)

Emissions Unit Information Section 5

Mat Reject/Flying Saw

Pollutant Potential/Estimated Emissions : Pollutant 2

1. Pollutant Emitted : **PM10**		
2. Total Percent Efficiency of Control : 98.40 %		
3. Potential Emissions :	3.9000000 lb/hour	17.0800000 tons/year
4. Synthetically Limited? [ ] Yes [X] No		
5. Range of Estimated Fugitive/Other Emissions:	to	tons/year
6. Emissions Factor Reference :	Units	
7. Emissions Method Code : 2		
8. Calculations of Emissions : See Attachment B.		
9. Pollutant Potential/Estimated Emissions Comment : Control efficiency for bag filter based on air flow and grain loading (see Section 4.3 of main text) yielding a control efficiency of 98.35%.		

I. VISIBLE EMISSIONS INFORMATION
(Regulated Emissions Units Only)

Emissions Unit Information Section 5
Mat Reject/Flying Saw

Visible Emissions Limitation : Visible Emissions Limitation 1

1. Visible Emissions Subtype :	20		
2. Basis for Allowable Opacity :	RULE		
3. Requested Allowable Opacity :			
Normal Conditions :		20	%
Exceptional Conditions :		40	%
Maximum Period of Excess Opacity Allowed :		2	min/hour
4. Method of Compliance :			
Annual Method 9 TEst			
5. Visible Emissions Comment :			
62-296.320(4)(b) F.A.C.			

K. PREVENTION OF SIGNIFICANT DETERIORATION (PSD) INCREMENT TRACKING INFORMATION

Emissions Unit Information Section 5

Mat Reject/Flying Saw

PSD Increment Consumption Determination

1. Increment Consuming for Particulate Matter or Sulfur Dioxide?

[X] The emissions unit is undergoing PSD review as part of this application, or has undergone PSD review previously, for particulate matter or sulfur dioxide. If so, emissions unit consumes increment.

[ ] The facility addressed in this application is classified as an EPA major source pursuant to paragraph (c) of the definition of "major source of air pollution" in Chapter 62-213, F.A.C., and the emissions unit addressed in this section commenced (or will commence) construction after January 6, 1975. If so, baseline emissions are zero, and emissions unit consumes increment.

[ ] The facility addressed in this application is classified as an EPA major source, and the emissions unit began initial operation after January 6, 1975, but before December 27, 1977. If so, baseline emissions are zero, and emissions unit consumes increment.

[ ] For any facility, the emissions unit began (or will begin) initial operation after December 27, 1977. If so, baseline emissions are zero, and emissions unit consumes increment.

[ ] None of the above apply. If so, the baseline emissions of the emissions unit are nonzero. In such case, additional analysis, beyond the scope of this application, is needed to determine whether changes in emissions have occurred (or will occur) after the baseline date that may consume or expand increment.

2. Increment Consuming for Nitrogen Dioxide?

[ ] The emissions unit addressed in this section is undergoing PSD review as part of this application, or has undergone PSD review previously, for nitrogen dioxide. If so, emissions unit consumes increment.

[ ] The facility addressed in this application is classified as an EPA major source pursuant to paragraph (c) of the definition of "major source of air pollution" in Chapter 62-213, F.A.C., and the emissions unit addressed in this section commenced (or will commence) construction after February 8, 1988. If so, baseline emissions are zero, and emissions unit consumes increment.

[ ] The facility addressed in this application is classified as an EPA major source, and the emissions unit began initial operation after February 8, 1988, but before March 28, 1988. If so, baseline emissions are zero, and emissions unit consumes increment.

[ ] For any facility, the emissions unit began (or will begin) initial operation after March 28, 1988. If so, baseline emissions are zero, and emissions unit consumes increment.

[ ] None of the above apply. If so, baseline emissions of the emissions unit are nonzero. In such case, additional analysis, beyond the scope of this application, is needed to determine whether changes in emissions have occurred (or will occur) after the baseline date that may consume or expand increment.

3. Increment Consuming/Expanding Code :

PM :	C	SO2 :	U	NO2 :	U

4. Baseline Emissions :

PM :	lb/hour	tons/year
SO2 :	lb/hour	tons/year
NO2 :		tons/year

5. PSD Comment :

Unit only emits PM.

L. EMISSIONS UNIT SUPPLEMENTAL INFORMATION

Emissions Unit Information Section 5

Mat Reject/Flying Saw

Supplemental Requirements for All Applications

1. Process Flow Diagram :	Fig. 3-4a, 3-4b
2. Fuel Analysis or Specification :	Attachment G
3. Detailed Description of Control Equipment :	NA
4. Description of Stack Sampling Facilities :	NA
5. Compliance Test Report :	NA
6. Procedures for Startup and Shutdown :	NA
7. Operation and Maintenance Plan :	NA
8. Supplemental Information for Construction Permit Application :	Enclosed Report
9. Other Information Required by Rule or Statue :	NA

Additional Supplemental Requirements for Category I Applications Only

10. Alternative Methods of Operations :	
11. Altemtive Modes of Operation (Emissions Trading) :	

12. Identification of Additional Applicable Requirements :
13. Compliance Assurance Monitoring Plan :
14. Acid Rain Application (Hard-copy Required) : Acid Rain Part - Phase II (Form No. 62-210.900(1)(a)) Repowering Extension Plan (Form No. 62-210.900(1)(a)1.) New Unit Exemption (Form No. 62-210.900(1)(a)2.) Retired Unit Exemption (Form No. 62-210.900(1)(a)3.)

III. EMISSIONS UNIT INFORMATION

A. TYPE OF EMISSIONS UNIT
(Regulated and Unregulated Emissions Units)

Emissions Unit Information Section 6

Specialty Saw/Sander

Type of Emissions Unit Addressed in This Section

1. Regulated or Unregulated Emissions Unit? Check one :

[X] The emissions unit addressed in this Emissions Unit Information Section is a regulated emissions unit.

[ ] The emissions unit addressed in this Emissions Unit Information Section is an unregulated emissions unit.

2. Single Process, Group of Processes, or Fugitive Only? Check one :

[X] This Emissions Unit Information Section addresses, as a single emissions unit, a single process or production unit, or activity, which produces one or more air pollutants and which has at least one definable emission point (stack or vent).

[ ] This Emissions Unit Information Section addresses, as a single emissions unit, a group of process or production units and activities which has at least one definable emission point (stack or vent) but may also produce fugitive emissions.

[ ] This Emissions Unit Information Section addresses, as a single emissions unit, one or more process or production units and activities which produce fugitive emissions only.

Emissions Unit Information Section 6

B. GENERAL EMISSIONS UNIT INFORMATION
(Regulated and Unregulated Emissions Units)

Emissions Unit Description and Status

1. Description of Emissions Unit Addressed in This Section : Specialty Saw/Sander		
2. Emissions Unit Identification Number : 006 [ ] No Corresponding ID [ ] Unknown		
3. Emissions Unit Status Code : C	4. Acid Rain Unit? [ ] Yes [X] No	5. Emissions Unit Major Group SIC Code : 24
6. Emissions Unit Comment : Source controlled by a bagfilter.		

Emissions Unit Information Section 6

Specialty Saw/Sander

Emissions Unit Control Equipment 1

1. Description : Specialy Saw/Sander receiver/baghouse. The one device acts as a bagfilter and also cyclone in one piece of equipment.	
2. Control Device or Method Code :	18

C. EMISSIONS UNIT DETAIL INFORMATION
(Regulated Emissions Units Only)

Emissions Unit Information Section 6
Specialty Saw/Sander

Emissions Unit Details

1. Initial Startup Date :	01-Aug-2000	
2. Long-term Reserve Shutdown Date :		
3. Package Unit : Manufacturer : MAC		Model Number : 144 MCF 255
4. Generator Nameplate Rating :	MW	
5. Incinerator Information : Dwell Temperature : Dwell Time : Incinerator Afterburner Temperature :		 Degrees Fahrenheit Seconds Degrees Fahrenheit

Emissions Unit Operating Capacity

1. Maximum Heat Input Rate :	mmBtu/hr	
2. Maximum Incinerator Rate :	lb/hr	tons/day
3. Maximum Process or Throughput Rate :	4	thousand lbs/hr
4. Maximum Production Rate :		
5. Operating Capacity Comment :		

Emissions Unit Operating Schedule

Requested Maximum Operating Schedule :		
	24 hours/day	7 days/week
	52 weeks/year	8,760 hours/year

D. EMISSIONS UNIT REGULATIONS
(Regulated Emissions Units Only)

Emissions Unit Information Section 6

Specialty Saw/Sander

Rule Applicability Analysis

E. EMISSION POINT (STACK/VENT) INFORMATION

Emissions Unit Information Section 6

Specialty Saw/Sander

Emission Point Description and Type :

1. Identification of Point on Plot Plan or Flow Diagram :	006	
2. Emission Point Type Code :	1	
3. Descriptions of Emission Points Comprising this Emissions Unit for VE Tracking : (limit to 100 characters per point)		
4. ID Numbers or Descriptions of Emission Units with this Emission Point in Common :		
5. Discharge Type Code :	V	
6. Stack Height :	90	feet
7. Exit Diameter :	3.3	feet
8. Exit Temperature :	70	°F
9. Actual Volumetric Flow Rate :	25343	acfm
10. Percent Water Vapor :	0.00	%
11. Maximum Dry Standard Flow Rate :	0	dscfm
12. Nonstack Emission Point Height :	0	feet
13. Emission Point UTM Coordinates : Zone : 16 East (km) : 713.628 North (km) : 3369.468		

14. Emission Point Comment :

F. SEGMENT (PROCESS/FUEL) INFORMATION

Emissions Unit Information Section 6

Specialty Saw/Sander

Segment Description and Rate : Segment 1

1. Segment Description (Process/Fuel Type and Associated Operating Method/Mode) : Specialty Saw/Sander processed, in tons	
2. Source Classification Code (SCC) : 30700799	
3. SCC Units : Tons Processed	
4. Maximum Hourly Rate : 2.10	5. Maximum Annual Rate : 18,457.50
6. Estimated Annual Activity Factor :	
7. Maximum Percent Sulfur :	8. Maximum Percent Ash :
9. Million Btu per SCC Unit :	
10. Segment Comment :	

G. EMISSIONS UNIT POLLUTANTS
(Regulated and Unregulated Emissions Units)

Emissions Unit Information Section 6

Specialty Saw/Sander

1. Pollutant Emitted	2. Primary Control Device Code	3. Secondary Control Device Code	4. Pollutant Regulatory Code
1 - PM	018		NS
2 - PM10	018		NS

H. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION
(Regulated Emissions Units Only - Emissions Limited Pollutants Only)

Emissions Unit Information Section 6

Specialty Saw/Sander

Pollutant Potential/Estimated Emissions : Pollutant 1

1. Pollutant Emitted : **PM**		
2. Total Percent Efficiency of Control : 99.70 %		
3. Potential Emissions :	2.1700000 lb/hour	9.5000000 tons/year
4. Synthetically Limited? [ ] Yes [X] No		
5. Range of Estimated Fugitive/Other Emissions:	to	tons/year
6. Emissions Factor Reference :	Units	
7. Emissions Method Code : 2		
8. Calculations of Emissions : See Attachment B		
9. Pollutant Potential/Estimated Emissions Comment : Control efficiency for bag filter based on air flow and grain loading (see Section 4.3 of main text) yielding a control efficiency of 99.74%.		

H. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION
(Regulated Emissions Units Only - Emissions Limited Pollutants Only)

Emissions Unit Information Section 6

Specialty Saw/Sander

Pollutant Potential/Estimated Emissions : Pollutant 2

1. Pollutant Emitted : **PM10**
2. Total Percent Efficiency of Control : 99.70 %
3. Potential Emissions : 2.1700000 lb/hour 9.5000000 tons/year
4. Synthetically Limited? [ ] Yes [X] No
5. Range of Estimated Fugitive/Other Emissions: to tons/year
6. Emissions Factor Units Reference :
7. Emissions Method Code : 2
8. Calculations of Emissions : See Attachment B.
9. Pollutant Potential/Estimated Emissions Comment : Control efficiency for bag filter based on air flow and grain loading (see Section 4.3 of main text) yielding a control efficiency of 99.74%.

I. VISIBLE EMISSIONS INFORMATION
(Regulated Emissions Units Only)

Emissions Unit Information Section 6
Specialty Saw/Sander

Visible Emissions Limitation : Visible Emissions Limitation 1

1. Visible Emissions Subtype :	20		
2. Basis for Allowable Opacity :	RULE		
3. Requested Allowable Opacity :			
Normal Conditions :		20	%
Exceptional Conditions :		40	%
Maximum Period of Excess Opacity Allowed :		2	min/hour
4. Method of Compliance : Annual Method 9 test.			
5. Visible Emissions Comment : 62-296.320(4)(b) F.A.C.			

K. PREVENTION OF SIGNIFICANT DETERIORATION (PSD) INCREMENT TRACKING INFORMATION

Emissions Unit Information Section 6

Specialty Saw/Sander

PSD Increment Consumption Determination

1. Increment Consuming for Particulate Matter or Sulfur Dioxide?

[X] The emissions unit is undergoing PSD review as part of this application, or has undergone PSD review previously, for particulate matter or sulfur dioxide. If so, emissions unit consumes increment.

[ ] The facility addressed in this application is classified as an EPA major source pursuant to paragraph (c) of the definition of "major source of air pollution" in Chapter 62-213, F.A.C., and the emissions unit addressed in this section commenced (or will commence) construction after January 6, 1975. If so, baseline emissions are zero, and emissions unit consumes increment.

[ ] The facility addressed in this application is classified as an EPA major source, and the emissions unit began initial operation after January 6, 1975, but before December 27, 1977. If so, baseline emissions are zero, and emissions unit consumes increment.

[ ] For any facility, the emissions unit began (or will begin) initial operation after December 27, 1977. If so, baseline emissions are zero, and emissions unit consumes increment.

[ ] None of the above apply. If so, the baseline emissions of the emissions unit are nonzero. In such case, additional analysis, beyond the scope of this application, is needed to determine whether changes in emissions have occurred (or will occur) after the baseline date that may consume or expand increment.

2. Increment Consuming for Nitrogen Dioxide?

[ ] The emissions unit addressed in this section is undergoing PSD review as part of this application, or has undergone PSD review previously, for nitrogen dioxide. If so, emissions unit consumes increment.

[ ] The facility addressed in this application is classified as an EPA major source pursuant to paragraph (c) of the definition of "major source of air pollution" in Chapter 62-213, F.A.C., and the emissions unit addressed in this section commenced (or will commence) construction after February 8, 1988. If so, baseline emissions are zero, and emissions unit consumes increment.

[ ] The facility addressed in this application is classified as an EPA major source, and the emissions unit began initial operation after February 8, 1988, but before March 28, 1988. If so, baseline emissions are zero, and emissions unit consumes increment.

[ ] For any facility, the emissions unit began (or will begin) initial operation after March 28, 1988. If so, baseline emissions are zero, and emissions unit consumes increment.

[ ] None of the above apply. If so, baseline emissions of the emissions unit are nonzero. In such case, additional analysis, beyond the scope of this application, is needed to determine whether changes in emissions have occurred (or will occur) after the baseline date that may consume or expand increment.

3. Increment Consuming/Expanding Code :

PM :	C	SO2 :	U	NO2 :	U

4. Baseline Emissions :

PM :	lb/hour	tons/year
SO2 :	lb/hour	tons/year
NO2 :		tons/year

5. PSD Comment :

Unit only emits PM.

L. EMISSIONS UNIT SUPPLEMENTAL INFORMATION

Emissions Unit Information Section 6

Specialty Saw/Sander

Supplemental Requirements for All Applications

1. Process Flow Diagram :	Fig. 3-4a, 3-4b
2. Fuel Analysis or Specification :	NA
3. Detailed Description of Control Equipment :	Attachment G.
4. Description of Stack Sampling Facilities :	NA
5. Compliance Test Report :	NA
6. Procedures for Startup and Shutdown :	NA
7. Operation and Maintenance Plan :	NA
8. Supplemental Information for Construction Permit Application :	Enclosed Report
9. Other Information Required by Rule or Statue :	NA

Additional Supplemental Requirements for Category I Applications Only

10. Alternative Methods of Operations :
11. Alterntive Modes of Operation (Emissions Trading) :

12. Identification of Additional Applicable Requirements :
13. Compliance Assurance Monitoring Plan :
14. Acid Rain Application (Hard-copy Required) : Acid Rain Part - Phase II (Form No. 62-210.900(1)(a)) Repowering Extension Plan (Form No. 62-210.900(1)(a)1.) New Unit Exemption (Form No. 62-210.900(1)(a)2.) Retired Unit Exemption (Form No. 62-210.900(1)(a)3.)

III. EMISSIONS UNIT INFORMATION

A. TYPE OF EMISSIONS UNIT
(Regulated and Unregulated Emissions Units)

Emissions Unit Information Section 7

Fuel System

Type of Emissions Unit Addressed in This Section

1. Regulated or Unregulated Emissions Unit? Check one :

[X] The emissions unit addressed in this Emissions Unit Information Section is a regulated emissions unit.

[ ] The emissions unit addressed in this Emissions Unit Information Section is an unregulated emissions unit.

2. Single Process, Group of Processes, or Fugitive Only? Check one :

[X] This Emissions Unit Information Section addresses, as a single emissions unit, a single process or production unit, or activity, which produces one or more air pollutants and which has at least one definable emission point (stack or vent).

[ ] This Emissions Unit Information Section addresses, as a single emissions unit, a group of process or production units and activities which has at least one definable emission point (stack or vent) but may also produce fugitive emissions.

[ ] This Emissions Unit Information Section addresses, as a single emissions unit, one or more process or production units and activities which produce fugitive emissions only.

Emissions Unit Information Section 7

B. GENERAL EMISSIONS UNIT INFORMATION
(Regulated and Unregulated Emissions Units)

Emissions Unit Description and Status

1. Description of Emissions Unit Addressed in This Section : Fuel System		
2. Emissions Unit Identification Number : 007 [ ] No Corresponding ID [ ] Unknown		
3. Emissions Unit Status Code : C	4. Acid Rain Unit? [ ] Yes [X] No	5. Emissions Unit Major Group SIC Code : 24
6. Emissions Unit Comment : Source controlled by a bagfilter.		

Emissions Unit Information Section 7

Fuel System

Emissions Unit Control Equipment 1

1. Description : Fuel System receiver/baghouse. The one device acts as a bagfilter and also cyclone in one piece of equipment.	
2. Control Device or Method Code :	18

C. EMISSIONS UNIT DETAIL INFORMATION
(Regulated Emissions Units Only)

Emissions Unit Information Section 7
Fuel System

Emissions Unit Details

1. Initial Startup Date :	01-Aug-2000
2. Long-term Reserve Shutdown Date :	
3. Package Unit : Manufacturer : MAC	Model Number : 72 AV R7
4. Generator Nameplate Rating :	MW
5. Incinerator Information : Dwell Temperature : Dwell Time : Incinerator Afterburner Temperature :	 Degrees Fahrenheit Seconds Degrees Fahrenheit

Emissions Unit Operating Capacity

1. Maximum Heat Input Rate :	mmBtu/hr	
2. Maximum Incinerator Rate :	lb/hr	tons/day
3. Maximum Process or Throughput Rate :	4	thousand lb/hr
4. Maximum Production Rate :		
5. Operating Capacity Comment :		

Emissions Unit Operating Schedule

Requested Maximum Operating Schedule :		
	24 hours/day	7 days/week
	52 weeks/year	8,760 hours/year

D. EMISSIONS UNIT REGULATIONS
(Regulated Emissions Units Only)

Emissions Unit Information Section 7

Fuel System

Rule Applicability Analysis

E. EMISSION POINT (STACK/VENT) INFORMATION

Emissions Unit Information Section 7

Fuel System

Emission Point Description and Type :

1. Identification of Point on Plot Plan or Flow Diagram : 007		
2. Emission Point Type Code : 1		
3. Descriptions of Emission Points Comprising this Emissions Unit for VE Tracking : (limit to 100 characters per point)		
4. ID Numbers or Descriptions of Emission Units with this Emission Point in Common :		
5. Discharge Type Code :	W	
6. Stack Height :	75	feet
7. Exit Diameter :	0.8	feet
8. Exit Temperature :	70	°F
9. Actual Volumetric Flow Rate :	490	acfm
10. Percent Water Vapor :	0.00	%
11. Maximum Dry Standard Flow Rate :	0	dscfm
12. Nonstack Emission Point Height :	0	feet
13. Emission Point UTM Coordinates : Zone : 16 East (km) : 713.000 North (km) : 3369.580		

14. Emission Point Comment :

F. SEGMENT (PROCESS/FUEL) INFORMATION

Emissions Unit Information Section 7

Fuel System

Segment Description and Rate : Segment 1

1. Segment Description (Process/Fuel Type and Associated Operating Method/Mode) : Fuel System Processed, in Tons	
2. Source Classification Code (SCC) : 30700799	
3. SCC Units : Tons Processed	
4. Maximum Hourly Rate : 2.10	5. Maximum Annual Rate : 18,457.50
6. Estimated Annual Activity Factor :	
7. Maximum Percent Sulfur :	8. Maximum Percent Ash :
9. Million Btu per SCC Unit :	
10. Segment Comment :	

G. EMISSIONS UNIT POLLUTANTS
(Regulated and Unregulated Emissions Units)

Emissions Unit Information Section 7
Fuel System

1. Pollutant Emitted	2. Primary Control Device Code	3. Secondary Control Device Code	4. Pollutant Regulatory Code
1 - PM	018		NS
2 - PM10	018		NS

H. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION
(Regulated Emissions Units Only - Emissions Limited Pollutants Only)

Emissions Unit Information Section 7

Fuel System

Pollutant Potential/Estimated Emissions : Pollutant 1

1. Pollutant Emitted : **PM**	
2. Total Percent Efficiency of Control : 99.90 %	
3. Potential Emissions : 0.3400000 lb/hour	1.5000000 tons/year
4. Synthetically Limited? [ ] Yes [X] No	
5. Range of Estimated Fugitive/Other Emissions: to	tons/year
6. Emissions Factor Units Reference :	
7. Emissions Method Code : 2	
8. Calculations of Emissions : See Attachment B.	
9. Pollutant Potential/Estimated Emissions Comment : Actual efficiency estimated at 99.96%.	

H. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION
(Regulated Emissions Units Only - Emissions Limited Pollutants Only)

Emissions Unit Information Section 7
Fuel System

Pollutant Potential/Estimated Emissions : Pollutant 2

1. Pollutant Emitted : **PM10**	
2. Total Percent Efficiency of Control : 99.90 %	
3. Potential Emissions : 0.3400000 lb/hour	1.5000000 tons/year
4. Synthetically Limited? [ ] Yes [X] No	
5. Range of Estimated Fugitive/Other Emissions: to	tons/year
6. Emissions Factor Reference :	Units
7. Emissions Method Code : 2	
8. Calculations of Emissions : See Attachment B.	
9. Pollutant Potential/Estimated Emissions Comment : Actual efficiency estimated at 99.96%.	

I. VISIBLE EMISSIONS INFORMATION
(Regulated Emissions Units Only)

Emissions Unit Information Section 7
Fuel System

Visible Emissions Limitation : Visible Emissions Limitation 1

1. Visible Emissions Subtype :	20		
2. Basis for Allowable Opacity :	RULE		
3. Requested Allowable Opacity :			
Normal Conditions :		20	%
Exceptional Conditions :		40	%
Maximum Period of Excess Opacity Allowed :		2	min/hour
4. Method of Compliance : Annual Method 9 Test			
5. Visible Emissions Comment : 62-296.320(4)(b) F.A.C.			

K. PREVENTION OF SIGNIFICANT DETERIORATION (PSD) INCREMENT TRACKING INFORMATION

Emissions Unit Information Section 7

Fuel System

PSD Increment Consumption Determination

1. Increment Consuming for Particulate Matter or Sulfur Dioxide?

[X] The emissions unit is undergoing PSD review as part of this application, or has undergone PSD review previously, for particulate matter or sulfur dioxide. If so, emissions unit consumes increment.

[ ] The facility addressed in this application is classified as an EPA major source pursuant to paragraph (c) of the definition of "major source of air pollution" in Chapter 62-213, F.A.C., and the emissions unit addressed in this section commenced (or will commence) construction after January 6, 1975. If so, baseline emissions are zero, and emissions unit consumes increment.

[ ] The facility addressed in this application is classified as an EPA major source, and the emissions unit began initial operation after January 6, 1975, but before December 27, 1977. If so, baseline emissions are zero, and emissions unit consumes increment.

[ ] For any facility, the emissions unit began (or will begin) initial operation after December 27, 1977. If so, baseline emissions are zero, and emissions unit consumes increment.

[ ] None of the above apply. If so, the baseline emissions of the emissions unit are nonzero. In such case, additional analysis, beyond the scope of this application, is needed to determine whether changes in emissions have occurred (or will occur) after the baseline date that may consume or expand increment.

2. Increment Consuming for Nitrogen Dioxide?

[ ] The emissions unit addressed in this section is undergoing PSD review as part of this application, or has undergone PSD review previously, for nitrogen dioxide. If so, emissions unit consumes increment.

[ ] The facility addressed in this application is classified as an EPA major source pursuant to paragraph (c) of the definition of "major source of air pollution" in Chapter 62-213, F.A.C., and the emissions unit addressed in this section commenced (or will commence) construction after February 8, 1988. If so, baseline emissions are zero, and emissions unit consumes increment.

[ ] The facility addressed in this application is classified as an EPA major source, and the emissions unit began initial operation after February 8, 1988, but before March 28, 1988. If so, baseline emissions are zero, and emissions unit consumes increment.

[ ] For any facility, the emissions unit began (or will begin) initial operation after March 28, 1988. If so, baseline emissions are zero, and emissions unit consumes increment.

[ ] None of the above apply. If so, baseline emissions of the emissions unit are nonzero. In such case, additional analysis, beyond the scope of this application, is needed to determine whether changes in emissions have occurred (or will occur) after the baseline date that may consume or expand increment.

3. Increment Consuming/Expanding Code :

PM : C   SO2 : U   NO2 : U

4. Baseline Emissions :

PM :	lb/hour	tons/year
SO2 :	lb/hour	tons/year
NO2 :		tons/year

5. PSD Comment :

Unit only emits PM

L. EMISSIONS UNIT SUPPLEMENTAL INFORMATION

Emissions Unit Information Section 7

Fuel System

Supplemental Requirements for All Applications

1. Process Flow Diagram :	Fig. 3-4a, 3-4b
2. Fuel Analysis or Specification :	NA
3. Detailed Description of Control Equipment :	Attachment G.
4. Description of Stack Sampling Facilities :	NA
5. Compliance Test Report :	NA
6. Procedures for Startup and Shutdown :	NA
7. Operation and Maintenance Plan :	NA
8. Supplemental Information for Construction Permit Application :	Enclosed Report
9. Other Information Required by Rule or Statue :	NA

Additional Supplemental Requirements for Category I Applications Only

10. Alternative Methods of Operations :
11. Alterntive Modes of Operation (Emissions Trading) :

12. Identification of Additional Applicable Requirements :
13. Compliance Assurance Monitoring Plan :
14. Acid Rain Application (Hard-copy Required) : Acid Rain Part - Phase II (Form No. 62-210.900(1)(a)) Repowering Extension Plan (Form No. 62-210.900(1)(a)1.) New Unit Exemption (Form No. 62-210.900(1)(a)2.) Retired Unit Exemption (Form No. 62-210.900(1)(a)3.)

III. EMISSIONS UNIT INFORMATION

A. TYPE OF EMISSIONS UNIT
(Regulated and Unregulated Emissions Units)

Emissions Unit Information Section 8

Forming Bins

Type of Emissions Unit Addressed in This Section

1. Regulated or Unregulated Emissions Unit? Check one :

[X] The emissions unit addressed in this Emissions Unit Information Section is a regulated emissions unit.

[ ] The emissions unit addressed in this Emissions Unit Information Section is an unregulated emissions unit.

2. Single Process, Group of Processes, or Fugitive Only? Check one :

[X] This Emissions Unit Information Section addresses, as a single emissions unit, a single process or production unit, or activity, which produces one or more air pollutants and which has at least one definable emission point (stack or vent).

[ ] This Emissions Unit Information Section addresses, as a single emissions unit, a group of process or production units and activities which has at least one definable emission point (stack or vent) but may also produce fugitive emissions.

[ ] This Emissions Unit Information Section addresses, as a single emissions unit, one or more process or production units and activities which produce fugitive emissions only.

Emissions Unit Information Section 8

B. GENERAL EMISSIONS UNIT INFORMATION
(Regulated and Unregulated Emissions Units)

Emissions Unit Description and Status

1. Description of Emissions Unit Addressed in This Section : Forming Bins		
2. Emissions Unit Identification Number : 008 [ ] No Corresponding ID [ ] Unknown		
3. Emissions Unit Status Code : C	4. Acid Rain Unit? [ ] Yes [X] No	5. Emissions Unit Major Group SIC Code : 24
6. Emissions Unit Comment : Source controlled by a bagfilter.		

Emissions Unit Information Section 8

Forming Bins

<u>Emissions Unit Control Equipment</u> 1

1. Description : Forming Bins receiver/baghouse. The one device acts as a bagfilter and also cyclone in one piece of equipment.	
2. Control Device or Method Code :	18

C. EMISSIONS UNIT DETAIL INFORMATION
(Regulated Emissions Units Only)

Emissions Unit Information Section 8
Forming Bins

Emissions Unit Details

1. Initial Startup Date :	01-Aug-2000	
2. Long-term Reserve Shutdown Date :		
3. Package Unit : Manufacturer : MAC		Model Number : 144 MCF 153
4. Generator Nameplate Rating :	MW	
5. Incinerator Information : Dwell Temperature : Dwell Time : Incinerator Afterburner Temperature :		 Degrees Fahrenheit Seconds Degrees Fahrenheit

Emissions Unit Operating Capacity

1. Maximum Heat Input Rate :	mmBtu/hr	
2. Maximum Incinerator Rate :	lb/hr	tons/day
3. Maximum Process or Throughput Rate :	879	pounds/hr
4. Maximum Production Rate :		
5. Operating Capacity Comment :		

Emissions Unit Operating Schedule

Requested Maximum Operating Schedule :	
24 hours/day	7 days/week
52 weeks/year	8,760 hours/year

D. EMISSIONS UNIT REGULATIONS
(Regulated Emissions Units Only)

Emissions Unit Information Section 8

Forming Bins

Rule Applicability Analysis

E. EMISSION POINT (STACK/VENT) INFORMATION

Emissions Unit Information Section 8

Forming Bins

Emission Point Description and Type :

1. Identification of Point on Plot Plan or Flow Diagram : 008		
2. Emission Point Type Code : 1		
3. Descriptions of Emission Points Comprising this Emissions Unit for VE Tracking : (limit to 100 characters per point)		
4. ID Numbers or Descriptions of Emission Units with this Emission Point in Common :		
5. Discharge Type Code :	V	
6. Stack Height :	105	feet
7. Exit Diameter :	2.5	feet
8. Exit Temperature :	70	°F
9. Actual Volumetric Flow Rate :	22140	acfm
10. Percent Water Vapor :	0.00	%
11. Maximum Dry Standard Flow Rate :	0	dscfm
12. Nonstack Emission Point Height :	0	feet
13. Emission Point UTM Coordinates : Zone : 16 East (km) : 713.804 North (km) : 3369.519		

14. Emission Point Comment :

F. SEGMENT (PROCESS/FUEL) INFORMATION

Emissions Unit Information Section 8

Forming Bins

Segment Description and Rate : Segment 1

1. Segment Description (Process/Fuel Type and Associated Operating Method/Mode) : Forming Bins Processed, in tons.	
2. Source Classification Code (SCC) : 30700799	
3. SCC Units : Tons Processed	
4. Maximum Hourly Rate : 0.44	5. Maximum Annual Rate : 3,850.00
6. Estimated Annual Activity Factor :	
7. Maximum Percent Sulfur :	8. Maximum Percent Ash :
9. Million Btu per SCC Unit :	
10. Segment Comment :	

G. EMISSIONS UNIT POLLUTANTS
(Regulated and Unregulated Emissions Units)

Emissions Unit Information Section 8

Forming Bins

1. Pollutant Emitted	2. Primary Control Device Code	3. Secondary Control Device Code	4. Pollutant Regulatory Code
1 - PM	018		NS
2 - PM10	018		NS

H. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION
(Regulated Emissions Units Only - Emissions Limited Pollutants Only)

Emissions Unit Information Section 8

Forming Bins

Pollutant Potential/Estimated Emissions : Pollutant 1

1. Pollutant Emitted : **PM**	
2. Total Percent Efficiency of Control : 98.90 %	
3. Potential Emissions : 1.9000000 lb/hour	8.3200000 tons/year
4. Synthetically Limited? [ ] Yes [X] No	
5. Range of Estimated Fugitive/Other Emissions: to	tons/year
6. Emissions Factor Units Reference :	
7. Emissions Method Code : 2	
8. Calculations of Emissions : See Attachment B.	
9. Pollutant Potential/Estimated Emissions Comment : Control efficiency for bag filter based on air flow and grain loading (see Section 4.3 of main text) yielding a control efficiency of 98.92%.	

H. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION
(Regulated Emissions Units Only - Emissions Limited Pollutants Only)

Emissions Unit Information Section 8

Forming Bins

Pollutant Potential/Estimated Emissions : Pollutant 2

1. Pollutant Emitted : **PM10**	
2. Total Percent Efficiency of Control : 98.90 %	
3. Potential Emissions : 1.9000000 lb/hour	8.3200000 tons/year
4. Synthetically Limited? [ ] Yes [X] No	
5. Range of Estimated Fugitive/Other Emissions: to	tons/year
6. Emissions Factor Units Reference :	
7. Emissions Method Code : 2	
8. Calculations of Emissions : See Attachment B.	
9. Pollutant Potential/Estimated Emissions Comment : Control efficiency for bag filter based on air flow and grain loading (see Section 4.3 of main text) yielding a control efficiency of 98.92%.	

I. VISIBLE EMISSIONS INFORMATION
(Regulated Emissions Units Only)

Emissions Unit Information Section 8
Forming Bins

Visible Emissions Limitation : Visible Emissions Limitation 1

1. Visible Emissions Subtype :	20		
2. Basis for Allowable Opacity :	RULE		
3. Requested Allowable Opacity :			
Normal Conditions :		20	%
Exceptional Conditions :		40	%
Maximum Period of Excess Opacity Allowed :		2	min/hour
4. Method of Compliance : Annual Method 9 Test			
5. Visible Emissions Comment : 62-296.320(4)(b) F.A.C.			

K. PREVENTION OF SIGNIFICANT DETERIORATION (PSD) INCREMENT TRACKING INFORMATION

Emissions Unit Information Section 8

Forming Bins

PSD Increment Consumption Determination

1. Increment Consuming for Particulate Matter or Sulfur Dioxide?

[X] The emissions unit is undergoing PSD review as part of this application, or has undergone PSD review previously, for particulate matter or sulfur dioxide. If so, emissions unit consumes increment.

[ ] The facility addressed in this application is classified as an EPA major source pursuant to paragraph (c) of the definition of "major source of air pollution" in Chapter 62-213, F.A.C., and the emissions unit addressed in this section commenced (or will commence) construction after January 6, 1975. If so, baseline emissions are zero, and emissions unit consumes increment.

[ ] The facility addressed in this application is classified as an EPA major source, and the emissions unit began initial operation after January 6, 1975, but before December 27, 1977. If so, baseline emissions are zero, and emissions unit consumes increment.

[ ] For any facility, the emissions unit began (or will begin) initial operation after December 27, 1977. If so, baseline emissions are zero, and emissions unit consumes increment.

[ ] None of the above apply. If so, the baseline emissions of the emissions unit are nonzero. In such case, additional analysis, beyond the scope of this application, is needed to determine whether changes in emissions have occurred (or will occur) after the baseline date that may consume or expand increment.

2. Increment Consuming for Nitrogen Dioxide?

[ ] The emissions unit addressed in this section is undergoing PSD review as part of this application, or has undergone PSD review previously, for nitrogen dioxide. If so, emissions unit consumes increment.

[ ] The facility addressed in this application is classified as an EPA major source pursuant to paragraph (c) of the definition of "major source of air pollution" in Chapter 62-213, F.A.C., and the emissions unit addressed in this section commenced (or will commence) construction after February 8, 1988. If so, baseline emissions are zero, and emissions unit consumes increment.

[ ] The facility addressed in this application is classified as an EPA major source, and the emissions unit began initial operation after February 8, 1988, but before March 28, 1988. If so, baseline emissions are zero, and emissions unit consumes increment.

[ ] For any facility, the emissions unit began (or will begin) initial operation after March 28, 1988. If so, baseline emissions are zero, and emissions unit consumes increment.

[ ] None of the above apply. If so, baseline emissions of the emissions unit are nonzero. In such case, additional analysis, beyond the scope of this application, is needed to determine whether changes in emissions have occurred (or will occur) after the baseline date that may consume or expand increment.

3. Increment Consuming/Expanding Code :					
PM :	C	SO2 :	U	NO2 :	U

4. Baseline Emissions :

PM :	lb/hour	tons/year
SO2 :	lb/hour	tons/year
NO2 :		tons/year

5. PSD Comment :

Unit only emits PM.

L. EMISSIONS UNIT SUPPLEMENTAL INFORMATION

Emissions Unit Information Section 8

Forming Bins

Supplemental Requirements for All Applications

1. Process Flow Diagram :	Fig. 3-4a, 3-4b
2. Fuel Analysis or Specification :	NA
3. Detailed Description of Control Equipment :	Attachment G.
4. Description of Stack Sampling Facilities :	NA
5. Compliance Test Report :	NA
6. Procedures for Startup and Shutdown :	NA
7. Operation and Maintenance Plan :	NA
8. Supplemental Information for Construction Permit Application :	Enclosed Report
9. Other Information Required by Rule or Statue :	NA

Additional Supplemental Requirements for Category I Applications Only

10. Alternative Methods of Operations :
11. Alterntive Modes of Operation (Emissions Trading) :

12. Identification of Additional Applicable Requirements :
13. Compliance Assurance Monitoring Plan :
14. Acid Rain Application (Hard-copy Required) : Acid Rain Part - Phase II (Form No. 62-210.900(1)(a)) Repowering Extension Plan (Form No. 62-210.900(1)(a)1.) New Unit Exemption (Form No. 62-210.900(1)(a)2.) Retired Unit Exemption (Form No. 62-210.900(1)(a)3.)

III. EMISSIONS UNIT INFORMATION

A. TYPE OF EMISSIONS UNIT
(Regulated and Unregulated Emissions Units)

Emissions Unit Information Section 9

Hammermill System

Type of Emissions Unit Addressed in This Section

1. Regulated or Unregulated Emissions Unit? Check one :

[X] The emissions unit addressed in this Emissions Unit Information Section is a regulated emissions unit.

[ ] The emissions unit addressed in this Emissions Unit Information Section is an unregulated emissions unit.

2. Single Process, Group of Processes, or Fugitive Only? Check one :

[X] This Emissions Unit Information Section addresses, as a single emissions unit, a single process or production unit, or activity, which produces one or more air pollutants and which has at least one definable emission point (stack or vent).

[ ] This Emissions Unit Information Section addresses, as a single emissions unit, a group of process or production units and activities which has at least one definable emission point (stack or vent) but may also produce fugitive emissions.

[ ] This Emissions Unit Information Section addresses, as a single emissions unit, one or more process or production units and activities which produce fugitive emissions only.

Emissions Unit Information Section 9

B. GENERAL EMISSIONS UNIT INFORMATION
(Regulated and Unregulated Emissions Units)

Emissions Unit Description and Status

1. Description of Emissions Unit Addressed in This Section : Hammermill System		
2. Emissions Unit Identification Number : 009 [ ] No Corresponding ID [ ] Unknown		
3. Emissions Unit Status Code : C	4. Acid Rain Unit? [ ] Yes [X] No	5. Emissions Unit Major Group SIC Code : 24
6. Emissions Unit Comment : Source controlled by a bagfilter.		

Emissions Unit Information Section 9

Hammermill System

Emissions Unit Control Equipment 1

1. Description : Hammermill System receiver/baghouse. The one device acts as a bagfilter and also cyclone in one piece of equipment.	
2. Control Device or Method Code :	18

C. EMISSIONS UNIT DETAIL INFORMATION
(Regulated Emissions Units Only)

Emissions Unit Information Section 9

Hammermill System

Emissions Unit Details

1. Initial Startup Date :	01-Aug-2000
2. Long-term Reserve Shutdown Date :	
3. Package Unit : Manufacturer : MAC	Model Number : 144 MCF
4. Generator Nameplate Rating :	MW
5. Incinerator Information : Dwell Temperature : Dwell Time : Incinerator Afterburner Temperature :	 Degrees Fahrenheit Seconds Degrees Fahrenheit

Emissions Unit Operating Capacity

1. Maximum Heat Input Rate :	mmBtu/hr	
2. Maximum Incinerator Rate :	lb/hr	tons/day
3. Maximum Process or Throughput Rate :	26	thousand lb/hr
4. Maximum Production Rate :		
5. Operating Capacity Comment :		

Emissions Unit Operating Schedule

Requested Maximum Operating Schedule :	
24 hours/day	7 days/week
52 weeks/year	8,760 hours/year

D. EMISSIONS UNIT REGULATIONS
(Regulated Emissions Units Only)

Emissions Unit Information Section 9

Hammermill System

Rule Applicability Analysis

E. EMISSION POINT (STACK/VENT) INFORMATION

Emissions Unit Information Section 9

Hammermill System

Emission Point Description and Type :

1. Identification of Point on Plot Plan or Flow Diagram :	009	
2. Emission Point Type Code :	1	
3. Descriptions of Emission Points Comprising this Emissions Unit for VE Tracking : (limit to 100 characters per point)		
4. ID Numbers or Descriptions of Emission Units with this Emission Point in Common :		
5. Discharge Type Code :	V	
6. Stack Height :	110	feet
7. Exit Diameter :	2.5	feet
8. Exit Temperature :	70	°F
9. Actual Volumetric Flow Rate :	14700	acfm
10. Percent Water Vapor :	0.00	%
11. Maximum Dry Standard Flow Rate :	0	dscfm
12. Nonstack Emission Point Height :	0	feet
13. Emission Point UTM Coordinates : Zone : 16 East (km) : 713.864 North (km) : 3369.584		

14. Emission Point Comment :

F. SEGMENT (PROCESS/FUEL) INFORMATION

Emissions Unit Information Section 9

Hammermill System

Segment Description and Rate : Segment 1

1. Segment Description (Process/Fuel Type and Associated Operating Method/Mode) : Hammermill System Processed, in tons.	
2. Source Classification Code (SCC) : 30700799	
3. SCC Units : Tons Processed	
4. Maximum Hourly Rate : 13.10	5. Maximum Annual Rate : 114,953.00
6. Estimated Annual Activity Factor :	
7. Maximum Percent Sulfur :	8. Maximum Percent Ash :
9. Million Btu per SCC Unit :	
10. Segment Comment :	

G. EMISSIONS UNIT POLLUTANTS
(Regulated and Unregulated Emissions Units)

Emissions Unit Information Section 9
Hammermill System

1. Pollutant Emitted	2. Primary Control Device Code	3. Secondary Control Device Code	4. Pollutant Regulatory Code
1 - PM	018		NS
2 - PM10	018		NS

H. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION
(Regulated Emissions Units Only - Emissions Limited Pollutants Only)

Emissions Unit Information Section 9

Hammermill System

Pollutant Potential/Estimated Emissions : Pollutant 1

1. Pollutant Emitted : **PM**			
2. Total Percent Efficiency of Control :	99.90 %		
3. Potential Emissions :	2.1000000 lb/hour		9.2000000 tons/year
4. Synthetically Limited? [ ] Yes [X] No			
5. Range of Estimated Fugitive/Other Emissions:		to	tons/year
6. Emissions Factor Reference :		Units	
7. Emissions Method Code : 2			
8. Calculations of Emissions : See Attachment B.			
9. Pollutant Potential/Estimated Emissions Comment : Actual efficiency estimated at 99.96%.			

H. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION
(Regulated Emissions Units Only - Emissions Limited Pollutants Only)

Emissions Unit Information Section 9

Hammermill System

Pollutant Potential/Estimated Emissions : Pollutant 2

1. Pollutant Emitted : **PM10**		
2. Total Percent Efficiency of Control : 99.90 %		
3. Potential Emissions :	2.1000000 lb/hour	9.2000000 tons/year
4. Synthetically Limited? [ ] Yes [X] No		
5. Range of Estimated Fugitive/Other Emissions:	to	tons/year
6. Emissions Factor Reference :	Units	
7. Emissions Method Code : 2		
8. Calculations of Emissions : See Attachment B.		
9. Pollutant Potential/Estimated Emissions Comment : Actual efficiency estimated at 99.96%..		

I. VISIBLE EMISSIONS INFORMATION
(Regulated Emissions Units Only)

Emissions Unit Information Section 9
Hammermill System

Visible Emissions Limitation : Visible Emissions Limitation 1

1. Visible Emissions Subtype : 20
2. Basis for Allowable Opacity : RULE
3. Requested Allowable Opacity : Normal Conditions : 20 % Exceptional Conditions : 40 % Maximum Period of Excess Opacity Allowed : 2 min/hour
4. Method of Compliance : Annual Method 9 Test
5. Visible Emissions Comment :

K. PREVENTION OF SIGNIFICANT DETERIORATION (PSD) INCREMENT TRACKING INFORMATION

Emissions Unit Information Section 9

Hammermill System

PSD Increment Consumption Determination

1. Increment Consuming for Particulate Matter or Sulfur Dioxide?

[X] The emissions unit is undergoing PSD review as part of this application, or has undergone PSD review previously, for particulate matter or sulfur dioxide. If so, emissions unit consumes increment.

[ ] The facility addressed in this application is classified as an EPA major source pursuant to paragraph (c) of the definition of "major source of air pollution" in Chapter 62-213, F.A.C., and the emissions unit addressed in this section commenced (or will commence) construction after January 6, 1975. If so, baseline emissions are zero, and emissions unit consumes increment.

[ ] The facility addressed in this application is classified as an EPA major source, and the emissions unit began initial operation after January 6, 1975, but before December 27, 1977. If so, baseline emissions are zero, and emissions unit consumes increment.

[ ] For any facility, the emissions unit began (or will begin) initial operation after December 27, 1977. If so, baseline emissions are zero, and emissions unit consumes increment.

[ ] None of the above apply. If so, the baseline emissions of the emissions unit are nonzero. In such case, additional analysis, beyond the scope of this application, is needed to determine whether changes in emissions have occurred (or will occur) after the baseline date that may consume or expand increment.

2. Increment Consuming for Nitrogen Dioxide?

[ ] The emissions unit addressed in this section is undergoing PSD review as part of this application, or has undergone PSD review previously, for nitrogen dioxide. If so, emissions unit consumes increment.

[ ] The facility addressed in this application is classified as an EPA major source pursuant to paragraph (c) of the definition of "major source of air pollution" in Chapter 62-213, F.A.C., and the emissions unit addressed in this section commenced (or will commence) construction after February 8, 1988. If so, baseline emissions are zero, and emissions unit consumes increment.

[ ] The facility addressed in this application is classified as an EPA major source, and the emissions unit began initial operation after February 8, 1988, but before March 28, 1988. If so, baseline emissions are zero, and emissions unit consumes increment.

[ ] For any facility, the emissions unit began (or will begin) initial operation after March 28, 1988. If so, baseline emissions are zero, and emissions unit consumes increment.

[ ] None of the above apply. If so, baseline emissions of the emissions unit are nonzero. In such case, additional analysis, beyond the scope of this application, is needed to determine whether changes in emissions have occurred (or will occur) after the baseline date that may consume or expand increment.

3. Increment Consuming/Expanding Code :

PM : C SO2 : U NO2 : U

4. Baseline Emissions :

PM :	lb/hour	tons/year
SO2 :	lb/hour	tons/year
NO2 :		tons/year

5. PSD Comment :

Unit only emits PM.

L. EMISSIONS UNIT SUPPLEMENTAL INFORMATION

Emissions Unit Information Section 9

Hammermill System

Supplemental Requirements for All Applications

1. Process Flow Diagram :	Fig. 3-4a, 3-4b
2. Fuel Analysis or Specification :	NA
3. Detailed Description of Control Equipment :	Attachment G.
4. Description of Stack Sampling Facilities :	NA
5. Compliance Test Report :	NA
6. Procedures for Startup and Shutdown :	NA
7. Operation and Maintenance Plan :	NA
8. Supplemental Information for Construction Permit Application :	Enclosed Report
9. Other Information Required by Rule or Statue :	NA

Additional Supplemental Requirements for Category I Applications Only

10. Alternative Methods of Operations :
11. Alterntive Modes of Operation (Emissions Trading) :

12. Identification of Additional Applicable Requirements :
13. Compliance Assurance Monitoring Plan :
14. Acid Rain Application (Hard-copy Required) : Acid Rain Part - Phase II (Form No. 62-210.900(1)(a)) Repowering Extension Plan (Form No. 62-210.900(1)(a)1.) New Unit Exemption (Form No. 62-210.900(1)(a)2.) Retired Unit Exemption (Form No. 62-210.900(1)(a)3.)

III. EMISSIONS UNIT INFORMATION

A. TYPE OF EMISSIONS UNIT
(Regulated and Unregulated Emissions Units)

Emissions Unit Information Section 10

Thermal Oil System

Type of Emissions Unit Addressed in This Section

1. Regulated or Unregulated Emissions Unit? Check one :

[X] The emissions unit addressed in this Emissions Unit Information Section is a regulated emissions unit.

[ ] The emissions unit addressed in this Emissions Unit Information Section is an unregulated emissions unit.

2. Single Process, Group of Processes, or Fugitive Only? Check one :

[X] This Emissions Unit Information Section addresses, as a single emissions unit, a single process or production unit, or activity, which produces one or more air pollutants and which has at least one definable emission point (stack or vent).

[ ] This Emissions Unit Information Section addresses, as a single emissions unit, a group of process or production units and activities which has at least one definable emission point (stack or vent) but may also produce fugitive emissions.

[ ] This Emissions Unit Information Section addresses, as a single emissions unit, one or more process or production units and activities which produce fugitive emissions only.

B. GENERAL EMISSIONS UNIT INFORMATION
(Regulated and Unregulated Emissions Units)

Emissions Unit Description and Status

1. Description of Emissions Unit Addressed in This Section : Thermal Oil System		
2. Emissions Unit Identification Number : 010 [ ] No Corresponding ID [ ] Unknown		
3. Emissions Unit Status Code : C	4. Acid Rain Unit? [ ] Yes [X] No	5. Emissions Unit Major Group SIC Code : 24
6. Emissions Unit Comment : The Thermal Oil Sys. to heat the press, will be comprised of 2 thermal oil heaters. Each heater is heated by a 40 mmbtu/hr wood fuel burner. A 30 mmbtu/hr natural gas burner is backup. Each heater is controlled independently. Neither heater can be fired simultaneously on wood or gas. Exhaust gases from the thermal oil heat system pass through a dry ESP. During normal ops, the exhaust from the therm. oil system burners are routed through the dryer system.		

Emissions Unit Information Section 10

Thermal Oil System

Emissions Unit Control Equipment 1

1. Description : Electro Static Precipitator. During normal operations, exhaust from the thermal oil system also passes through the multiclones and RTO's which control the dryer exhaust.	
2. Control Device or Method Code :	10

C. EMISSIONS UNIT DETAIL INFORMATION
(Regulated Emissions Units Only)

Emissions Unit Information Section 10

Thermal Oil System

Emissions Unit Details

1. Initial Startup Date :	01-Aug-2000
2. Long-term Reserve Shutdown Date :	
3. Package Unit : Manufacturer :	Model Number :
4. Generator Nameplate Rating :	MW
5. Incinerator Information : Dwell Temperature : Dwell Time : Incinerator Afterburner Temperature :	 Degrees Fahrenheit Seconds Degrees Fahrenheit

Emissions Unit Operating Capacity

1. Maximum Heat Input Rate :	80	mmBtu/hr	
2. Maximum Incinerator Rate :		lb/hr	tons/day
3. Maximum Process or Throughput Rate :	9		tons/hour
4. Maximum Production Rate :	0		
5. Operating Capacity Comment : System consists of 2 thermal oil heaters.Each thermal oil heater is equipped with a 40 mmbtu/hr wood fuel burnr and a 30 mmbtu/hr natural gas burner(backup).Both burners are not fired simultaneoously.			

Emissions Unit Operating Schedule

Requested Maximum Operating Schedule :	
24 hours/day	7 days/week
52 weeks/year	8,760 hours/year

D. EMISSIONS UNIT REGULATIONS
(Regulated Emissions Units Only)

Emissions Unit Information Section 10

Thermal Oil System

Rule Applicability Analysis

List of Applicable Regulations

62-296.410(2) F.A.C.

NSPS Subpart Dc when operating in bypass mode (see Section 5.2 of main text.)

E. EMISSION POINT (STACK/VENT) INFORMATION

Emissions Unit Information Section 10

Thermal Oil System

Emission Point Description and Type :

1. Identification of Point on Plot Plan or Flow Diagram : EU010	
2. Emission Point Type Code : 3	
3. Descriptions of Emission Points Comprising this Emissions Unit : RTO Stack for normal operation. ESP stack for bypass mode.	
4. ID Numbers or Descriptions of Emission Units with this Emission Point in Common :	
5. Discharge Type Code :	V
6. Stack Height :	120 feet
7. Exit Diameter :	5.50 feet
8. Exit Temperature :	700 °F
9. Actual Volumetric Flow Rate :	29,698 acfm
10. Percent Water Vapor :	%
11. Maximum Dry Standard Flow Rate :	dscfm
12. Nonstack Emission Point Height :	feet
13. Emission Point UTM Coordinates : Zone : 16 East (km) : 713.768 North (km) : 3,369.591	
14. Emission Point Comment : ESP stack for thermal oil heater	

F. SEGMENT (PROCESS/FUEL) INFORMATION

Emissions Unit Information Section 10

Thermal Oil System

Segment Description and Rate : Segment 1

1. Segment Description (Process/Fuel Type and Associated Operating Method/Mode) : Wood/bark fuel burned as the primary fuel to heat the thermal oil. System is comprised of two identical heaters. Each heater has a 40 mmbtu/hr wood fueled burner.	
2. Source Classification Code (SCC) : 10100902	
3. SCC Units : Tons Burned (all solid fuels)	
4. Maximum Hourly Rate : 8.90	5. Maximum Annual Rate : 77,867.00
6. Estimated Annual Activity Factor :	
7. Maximum Percent Sulfur :	8. Maximum Percent Ash :
9. Million Btu per SCC Unit :	
10. Segment Comment :	

F. SEGMENT (PROCESS/FUEL) INFORMATION

Emissions Unit Information Section 10

Thermal Oil System

Segment Description and Rate : Segment 2

1. Segment Description (Process/Fuel Type and Associated Operating Method/Mode) : Natural gas burned as a backup fuel. System is comprised of two identical heaters. Each heater has a 30 mmbtu/hr natural gas fired burner.	
2. Source Classification Code (SCC) : 10100601	
3. SCC Units : Million Cubic Feet Burned (all gaseous fuels)	
4. Maximum Hourly Rate : 0.06	5. Maximum Annual Rate : 526.00
6. Estimated Annual Activity Factor :	
7. Maximum Percent Sulfur : 0.00	8. Maximum Percent Ash :
9. Million Btu per SCC Unit :	
10. Segment Comment :	

G. EMISSIONS UNIT POLLUTANTS
(Regulated and Unregulated Emissions Units)

Emissions Unit Information Section 10

Thermal Oil System

1. Pollutant Emitted	2. Primary Control Device Code	3. Secondary Control Device Code	4. Pollutant Regulatory Code
1 - NOX			NS
2 - CO			NS
3 - PM	011		NS
4 - VOC			NS
5 - SO2			NS
6 - PM10	011		NS

H. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION
(Regulated Emissions Units Only - Emissions Limited Pollutants Only)

Emissions Unit Information Section 10

Thermal Oil System

Pollutant Potential/Estimated Emissions : Pollutant 1

1. Pollutant Emitted : **NOX**
2. Total Percent Efficiency of Control : 0.00 %
3. Potential Emissions : 13.3000000 lb/hour 58.4000000 tons/year
4. Synthetically Limited? [ ] Yes [X] No
5. Range of Estimated Fugitive/Other Emissions: to tons/year
6. Emissions Factor 0 Units lb/mmbtu Reference : AP-42
7. Emissions Method Code : 3
8. Calculations of Emissions : See Attachment B.
9. Pollutant Potential/Estimated Emissions Comment :

#9
During normal operations, source exhausts with the dryers' exhaust via EP-1. emission estimates for EP-1 include this source

H. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION
(Regulated Emissions Units Only - Emissions Limited Pollutants Only)

Emissions Unit Information Section 10

Thermal Oil System

Pollutant Potential/Estimated Emissions : Pollutant 1

1. Pollutant Emitted : **NOX**	
2. Total Percent Efficiency of Control : 0.00 %	
3. Potential Emissions : 13.3000000 lb/hour	58.4000000 tons/year
4. Synthetically Limited? [ ] Yes [X] No	
5. Range of Estimated Fugitive/Other Emissions: to	tons/year
6. Emissions Factor 0 Reference : AP-42	Units lb/mmbtu
7. Emissions Method Code : 3	
8. Calculations of Emissions : See Attachment B.	
9. Pollutant Potential/Estimated Emissions Comment : Emission Factor is 0.167 lb/mmbtu. During normal operation source exhaust with the dryer exhaust via EP-1: emission estimates for EP-1 include this source.	

H. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION
(Regulated Emissions Units Only - Emissions Limited Pollutants Only)

Emissions Unit Information Section 10

Thermal Oil System

Pollutant Potential/Estimated Emissions : Pollutant 2

1. Pollutant Emitted : **CO**
2. Total Percent Efficiency of Control : 0.00 %
3. Potential Emissions : 120.9000000 lb/hour 529.5000000 tons/year
4. Synthetically Limited? [ ] Yes [X] No
5. Range of Estimated Fugitive/Other Emissions: to tons/year
6. Emissions Factor 2 Units lb/mmbtu Reference : AP-42
7. Emissions Method Code : 3
8. Calculations of Emissions : See Attachment B.
9. Pollutant Potential/Estimated Emissions Comment : Emission Factor is 1.5 lb/mmbtu. During normal operation source exhaust with the dryer exhaust via EP-1: emission estimates for EP-1 include this source.

H. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION
(Regulated Emissions Units Only - Emissions Limited Pollutants Only)

Emissions Unit Information Section 10

Thermal Oil System

Pollutant Potential/Estimated Emissions : Pollutant 3

1. Pollutant Emitted : **PM**

2. Total Percent Efficiency of Control : 85.80 %

3. Potential Emissions :
8.0000000 lb/hour 35.0000000 tons/year

4. Synthetically Limited?
[ ] Yes [X] No

5. Range of Estimated Fugitive/Other Emissions:
to tons/year

6. Emissions Factor 0 Units lb/mmbtu
Reference : ESP Manufacture Guar

7. Emissions Method Code : 4

8. Calculations of Emissions :

See Attachment B.

9. Pollutant Potential/Estimated Emissions Comment :

Emission Factor is 0.1 lb/mmbtu. During normal operation source exhaust with the dryer exhaust via EP-1: emission estimates for EP-1 include this source.

Emissions Unit Information Section 10
Thermal Oil System

Pollutant Information Section 3

Allowable Emissions 1

1. Basis for Allowable Emissions Code :	RULE			
2. Future Effective Date of Allowable Emissions :				
3. Requested Allowable Emissions and Units :	0.10	lb/mmbtu		
4. Equivalent Allowable Emissions :	8.00	lb/hour	35.00	tons/year
5. Method of Compliance : Source test at startup				
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) :				

H. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION
(Regulated Emissions Units Only - Emissions Limited Pollutants Only)

Emissions Unit Information Section 10

Thermal Oil System

Pollutant Potential/Estimated Emissions : Pollutant 4

1. Pollutant Emitted : **VOC**			
2. Total Percent Efficiency of Control :	0.00 %		
3. Potential Emissions :	2.0000000 lb/hour		8.6000000 tons/year
4. Synthetically Limited? [ ] Yes [X] No			
5. Range of Estimated Fugitive/Other Emissions:		to	tons/year
6. Emissions Factor 0		Units lb/mmbtu	
Reference : AP-42			
7. Emissions Method Code : 3			
8. Calculations of Emissions : See Attachment B.			
9. Pollutant Potential/Estimated Emissions Comment : Emission Factor is 0.02 lb/mmbtu. During normal operation source exhaust with the dryer exhaust via EP-1: emission estimates for EP-1 include this source.			

H. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION
(Regulated Emissions Units Only - Emissions Limited Pollutants Only)

Emissions Unit Information Section 10

Thermal Oil System

Pollutant Potential/Estimated Emissions : Pollutant 5

1. Pollutant Emitted : **SO2**
2. Total Percent Efficiency of Control : 0.00 %
3. Potential Emissions : 0.7000000 lb/hour 2.9000000 tons/year
4. Synthetically Limited? [ ] Yes [X] No
5. Range of Estimated Fugitive/Other Emissions: to tons/year
6. Emissions Factor 0 Units lb/mmbtu Reference : AP-42
7. Emissions Method Code : 3
8. Calculations of Emissions : See Attachment B.
9. Pollutant Potential/Estimated Emissions Comment : Emission Factor is 0.008 lb/mmbtu. During normal operation source exhaust with the dryer exhaust via EP-1: emission estimates for EP-1 include this source.

H. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION
(Regulated Emissions Units Only - Emissions Limited Pollutants Only)

Emissions Unit Information Section 10

Thermal Oil System

Pollutant Potential/Estimated Emissions : Pollutant 6

1. Pollutant Emitted : **PM10**
2. Total Percent Efficiency of Control : 85.80 %
3. Potential Emissions : 8.0000000 lb/hour 35.0000000 tons/year
4. Synthetically Limited? [ ] Yes [X] No
5. Range of Estimated Fugitive/Other Emissions: to tons/year
6. Emissions Factor 0 Units lb/mmbtu Reference : ESP Manufacture Guar
7. Emissions Method Code : 4
8. Calculations of Emissions : See Attachment B.
9. Pollutant Potential/Estimated Emissions Comment : Emission Factor is 0.1 lb/mmbtu. During normal operation source exhaust with the dryer exhaust via EP-1: emission estimates for EP-1 include this source.

I. VISIBLE EMISSIONS INFORMATION
(Regulated Emissions Units Only)

Emissions Unit Information Section 10
Thermal Oil System

Visible Emissions Limitation : Visible Emissions Limitation 1

1. Visible Emissions Subtype :	20		
2. Basis for Allowable Opacity :	RULE		
3. Requested Allowable Opacity :			
Normal Conditions :		20	%
Exceptional Conditions :		27	%
Maximum Period of Excess Opacity Allowed :		6	min/hour
4. Method of Compliance : C.E.M. required by N.S.P.S.			
5. Visible Emissions Comment : 40CFR60.43c(c).			

J. CONTINUOUS MONITOR INFORMATION
(Regulated Emissions Units Only)

Emissions Unit Information Section 10

Thermal Oil System

Continuous Monitoring System Continuous Monitor 1

1. Parameter Code : VE	2. Pollutant(s):
3. CMS Requirement	
4. Monitor Information Manufacturer : Model Number : Serial Number :	
5. Installation Date :	
6. Performance Specification Test Date :	
7. Continuous Monitor Comment :	

K. PREVENTION OF SIGNIFICANT DETERIORATION (PSD) INCREMENT TRACKING INFORMATION

Emissions Unit Information Section 10

Thermal Oil System

PSD Increment Consumption Determination

1. Increment Consuming for Particulate Matter or Sulfur Dioxide?

[X] The emissions unit is undergoing PSD review as part of this application, or has undergone PSD review previously, for particulate matter or sulfur dioxide. If so, emissions unit consumes increment.

[ ] The facility addressed in this application is classified as an EPA major source pursuant to paragraph (c) of the definition of "major source of air pollution" in Chapter 62-213, F.A.C., and the emissions unit addressed in this section commenced (or will commence) construction after January 6, 1975. If so, baseline emissions are zero, and emissions unit consumes increment.

[ ] The facility addressed in this application is classified as an EPA major source, and the emissions unit began initial operation after January 6, 1975, but before December 27, 1977. If so, baseline emissions are zero, and emissions unit consumes increment.

[ ] For any facility, the emissions unit began (or will begin) initial operation after December 27, 1977. If so, baseline emissions are zero, and emissions unit consumes increment.

[ ] None of the above apply. If so, the baseline emissions of the emissions unit are nonzero. In such case, additional analysis, beyond the scope of this application, is needed to determine whether changes in emissions have occurred (or will occur) after the baseline date that may consume or expand increment.

2. Increment Consuming for Nitrogen Dioxide?

[X] The emissions unit addressed in this section is undergoing PSD review as part of this application, or has undergone PSD review previously, for nitrogen dioxide. If so, emissions unit consumes increment.

[ ] The facility addressed in this application is classified as an EPA major source pursuant to paragraph (c) of the definition of "major source of air pollution" in Chapter 62-213, F.A.C., and the emissions unit addressed in this section commenced (or will commence) construction after February 8, 1988. If so, baseline emissions are zero, and emissions unit consumes increment.

[ ] The facility addressed in this application is classified as an EPA major source, and the emissions unit began initial operation after February 8, 1988, but before March 28, 1988. If so, baseline emissions are zero, and emissions unit consumes increment.

[ ] For any facility, the emissions unit began (or will begin) initial operation after March 28, 1988. If so, baseline emissions are zero, and emissions unit consumes increment.

[ ] None of the above apply. If so, baseline emissions of the emissions unit are nonzero. In such case, additional analysis, beyond the scope of this application, is needed to determine whether changes in emissions have occurred (or will occur) after the baseline date that may consume or expand increment.

3. Increment Consuming/Expanding Code :			
	PM : C	SO2 : C	NO2 : C
4. Baseline Emissions :			
	PM :	lb/hour	tons/year
	SO2 :	lb/hour	tons/year
	NO2 :		tons/year
5. PSD Comment :			

L. EMISSIONS UNIT SUPPLEMENTAL INFORMATION

Emissions Unit Information Section 10

Thermal Oil System

Supplemental Requirements for All Applications

1. Process Flow Diagram :	Fig. 3-4a, 3-4b
2. Fuel Analysis or Specification :	NA
3. Detailed Description of Control Equipment :	Attachment G.
4. Description of Stack Sampling Facilities :	NA
5. Compliance Test Report :	NA
6. Procedures for Startup and Shutdown :	NA
7. Operation and Maintenance Plan :	NA
8. Supplemental Information for Construction Permit Application :	Enclosed Report
9. Other Information Required by Rule or Statue :	NA

Additional Supplemental Requirements for Category I Applications Only

10. Alternative Methods of Operations :
11. Altemtive Modes of Operation (Emissions Trading) :

12. Identification of Additional Applicable Requirements :
13. Compliance Assurance Monitoring Plan :
14. Acid Rain Application (Hard-copy Required) : Acid Rain Part - Phase II (Form No. 62-210.900(1)(a)) Repowering Extension Plan (Form No. 62-210.900(1)(a)1.) New Unit Exemption (Form No. 62-210.900(1)(a)2.) Retired Unit Exemption (Form No. 62-210.900(1)(a)3.)

Attachment B

EMISSION CALCULATIONS AND VENDOR DOCUMENTATION

M·E·C COMPANY

Neodesha, Kansas U.S.A.

By BCB

REV. 29 MAY 1998
Date 14 MARCH 1997

Customer GEORGIA-PACIFIC CORPORATION

Job No. D-0160-3 Location FORDYCE, ARKANSAS Sht. No. 1 of 10

DRYER SYSTEM EMISSIONS
EMISSION POINT NO. 1

Basis: 475 MM, 20% Fines, 120% ODMC, Peak Flow, TherMec™ Burners + Flue Gas

Case: Dryer Performance Case 90-A

From: M-E-C Emission Estimate EADGPEM3 dated 4/15/98

	PM	VOC	CO	NOX	HCOH
lb/h (exit primary collector)	148.81	252.53	26.87	11.94	3.74
lb/h (Exit Secondary Collector)	99.26	252.53	26.87	11.94	3.74
lb/h (exit RTO)	14.89	25.25	6.72	14.66	.37
RTO Removal Efficiency	85.0%	90.0%	75.0%	Add 10 ppm	90.0%
TPY, 8760 h/y	65.22	110.60	29.43	64.21	1.62
TPY, Total (5) Five Dryers	326.10	553.0	147.15	321.05	8.1

Best Available Copy

MEC DRYER SYSTEM EMISSIONS ES.IMATE

G-P CORP. 4/15/98

FORDYCE, ARKANSAS (1) OF (5) 1360-T DRYERS BCB

MAXIMUM CONDITIONS EADGPEM3

CASE NO:	90-A
CAPACITY, OD LB/HR:	25,124
INLET TEMP. F:	1,336
SENSIBLE HEAT,MMBTU/H:	44.32
BURNER HEAT, MMBTU/H:	48.02
PM, PRIMARY COLLECTOR:	UHE
EM FACTOR W/WOOD:	11.85
PM, FRONT, LB/HR:	119.05
PM, BACK, LB/HR:	29.76
PM, TOTAL, LB/HR:	148.81
PM, SECONDARY:	CA
EFFICIENCY:	33.3%
PM LB/HR:	99.26
PM, TERTIARY:	RTO
EFFICIENCY:	85.0%
PM EMISSIONS LB/HR:	14.89
VOC, PRIMARY:	UHE
HWD E-FACTOR:	2.80
SYP E-FACTOR:	20.10
HWD CONTENT, %:	0.0%
CUT, %:	100.0%
TOTAL VOC, LB/HR:	252.53
VOC, SECONDARY:	CA
D/R EFFICIENCY:	0.0%
TOTAL VOC, LB/HR:	252.53
VOC, TERTIARY:	RTO
D/R EFFICIENCY:	90.0%
VOC EMISSIONS LB/HR:	25.25
CARBON MONOXIDE:	
BURNER E.F. LB/MMBTU:	0.25
BURNER, LB/HR:	11.08
DRYER E.F. LB/OD TON:	1.26
DRYER, LB/HR:	15.79
TOTAL, LB/HR:	26.87
RTO D/R EFFICIENCY:	75.0%
CO EMISSIONS,LB/HR:	6.72
NOX (BURNER ONLY):	
E.F., LB/MMBTU:	0.269
NOX, LB/HR:	11.94
RTO ADD NOX, PPM:	10.00
AIRFLOW, SCFM:	47,500
ADD NOX, LB/HR:	2.72
NOX EMISSIONS, LB/HR:	14.66
HCOH	
HWD E.F. LB/OD TON:	2.37
SYP E.F. LB/OD TON:	0.30
HWD CONTENT, %:	0.0%
TOTAL, LB/HR:	3.74
RTO D/R EFFICIENCY:	90.0%
HCOF ~~SSIONS, LB/HR:	0.37

Calculations for Sulfur Dioxide from Dryers/RTO (used AP-42; values not provided by vendor)

AP-42 Factor for firing wood fuel in boilers = 0.15 lb/ton wood fuel fired (wet basis)

Dryer has 5 burners at 40 MMBTU/hr each, for a total of 200 MMBTU/hr

Thermal oil heater (combustion products ducted to dryer system) has 2 burners at 40 MMBTU/hr each, for a total of 80 MMBTU/hr

Total exiting dryer system = 280 MMBTU/hr

Sulfur dioxide emissions:

280 MMBTU/hr x lb/4500 BTU x ton/2000 lbs x 0.075 lb SO_2/ton = 2.3 lbs/hr (10.2 tpy)

MEC COMPANY

Neodesha, Kansas U.S.A.

By BCB Date REV. 29 MAY 1998 14 MARCH 1997

Customer GEORGIA-PACIFIC CORPORATION

Job No. D-0160-3 Location FORDYCE, ARKANSAS Sht. No. 2 of 10

PRESS EMISSIONS
EMISSION POINT NO. 2

Basis: 475 MM, 20% Fines, 120% ODMC, Peak Flow

From: L-P, OSB, Hanceville, AL Press RTO Testing June, 1994, 350 MSF production

	PM	VOC	CO	NOX	HCOH
RTO Removal Efficiency	75.0%	90.0%	-	-	98.0%
Test (lb/h)	2.08	14.74	5.33	7.89	.18
Factor 475 MM/y / 350 MM/y	1.36	1.36	1.36	1.36	1.36
lb/h	2.83	20.05	7.25	10.73	0.24
TPY 8760 h/y	12.4	87.82	31.76	47.00	1.05

SCREEN FINES W/SAW TRIM TRANSFER PNEUMATICS CP-003
EMISSION POINT NO. 3

Saw Trim Transfer (CP-004) From CP-001
= 4,911 lb/h

From Flowrate Determination, 475 MM, 20% Fines

Screen Fines
From Flowrate Determination, (20%)
= 21,334 lb/h

4,911 lb/h Saw Trim
21,334 lb/h Screen Fines
26,245 lb/h Total

Receiver is 80% eff per MFH
Filter is 99.96% eff MAC Model 144 MCF 153

∴(1-.8)(1-.9996) 26,245 lb/h = 2.1 lb/h
x4.38

$\frac{8760 \text{ h/y}}{2,000 \text{ lb/ton}}$ = 4.38 Factor

9.20 TPY

Calculation based on 0.01 grains/dscf:

(.01 gr/dscf)(13,171 dscfm)(60 min/h)(1 lb/7000 grains) = 1.13 lb/h
x4.38

4.95 TPY

SAW TRIM/FINISHING LINE PNEUMATICS CP-001
EMISSION POINT NO. 4

From Flowrate Determination, 475 MM, 20% Fines

Trim Saws Remove: **4,911 lb/h**

Receiver is 80% eff per MFH
Filter is 99.96% eff per MAC (Model 144 MCF 361)
∴ (1-.8)(1-.9996) 4,911 lb/h= .39 lb/h
x4.38

$\frac{8760\ h/y}{2{,}000\ lb/ton}$ = 4.38 Factor **1.71 TPY**

Calculation based on 0.01 grains/dscf:

(.01 gr/dscf)(30,733 dscfm)(60 min/h)(1 lb/7000 grains) = 2.63 lb/h
x4.38

11.52 TPY

M·E·C COMPANY

Neodesha, Kansas U.S.A.

By BCB REV. 26 AUGUST 1997 Date 14 MARCH 1997

Customer GEORGIA-PACIFIC CORPORATION

Job No. D-0160-3 Location FORDYCE, ARKANSAS Sht. No 5 of 10

MAT REJECT/FLYING SAW PNEUMATICS CP-005
EMISSION POINT NO. 5

From Flowrate Determination, 475 MM, 20% Fines

Mat Reject:

M sqft/day = 1334

Ton/day = 896

$\therefore$ Mat = 1.3434 lb/ft^2
Mat = 8' x 24' = 192 ft^2
Mat = 247.9 lb

Assume reject 3 Mat in 21.6 hours

$\therefore$ (3) (257.0 lb)/21.6 H) = **35.8 lb/h from Mat Reject**

Flying Saws:

Assume Remove ≅ 4"/Mat on 8' Side

$\therefore$ 4"/12" x 8' = 2.66 ft^2/Mat
@ 1,334,000/21.6 h = 61,759 ft^2/h
61,759 ft^2/h/192 ft^2/Mat = 321 Mat/h

Remove 2.66 ft^2/Mat on 321 Mat/h = 853.9 ft^2/h
@ 1.3434 lb/ft^2

$\therefore$ **1,147 lb/h from Saw**

CP-005 Handles:

35.8 lb/h Mat Reject
1,147.0 lb/h Flying Saw
1,183.8 lb/h Total

MEC COMPANY

Neodesha, Kansas U.S.A.

By BCB

Rev. 29 May 1999
Date 14 Mar. 1999

Customer GEOGRIA-PACIFIC CORPORATION

Proposal No. D-0014-9 Location FORDYCE, ARKANSAS Sht.No. 6 of 10

CP-005 Cont.:

- Assume 120" Collector @ 0% Removal as instantaneous loading does not set up a vortex.

Receiver is 80% eff per MFH
Filter is 99.96% eff per MAC Model 144 MCF 361

(1-.8) (1-.9996) 1,183 lb/h = .09 lb/h
x4.38

$\frac{8760 \text{ h/y}}{2{,}000 \text{ lb/ton}}$ = 4.38 Factor **.4 TPY**

Calculation based on 0.01 grains/dscf:

(.01 gr/dscf) (45,720 dscfm) (60 min/h) (1 lb/7000 grains) = 3.90 lb/h
x4.38
17.08 TPY

SPECIALTY SAW/SANDER PNEUMATICS CP-006
EMISSION POINT NO. 6

From Flowrate Determination, 475 MM, 20% Fines:
Sander Removes .009" Total $\frac{.009"}{12"/ft}$ = .0008' Per MFH

Assume 100% Sanded
From Flowrate Determination, 475 MM, 20% Fines:

61,759 ft^2/h x .0008'
= 49.4 ft^3/h
@ 46 ft^3 Board Density

= **2,272 lb/h**

Specialty Saw (T & G)
T & G Removes 2.34% by Weight Per MFH

Assume 100% is T & G
From Flowrate Determination, 475 MM, 20% Fines:

83,006 lb/h x .0234 = **1,942 lb/h**

CP-006 Handles:

2,272 lb/h Sander
1,942 lb/h T & G
4,214 lb/h Total
=====

Receiver is 80% eff per MFH
Filter is 99.96% eff MAC Model 144 MCF 255

∴ (1-.8)(1-.9996) 4,214 lb/h = .34 lb/h
x4.38

$\frac{8760\ h/y}{2,000\ lb/ton}$ = 4.38 Factor

1.49 TPY

Calculation based on 0.01 grains/dscf:
(0.1 gr/dscf)(25,343 dscfm)(60 min/h)(1 lb/7000 grains) = 2.17 lb/h
x4.38

9.50 TPY

FUEL SYSTEM PNEUMATICS CP-006
EMISSION POINT NO. 7

From Flowrate Determination, 475 MM, 20% Fines
From Specialty Saw Filter 4,214 lb/h

Receiver is 80% eff per MFH
Filter is 99.96% eff MAC Model 72 AVR7
∴ (1-.8) (1-.9996) 4,214 lb/h = .34 lb/h
x4.38

$\frac{8760 \text{ h/y}}{2{,}000 \text{ lb/ton}}$ = 4.38 Factor

1.5 TPY

Calculation based on 0.01 grains/dscf:

(.01 gr/dscf) (490 dscfm) (60 min/h) (1 lb/7000 grains) = 0.04 lb/h
x4.38

0.18 TPY

FORMING BINS PNEUMATICS CP-002

EMISSION POINT NO. 8

From Flowrate Determination, 475 MM, 20% Fines

"Press+Line Losses"

(87,974-87,095) = 879 lb/h

Receiver is 80% eff per MFH
Filter is 99.96% eff per MAC (Model 144 MCF 153)
∴ (1-.8) 1-.9996) 879 lb/h = .07 lb/h
x4.38

8760 h/y / 2,000 lb/ton = 4.38 Factor .31 TPY

Calculation based on 0.01 grains/dscf:

(.01 gr/dscf) (22,140 dscfm) (60 min/h) (1 lb/7000 grains) = 1.90 lb/h
x4.38
8.32 TPY

MEC COMPANY

Neodesha, Kansas U.S.A.

REV. 29 MAY 1998

By BCB Date 14 MARCH 1997

Customer GEORGIA-PACIFIC CORPORATION

Job No. D-0160-3 Location FORDYCE, ARKANSAS Sht. No. 10 of 10

HAMMERMILL SYSTEM PNEUMATICS
EMISSION POINT NO. 9

Hammermill Grinds = 26,245 lb/h

Receiver is 80% eff per MFH
Filter is 99.96% eff MAC Model 144 MCF
∴ (1-.8)(1-.9996) 26,245 lb/h = 2.1 lb/h
x4.38

$\frac{8760 \text{ h/y}}{2{,}000 \text{ lb/ton}}$ = 4.38 Factor

9.20 TPY

Calculation based on 0.01 grains/dscf:

(.01 gr/dscf)(14,700 dscfm)(60 min/h)(1 lb/7000 grains) = 1.26 lb/h
x4.38

5.52 TPY

THERMAL OIL HEATER

Summary of Emissions from Hot Oil Heater, G-P Hosford OSB

Substance	Emission Factor			Emission Rates (a) (lb/hr)	(tpy)
Particulate Matter (PM/PM10)	0.1	lb/MMBtu	(1)	8.0	35.0
Nitrogen Oxides	0.167	lb/MMBtu	(2)	13.3	58.4
Sulfur Dioxide	0.008	lb/MMBtu	(2)	0.7	2.9
Carbon Monoxide	1.511	lb/MMBtu	(2)	120.9	529.5
VOCs	0.02	lb/MMBtu	(2)	2.0	8.6
Lead	1.78E-06	lb/MMBtu	(2)	1.42E-04	6.23E-04
HAPs					
Phenols	1.89E-05	lb/MMBtu	(2)	1.51E-03	6.62E-03
Acenaphthene	4.56E-07	lb/MMBtu	(2)	3.64E-05	1.60E-04
Fluorene	9.13E-07	lb/MMBtu	(2)	7.31E-05	3.20E-04
Phenanthrene	5.58E-06	lb/MMBtu	(2)	4.46E-04	1.95E-03
Fluoranthene	2.03E-06	lb/MMBtu	(2)	1.63E-04	7.12E-04
Benzo(a)anthracene	3.63E-07	lb/MMBtu	(2)	2.91E-05	1.27E-04
Benzo(k)fluoranthrene	8.50E-08	lb/MMBtu	(2)	6.80E-06	2.98E-05
Benzo(b+k)fluoranthene	3.22E-06	lb/MMBtu	(2)	2.58E-04	1.13E-03
Benzofluoranthenes	1.20E-07	lb/MMBtu	(2)	9.60E-06	4.20E-05
Benzo(a)pyrene	7.50E-09	lb/MMBtu	(2)	6.00E-07	2.63E-06
Benzo(g,h,l)perlyene	1.57E-07	lb/MMBtu	(2)	1.25E-05	5.49E-05
Chrysene	5.02E-08	lb/MMBtu	(2)	4.02E-06	1.76E-05
Indeno(1,2,3,c,d)pyrene	4.00E-08	lb/MMBtu	(2)	3.20E-06	1.40E-05
Acenaphthlyene	5.29E-06	lb/MMBtu	(2)	4.23E-04	1.85E-03
Methyl anthracene	1.56E-05	lb/MMBtu	(2)	1.24E-03	5.45E-03
Acrolien	4.44E-07	lb/MMBtu	(2)	3.56E-05	1.56E-04
Formaldehyde	9.11E-04	lb/MMBtu	(2)	7.29E-02	3.19E-01
Acetaldehyde	2.13E-04	lb/MMBtu	(2)	1.71E-02	7.48E-02
Benzene	1.11E-03	lb/MMBtu	(2)	8.84E-02	3.87E-01
Naphthanlene	3.77E-04	lb/MMBtu	(2)	3.01E-02	1.32E-01
2-Chlorophenol	5.70E-08	lb/MMBtu	(2)	4.56E-06	2.00E-05
2,4-Dinitrophenol	4.70E-07	lb/MMBtu	(2)	3.76E-05	1.65E-04
4-Nitrophenol	3.30E-07	lb/MMBtu	(2)	2.64E-05	1.16E-04
Total HAPs				0.21	0.93

Notes

(a) Short-term emission rates reflect maximum hourly design on 80 MMBtu/hr on wood/bark
Annual emissions reflect hourly wood/bark rates for 8,760 hours/year

References:

(1) ESP manufacturer guarantee

(2) Compilation of Emission Factors, AP-42 (EPA, 1999). Factors in lb/ton units were converted to lb/MMBtu units using a 4500 Btu/lb heating value

RESIN STORAGE TANKS

Identification	
Identification No.:	Resin Tank
City:	Hosford
State:	FL
Company:	Georgia-Pacific Corporation
Type of Tank:	Vertical Fixed Roof
Description:	Resin
Tank Dimensions	
Shell Height (ft):	16.9
Diameter (ft):	10.0
Liquid Height (ft):	16.9
Avg. Liquid Height (ft):	12.7
Volume (gallons):	10000
Turnovers:	120.0
Net Throughput (gal/yr):	1200000
Paint Characteristics	
Shell Color/Shade:	Aluminum/Specular
Shell Condition:	Good
Roof Color/Shade:	Aluminum/Specular
Roof Condition:	Good
Roof Characteristics	
Type:	Cone
Height (ft):	5.42
Radius (ft) (Dome Roof):	0.00
Slope (ft/ft) (Cone Roof):	1.0840
Breather Vent Settings	
Vacuum Setting (psig):	-0.03
Pressure Setting (psig):	0.03

Meteorological Data Used in Emission Calculations: Tallahassee, Florida (Avg Atmospheric Pressure = 14.7 psia)

TANKS PROGRAM 3.1
EMISSIONS REPORT - SUMMARY FORMAT
LIQUID CONTENTS OF STORAGE TANK

Mixture/Component	Month	Daily Liquid Surf. Temperatures (deg F) Avg.	Min.	Max.	Liquid Bulk Temp. (deg F)	Vapor Pressures (psia) Avg.	Min.	Max.	Vapor Mol. Weight	Liquid Mass Fract.	Vapor Mass Fract.	Mol. Weight	Basis for Vapor Pressure Calculations
PF resin	All	66.98	58.93	75.03	68.54	0.1000	0.1000	0.1000	445.480				
FORMALDEHYDE										0.0010	0.0000	30.03	Option 1
Unidentified Components										0.9990	1.0000		

Annual Emissions Report

Liquid Contents	Losses (lbs.): Standing	Working	Total
PF resin	75.05	528.11	603.16
FORMALDEHYDE	0.00	0.00	0.00
Unidentified Components	75.05	528.11	603.15
Total:	75.05	528.11	603.16

□

BARK HANDLING

Fugitive Emissions from Batch Drop of Bark onto Bark Pile

Emission Factor

AP-42 calculates an emission factor as follows:

Factor (lbs. PM/ton bark dropped) = $((k*0.0032*(U/5)^{1.3}/(M/2)^{1.4}$

The AP-42 formula assumptions are:

For TSP PM, the value of K = 1

For PM10, the value of K = 0.74 see AP-42

U, Wind Speed = 7.1 miles per hour

M, Moisture content of bark = 50%

The emission factors are calculated as follows:

PM10: $0.74 \times 0.0032 \times (7.1/5)^{1.3} \times (50/2)^{1.4}$

= 0.000041 lb. PM10/ton bark

TSP PM: $1 \times 0.0032 \times (7.1/5)^{1.3} \times (50/2)^{1.4}$

= 0.000055 lb. TSP PM/ton bark

Bark Processed

Based on 475,000 MSF of board, and an approximate factor of 75.4 lbs. bark/MSF, the throughput is:

475,000 MSF/year x 75.4 lbs. bark/MSF x ton/2,000 lbs.= 112,800 tons/year

Emission Rate

G-P will ship bark material offsite by trucks or by a rail system. To move the bark from the pile to a truck or rail will require the use of conveyors. G-P estimates the number of transfer points along the transfer route of pile-to-truck/rail to be 6 or less. Therefore, the emission rate is calculated to be:

PM10: 6 x 112,800 tons/year x 0.000041 lb. PM10/ton bark = 28 lbs/year (0.014 tpy)

TSP PM: 6 x 112,800 tons/year x 0.000055 lb. TSP PM/ton bark = 38 lbs/year (0.019 tpy)

Wind Erosion Calculation

Emission Factor:

The emissions factor is based on the exposed surface area and the following equation:

Gram PM/square meter surface area =K x 58 (u*-ut*)^2 + 25 (u* - ut*)

Ut* = threshold friction velocity. By using ½ of the loose coal factor, ut*=0.56 meter/s

U*= friction velocity = 0.53 x "fastest velocity". Bt assuming fastest velocity = 30 miles/hour,. U*= 0.689

For PM10, the value of k = 0.5; for TSP PM, the value of k = 1. See AP-42.

For PM10, the emission factor is calculated as 4.19 gram/m2 per wind event

For PM, the emissin factor is calculated as 8.38 grams/m2 per wind event

Surface Area

The Surface area is calculated with the following factors:

Shape is conical

Height is 15 feet.

Radius is 50 feet.

Calculated Exposed Area = 8,200 square feet (762 square meters)

Wind Events

Assume 2 wind events per day, and 100 events per year above the threshold of 30 miles/hour

Emission Rate

The pile will be partially enclosed by retaining walls. Assuming that these walls block the wind from some surfaces of the pile, the calculation below assumes that only 25% of the total surface area is exposed to a wind event, the daily emission rates are:

PM10: 0.25 x 762 square meters x 4.19 grams/square meter x 2 events/day = 1,600 grams/day x lb/454 grams = 3.6 lbs./day.
TSP PM: 0.25 x 762 square meters x 8.38 grams/square meter x 2 events/day = 1,600 grams/day x lb/454 grams = 7.2 lbs./day.

The annual emission rates are calculated to be:

PM10: 0.25 x 762 square meters x 4.19 grams/square meter x 100 events/year = 39,900 grams/year x lb/454 grams = 88 lbs./year (0.044 ton/year)

TSP PM: 0.25 x 762 square meters x 8.38 grams/square meter x 100 events/year = 39,900 grams/year x lb/454 grams = 176 lbs./year (0.088 ton/year)

PAVED ROADS

Paved Roads:

Log and bark trucks operate on the paved roads at the plant. Each truck is either delivering logs or receiving bark. Therefore, each truck will travel on the roads as "empty" one-way, and "loaded" the other way.

Emission Factors

The AP-42 Emission factor equation calculates the factor as follows:

Emission Factor (lbs. PM10/vehicle mile traveled) = 0.016 x (silt load/2)^0.65 x (truck wt/3)^1.5

Emission factor (lbs TSP PM/vehicle mile traveled) = 0.082 x (silt load/2)^0.65 x (truck wt/3)^1.5

For log truck and bark truck travel, the estimated factors are:

Silt Load = 3. See AP-42.

Weight of full truck = 40 tons

Weight of empty truck = 20 tons

The emission factor for empty trucks is calculated as:

Lbs. PM10/VMT = 0.016 x (3/2)^0.65x (20/3)^1.5 = 0.36 lbs. PM10/VMT

Lbs. TSP PM/VMT = 0.082 x (3/2)^0.65x (20/3)^1.5 = 1.84 lbs. TSP/VMT

The emission factor for full trucks is calculated as:

Lbs. PM10/VMT = 0.016 x (3/2)^0.65x (40/3)^1.5 = 1.01 lbs. PM10/VMT

Lbs. TSP PM/VMT = 0.082 x (3/2)^0.65x (40/3)^1.5 = 5.19 lbs. TSP PM/VMT

Travel Distances

The estimated amount of travel is estimated with the following factors:

Average speed of truck = 10 miles/hour

One way trip length = 3,500 feet

Number of log trucks/day =160

Number of bark trucks/day = 10

Vehicle miles traveled = 3,500 ft/truck x 160 trucks/day x mile/5,280 feet = 106 miles/day

Emission Rate

The emission rate is calculated with the emission factor and the estimated amount of travel:

lbs. PM10/day =106 miles/day x (1.01 lb. PM10/VMT [full trucks] + 0.36 lb. PM10/VMT [empty trucks])

= 106 x 1.37 = 145 lbs. PM10 /day

For annual emissions, assume continuous operation

145 lbs. PM10/day x 365 days/year x ton/2,000 lbs. = 26.5 tons/year

lbs. TSP PM/day = 106 miles/day x (5.19 lbs. TSP PM/VMT [full trucks]+ 1.84 lbs. TSP PM/VMT [empty trucks])

= 106 x 7.03 = 745 lbs. TSP PM /day

For annual emissions, assume continuous operation

745 lbs. TSP PM/day x 365 days/year x ton/2,000 lbs. = 136 tons/year

UNPAVED ROADS

Unpaved Roads

The only unpaved road in continuous daily use is a service road on the north side of the main manufacturing building. Operators will use this road approximately 2 times per shift to inspect equipment.

Occasionally, market conditions will favor the temporary stock-piling of logs. During these unexpected periods, log trucks will deliver logs to a staging area by traveling on two unpaved roads.

Emission Factors

The AP-42 Emission factor equation calculates the factor as follows:

Emission Factor (lbs. PM10/vehicle mile traveled) = 5.9 x 0.36 x (silt%/12) x (speed/30) x (weight/3)^0.7 x (wheels/4)^0.5 x (365-rain days)/365

For TSP PM, the value of K=1.0; for PM10, the value of K=0.36

The two unpaved routes at the plant are: 1) log trucks and 2) north service. For these routes, the estimated factors are:

Silt % = 15

Speed of trucks = 10 miles/hour

Full log truck weight = 40 tons

Empty log truck weight = 20 tons

Service road truck weight = 2 tons

Log truck wheel count = 18

Service road truck wheel count = 4

Rain days per year = 110. See AP-42. 13.2-2-1

The emission factor for empty log trucks is:

5.9 x 0.36 x (15/12) x (10/30) x (20/3)^0.7 x (18/4)^0.5 x (365-110)/365 = 4.95 lbs PM10/VMT

5.9 x 1 x (15/12) x (10/30) x (20/3)^0.7 x (18/4)^0.5 x (365-110)/365 = 13.75 lbs PM TSP /VMT

The emission factor for full log trucks is:

5.9 x 0.36 x (15/12) x (10/30) x (40/3)^0.7 x (18/4)^0.5 x (365-110)/365 = 8.0 lbs PM10/VMT

5.9 x 1 x (15/12) x (10/30) x (40/3)^0.7 x (18/4)^0.5 x (365-110)/365 = 22.2 lbs PM TSP/VMT

The emission factor for service road trucks is:

5.9 x 0.36 x (15/12) x (10/30) x (2/3)^0.7 x (18/4)^0.5 x (365-100)/365 = 0.99 lb PM10/VMT

5.9 x 1 x (15/12) x (10/30) x (2/3)^0.7 x (18/4)^0.5 x (365-100)/365 = 2.75 lbs PM TSP/VMT

Travel Distances

The estimated amount of travel is estimated with the following factors:

One way trip length for log trucks = 600 feet for unpaved road section

Number of log trucks trucks/day =100.

Number of log/trucks per year is dependent on market conditions. Log truck will travel on the unpaved roads approximately 30% of the year.

Vehicle miles traveled (log trucks)= 600 ft/truck x 100 trucks/day x mile/5,280 feet = 11.4 miles/day each way

The annual estimated distance for the log trucks is 11.4 miles/day x 100 days/year = 1,140 miles/year each way

Round trip length for service road = 3,000 feet.

Number of service vehicles/day = 2 vehicles/shift x 3 shifts/day = 6 trips/day

Vehicle miles traveled (service vehicles) = 3,000 ft/truck x 6 trips/day x mile/5,280 feet = 3.4 miles/day

The annual estimated distance for the service vehicles is 3.4 miles/day x 365 days/year = 1,244 miles/year

Summary

Parameter	Empty Log Trucks	Full Log Trucks	Service Vehicles
Daily VMT	11.4	11.4	3.4
Annual VMT	1140	1140	1244

Emission Rate

The emission rate is calculated with the emission factor and the estimated amount of travel:

PM10

For log trucks:

= 11.4 miles/day x (4.95 lb/VMT [empty] + 8.lb/VMT [full])

= 148 lbs PM10/day

For annual basis: 1,140 miles/year x (4.95 lb/VMT [empty]+ 8 lb/VMT [full]) x ton/2,000 lbs = 7.4 tons PM10/year

For service trucks:

= 3.4 miles/day x 0.99 lb./VMT = 3.4 lbs PM10/day

For annual basis: 1,244 miles/yr x 0.99 lb./VMT x ton/2,000 lbs = 0.62 ton PM10/year

TSP

For log trucks:

= 11.4 miles/day x (13.75 lb/VMT [empty] + 22.2 lb/VMT [full])

= 410 lbs TSP PM/day

For annual basis: 1,140 miles/year x (13.75 lbs/VMT [empty] + 22.2 lbs/VMT [full]) x ton/2,000 lbs = 7.4 tons TSP PM/year

For service trucks:

=3.4 miles/day x 2.75 lbs./VMT = 9.4 lbs TSP PM/day

For annual basis: 1,244 miles/yr x 2.75 lbs./VMT x ton/2,000 lbs = 1.71 tons TSP PM/year

OTHER FUGITIVE SOURCES

Calculations for other fugitive emission sources

Debarker (PM emissions)

TSP PM 134.5 tons logs/hour x 0.024 lb/ton (AP-42) = 3.2 lbs/hr (14.1 tpy)

PM10 134.5 tons logs/hour x 0.011 lb/ton (SCC) = 1.5 lbs/hr (6.5 tpy)

Bark Hog (PM emissions)

Assume bark = 10% by weight of total logs = 13.5 lbs/hr; use debarking factors as representative

TSP PM 13.5 tons bark/hour x 0.024 lb/ton (AP-42) = 0.32 lb/hr (1.4 tpy)

PM10 13.5 tons bark/hour x 0.011 lb/ton (SCC) = 0.15 lb/hr (0.65 tpy)

Blend House (VOC/HCOH emissions; Resin and wax are blended with dry wood in the blend house)

OSHA testing has indicated 0.47 ppm VOCs and formaldehyde; assume a fan flow of 40,000 acfm

VOC 0.47 ft^3/MMft^3 air x 60 mins/hr x 40,000 ft^3 air/min x 30.03 lb/lb-mol x lb-mol/359 ft^3 = 0.09 lb/hr (0.41 tpy)

HCOH Assume formaldehyde = VOCs

Finished Product Storage (VOC/HCOH emissions)

OSHA testing has indicated 0.21 ppm VOCs and formaldehyde; assume a fan flow of 40,000 acfm

VOC 0.21 ft^3/MMft^3 air x 60 mins/hr x 40,000 ft^3 air/min x 30.03 lb/lb-mol x lb-mol/359 ft^3 = 0.04 lb/hr (0.18 tpy)

HCOH Assume formaldehyde = VOCs

Edge Sealing of Boards outside Spray Booth (PM emissions)

Assume 10 gallons/year coating at 8.5 lbs/gallon density and 20% solids content; assume a sprayer transfer efficiency of 60%

TSP PM 10 gallons/year x 8.5 lbs/gallon x 0.2 lbs solids/lb coating x (1 - 0.6) = 6.8 lbs/year (0.0008 lb/hr and 0.0034 tpy)

PM10 Assume PM10 = 75% of PM = 5.1 lbs/year (0.0006 lb/hr and 0.0026 tpy)

Attachment C

US EPA NSPS MEMORANDUM

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Office of Air Quality Planning and Standards
Research Triangle Park, North Carolina 27711

NOV 17 1992

MEMORANDUM

SUBJECT: Applicability of NSPS Subparts Db/Dc to Process Dryers

FROM: Bruce Jordan, Director
Emission Standards Division (MD-13)
Office of Air Quality Planning and Standards

TO: See Below

Questions have been raised recently concerning the applicability of the new source performance standards (NSPS) for steam generating units (40 CFR Part 60, Subparts Db and Dc) to process dryers and various types of kilns, such as cement kilns. Subparts Db and Dc do not apply to process dryers or kilns.

A steam generating unit is defined under Subparts Db and Dc as any device which combusts any fuel to produce steam, heat water, or heat any heat transfer medium. A heat transfer medium is defined as any material used for transferring heat from one point to another point (§60.41b and §60.41c).

Although steam generating units are frequently used to generate steam, as the term implies, it is not uncommon to find these same types of devices used to heat water, air, or other heat transfer mediums (e.g., Dowtherm®) to provide space heating or process heating. As a result, the definition of steam generating unit was intentionally made quite broad in Subparts Db and Dc so the NSPS would not be limited solely to units generating steam.

There are a number of similarities between steam generating units and process dryers or kilns. Both combust fuel. In addition, process dryers frequently "transfer" heat to a heat transfer medium. Normally this is ambient air introduced into the combustion gases following combustion to reduce the temperature of the gases to the level necessary for proper drying of the material(s) being dried. It is much less common for kilns to transfer heat to a heat transfer medium. Normally the combustion gases are passed directly over or through the material(s) being dried or preheated and no heat transfer medium is involved.

On the other hand, there are a number of differences, particularly in design and appearance, between steam generating units and process dryers or kilns. Steam generating units, whether they are used to generate steam or heat water, air, or other heat transfer mediums are similar in design and tend to look much the same. Process dryers and kilns, however, are quite different in design than steam generating units and generally look very different.

The key to distinguishing between a steam generating unit and a process dryer or kiln, however, is the method of heat transfer between the combustion gases and the heat transfer medium (if a heat transfer medium is involved). In a steam generating unit there is a physical barrier between the combustion gases and the heat transfer medium (e.g., the waterwall or tubes in the steam generating unit). Thus, there is no direct contact or intermixing of the combustion gases and the heat transfer medium.

As a result, devices which combust fuel and transfer heat from the combustion gases to a heat transfer medium across a physical barrier which prevents direct contact or intermixing of the combustion gases and the heat transfer medium are considered steam generating units under Subparts Db and Dc. Devices which either (1) combust fuel but do not transfer heat from the combustion gases to a heat transfer medium or (2) transfer heat to a heat transfer medium by direct contact or intermixing of the combustion gases and the heat transfer medium are not considered steam generating units under Subparts Db and Dc. Process dryers and kilns fall into this latter category and, as a result, Subparts Db and Dc do not apply to these types of combustion devices.

This response has been coordinated with the Office of General Counsel and the Stationary Source Compliance Division. If you have any questions, please call Rick Copland at (919) 541-5265.

Addressees:

Linda Murphy, Director
Air Management Division
Region I

Conrad Simon, Director
Air and Waste Management Division
Region II

Thomas Maslany, Director
Air, Radiation and Toxics Division
Region III

Attachment D

COMPLIANCE ASSURANCE MONITORING (CAM) PLAN

Attachment D
Compliance Assurance Monitoring (CAM) Plan
Hosford, FL Oriented Strandboard (OSB) Plant

Applicability

In order for the CAM Rule to apply to a specific emission unit/pollutant, the following, four criteria must be met:

1) The emission unit must be located at a major source for which a Part 70 or Part 71 permit is required.

2) The emission unit must be subject to an emission limitation or standard.

3) The emission unit must use a control device to achieve compliance.

4) The emission unit must have potential, pre-controlled emissions of the pollutant of at least 100 percent of the major source threshold.

The potential uncontrolled and controlled emissions are summarized for each of the emission units at the proposed Hosford OSB Plant in Table 1.

Table 1. Hosford OSB Plant - Uncontrolled and Controlled Emission Levels (tons per year)

Emission Source	Emission Point Number	Control Device	TSP		PM_{10}		VOC		CO		HCOH	
			Pre	Post	Pre	Post	Pre	Post	Pre	Post	Pre	Post
Dryers	EP-1	RTO w/MC	3,261	326.10	3,261	326.10	5,530	553.00	588.5	147.15	81	8.1
Press	EP-2	RTO	49.6	12.40	49.6	12.40	878.2	87.82	127.04	31.76	10.5	1.05
Screen Fines with Saw Trim Transfer	EP-3	Bag Filter	23,000	9.20	23,000	9.20	–	–	–	–	–	–
Saw Trim/Finishing Line	EP-4	Bag Filter	4,302	11.52	4,302	11.52	–	–	–	–	–	–
Mat Reject/Flying Saw	EP-5	Bag Filter	1,036	17.08	1,036	17.08	–	–	–	–	–	–
Specialty Saw/Sander	EP-6	Bag Filter	3,691	9.50	3,691	9.50	–	–	–	–	–	–
Fuel System	EP-7	Bag Filter	3,691	1.50	3,691	1.50	–	–	–	–	–	–
Forming Bins	EP-8	Bag Filter	770	8.32	770	8.32	–	–	–	–	–	–
Hammermill System	EP-9	Bag Filter	23,000	9.20	23,000	9.20	–	–	–	–	–	–
Thermal Oil System	EP-10	ESP	246.5	35.00	246.5	35.00	–	–	–	–	–	–

Notes: RTO w/MC = Regenerative thermal oxidizer with multiclones
RTO = Regenerative thermal oxidizer
ESP = Electrostatic precipitator

Pre = Pre-controlled emissions
Post = Post-controlled emissions

In the CAM Rule (40 CFR 64), Section 64.5(a) states that, "...For all pollutant-specific emissions units with the potential to emit...taking into account control devices...the applicable regulated air pollutant in an amount equal to or greater than 100 percent of the amount, in tons per year, required for a source to be classified as a major source...On or after April 20, 1998, the owner or operator shall submit information as part of an application for an initial part 70 or 71 permit, if, by that date, the application...Has not been filed..." "For all other pollutant-specific emission units subject to this part...the owner or operator shall submit the information required...as part of an application for a renewal of a part 70 or 71 permit." In a telephone conversation with the CAM Rule's author on July 24, 1998, it was confirmed that this applicability language applied to both new and existing facilities.[1]

As shown in Table 1, and as indicated in the permit application, control devices have been proposed for all of the sources, although not for all pollutants. The following emission units/pollutants will be subject to CAM as part of this initial Part 70 permit:

> **Dryers** (with regenerative thermal oxidizer (RTO) and multiclones) - potential, post-control emissions greater than 100 tons per year for particulate matter (PM), volatile organic compounds (VOCs), and carbon monoxide (CO)

All other controlled emission units have potential, post-control emissions which are less than the major source threshold (10 tons per year for formaldehyde; 100 tons per year for all other pollutants). As noted above, these units will need to be re-evaluated for CAM applicability at the time of Part 70 permit renewal. It is noted that post-control nitrogen oxides emissions from the dryer are also greater than 100 tons per year. However, under the definition of "Control Device", the CAM Rule specifically states that, "For purposes of this part, a control device does not include passive control measures that act to prevent pollutants from forming, such as the...use of combustion or other process design features or characteristics." As such, the low-NO_x burner design proposed for the RTO does not constitute a "control device". Therefore, a CAM Plan is not required for this emission unit/pollutant combination.

Components of CAM Plan

The CAM Rule contains the following submittal requirements:

40 CFR 64.4(a)	Information on indicators, including indicator ranges or a description of the process by which indicators are to be established and a discussion of performance criteria for the monitoring
40 CFR 64.4(b)	Justification for the proposed elements of the monitoring
40 CFR 64.4(c)	Control device operating data recorded during performance test, supplemented by engineering assessments or manufacturer's recommendations to justify the proposed indicator range

[1] Telephone conversation between Tammy Wyles of Georgia-Pacific Corporation and Mr. Peter Westlin of U.S. EPA, July 24, 1998.

40 CFR 64.4(d)	Test plan and schedule for obtaining data, if performance test data are not available
40 CFR 64.4(e)	Implementation plan, if monitoring requires installation, testing, or other activities prior to implementation

Monitoring Approach

Georgia-Pacific proposes to monitor two types of parameters. These are compliance control parameters, which will be used to assure maintenance of compliance and operational status indicators, which will be used solely as an aid to the facility in anticipating maintenance needs and documenting operation.

1. Compliance Control Parameters

The compliance control parameters will be RTO retention chamber temperature and outlet volumetric air flow. Both parameters will be controlled, monitored, and recorded continuously in both dryer RTOs.

VOC and PM emissions will be reduced to acceptable levels based on a minimum operating temperature. CO emissions are minimized at higher operating temperatures as well. As such, a single, minimum set temperature, as opposed to a range, should be sufficient to minimize emissions for all three pollutants.

Since the RTOs will be equipped with variable speed drives on their fans, air flow will fluctuate depending on the number of flake dryers on-line. At any given time, each RTO may receive the flow from all or none of the five dryers. Normal operation is for the flow from the five dryers to be split evenly between the two RTOs. However, each RTO will be designed to handle the flow from all five dryers, for a total of approximately 295,000 actual cubic feet per minute (ACFM). The situation where the entire flow is directed to one of the RTOs represents the worst-case operating condition. Under this condition, both maximum heat input and air flows are required, resulting in the maximum amount of pollutants emitted from the dryers being conveyed to the RTO. On the other hand, operating less than five dryers, or splitting the flow, will result in relatively less emissions and air flow, leading to an increase in retention time in the RTO and increasing overall destruction efficiency. Given this information, a single, upper-end flow rate will be established for the units. Ideally, this level will correspond to the maximum, manufactured capacity of the RTOs.

2. Operational Status Indicators

In addition to the compliance control parameters described above, operational status indicators to be monitored include static pressure at the inlet of the RTO ID fans and the position of the isolation dampers between the pressure equalization chamber (PEC) and the RTOs. These indicators will not represent compliance parameters, but will only serve to aid the facility in anticipating maintenance and documenting operations. Although the multiclones will be in place to minimize PM prior to introduction to the RTOs, plugging problems in the RTOs may occur from time-to-time. Therefore, static pressure at the inlet of the RTO ID fan will be used to monitor pressure changes in the system in response to potential plugging and overloading conditions. Tracking pressure changes in the system will help facility personnel determine the frequency for bakeouts and/or washdowns of the RTOs, if necessary.

Monitoring the position of the isolation dampers will be helpful in documenting when gases from a flake dryer are vented to the atmosphere.

Monitoring Location and Averaging Period

The RTOs' temperature will be evaluated based on the average of temperature taken by thermocouples located in the retention chamber of each RTO and above each cell. The continuous readings will be recorded every 15 minutes and averaged every 12 hours.

Since the RTOs will be equipped with variable speed drives on their fans, air flow will fluctuate depending on the number of flake dryers on line and directed to the each RTO. Air flows from the dryers will be measured using insertion-style pitot averaging flow sensors. As is the case with temperature, these values will be monitored continuously with reading recorded every 15 minutes and averaged over a 12-hour period.

The operational status indictors will also be monitored continuously. The static pressure at the inlet of the ID fans will be recorded hourly and reduced to a 24-hour average. The isolation damper position status will be recorded continuously to document operating conditions as far as malfunctions, start-up, etc.

Recording and Recordkeeping

Each RTO will be equipped with a Programmable Logic Controller (PLC), with the capability of controlling and monitoring the compliance control parameters and operational status indicators discussed previously. Recordkeeping and reporting of these parameters will be managed using a dedicated computer equipped with a relational database (Wonderware's Industrial SQL Server Software).

Testing and Implementation Schedule

Emission testing will be required in order to establish the minimum operating temperature necessary to insure compliance with the limits established for PM, VOCs, and CO. Also, validation testing will be performed for each RTO to verify that the limits are met under maximum flow conditions (all five dryers directed to each RTO).

A test plan will be submitted to the Florida Department of Environmental Protection (FDEP) within 90 days of achieving normal operation. The actual testing will take place within 180 days from the start of operation. A final report, proposing a minimum set point for the chamber temperature will be submitted to the FDEP within 60 days of test completion.

Quality Assurance/Quality Control

The Operator will print a monitoring report daily and check the data for completeness, legibility, reasonableness, and accuracy.

The temperature and flow sensors will be initially certified to meet the accuracy specifications stated by the vendor. Thereafter, subsequent calibrations will be conducted according to the manufacturer's instructions at least annually.

The RTO control system will feature audible and visual alarms to alert personnel of a malfunction. These alarms will remain active until the proper corrective action is taken. If deficiencies in the performance of the parametric monitoring system occur, corrective action(s) will be taken. The alarms will be automatically recorded with the isolation damper position report. For the purposes of this Plan, corrective actions may include revision of operating and/or maintenance procedures, and/or training.

Attachment E

AQRV ASSESSMENT FOR CLASS I AREAS

Attachment E
AQRV Assessment and Additional Impacts Analysis
Hosford, FL Oriented Strandboard (OSB) Plant

E.1 Growth

The proposed facility will employ approximately 120 persons. It is anticipated that a large percentage of the work force will come from local and regional populations. As such, growth in the area should not be extensive.

There will be a small, temporary increase in personnel and traffic during the construction phase.

E.2 Soils and Vegetation

The United Stated Department of Agriculture (USDA) Soil Survey of Liberty County is incomplete, although a description of the soils in the vicinity of the proposed plant was obtained from USDA personnel in Liberty County. Dominant soils in the area include Chipley sand, 0 to 5% slopes; Rutlege and Plummer depressional soils; Foxworth sand, 0-5% slopes; Lakeland sand, 0-5% slopes; Leon sand, 0-2% slopes; Leon-Lynn Haven complex, 0-2% slopes; and frequently flooded Rutlege, Bibb, and Surrency soils.

The Chipley, Rutlege, Foxworth, and Lakeland series consist of very deep, moderately well drained or poorly drained, rapidly permeable soils that formed in thick deposits of sandy marine sediments. The Leon series consists of very deep, poorly and very poorly drained, sandy soils on flatwoods, depressions, low areas on uplands, stream terraces, and tidal areas. The Bibb series consists of very deep, poorly drained, moderately permeable soils that formed in stratified loamy and sandy alluvium. These soils are on flood plains of streams in the Coastal Plain. They are commonly flooded and water runs off from the surface very slowly. The Surrency series consists of deep, very poorly drained soils in depressions and drainageways of the Atlantic Coastal Plains.

As described in the air quality impact analysis (Section 7 of main text and Attachment F), the maximum predicted nitrogen dioxide (NO_2), particulate matter (PM), and carbon monoxide (CO) concentrations in the vicinity of the proposed plant site are less than the National Ambient Air Quality Standards (NAAQS). Since the NAAQS are designed to protect the public welfare, including effects on soils and vegetation, no detrimental effects on soils or vegetation should occur in this area.

The potential impacts of SO_2, NO_2, PM, and CO on soils, vegetation, and visibility in the Bradwell Bay and St. Marks PSD Class I areas are addressed in the analysis of Air Quality Related Values (AQRVs).

E.3 Air Quality Related Values

This section focuses on the ecological effects of the proposed facility's impacts on Air Quality Related Values (AQRVs), as defined under the PSD regulations, in the Bradwell Bay and St. Marks National Wilderness Areas (NWAs). The AQRVs are defined as being:

> *"All those values possessed by an area except those that are not affected by changes in air quality and include all those assets of an area whose vitality, significance, or integrity is dependent in some way on the air environment. These values include visibility and those scenic, cultural, biological, and recreational resources of an area that are affected by air quality. Important attributes of an area are those values or assets that make an area significant as a monument, preserve, or primitive area. They are the assets that are to be preserved if the area is to achieve the purposes for which it was set aside" (Federal Register, 1978).*

The AQRVs include freshwater and coastal wetlands, dominant plant communities, unique and rare plant communities, soils and associated periphyton, and the wildlife dependent on these communities for habitat. Rare, endemic, threatened. and endangered species of the wilderness areas and bioindicators of air pollution (*e.g.*, lichens) are also evaluated.

Impacts to Soils

For soils, the potential and hypothesized effects of atmospheric deposition include:

- Increased soil acidification,
- Alteration in cation exchange,
- Loss of base cations, and
- Mobilization of trace metals.

The potential sensitivity of specific soils to atmospheric inputs is related to two factors. First, the physical ability of a soil to conduct water vertically through the soil profile is important in influencing the interaction with deposition. Second, the ability of the soil to resist chemical changes, as measured in terms of pH and soil cation exchange capacity (CEC), is important in determining how a soil responds to atmospheric inputs.

According to the USDA Soil Survey, the soils of the Bradwell Bay NWA are primarily Croatan-Dorovan mucks, while the primary soil types in the St. Marks NWA include Bayvi, Isles, and Estero soils. The Croatan-Dorovan mucks are very poorly drained with very high organic matter content. The Bayvi, Isles, and Estero soils are found in tidal marsh areas, are flooded daily by high tides, and have moderate organic matter content. The soils of both the Bradwell Bay and St. Marks NWAs are generally classified as histosols. Histosols (peat soils) are organic and have extremely high buffering capacities based on their CEC, base saturation, and bulk density. Therefore, they would be relatively insensitive to atmospheric inputs.

The relatively low sensitivity of the soils to atmospheric inputs, coupled with the extremely low ground-level concentrations of contaminants projected for the Bradwell Bay and St. Marks NWAs, precludes any significant impact on soils.

Impacts to Vegetation

The maximum predicted gaseous concentrations of SO_2, NO_2, PM, and CO were used in the determination of impacts on vegetation. These compounds are believed to interact predominantly with foliage and this is considered the major route of entry into plants. In this assessment, 100 percent of the compound of interest was assumed to interact with the vegetation. The modeled concentrations are presented in Tables 1 and 2.

Sulfur Dioxide: Sulfur is an essential plant nutrient usually taken up as sulfate ions by the roots from the soil solution. When sulfur dioxide in the atmosphere enters the foliage through pores in the leaves, it reacts with water in the leaf interior to form sulfite ions. Sulfite ions are highly toxic. They interact with enzymes, compete with normal metabolites, and interfere with a variety of cellular functions (Horsman and Wellburn, 1976). However, within the leaf, sulfite is oxidized to sulfate ions, which can then be used by the plant as a nutrient. Small amounts of sulfite may be oxidized before it proves harmful.

SO_2 gas at elevated levels has long been known to cause injury to plants. Acute SO_2 injury usually develops within a few hours or days of exposure, with symptoms including marginal, flecked, and/or intercostal necrotic areas that appear water-soaked and dullish green initially. This injury generally occurs to younger leaves. Chronic injury usually is evident by signs of chlorosis, bronzing, premature senescence, reduced growth, and possible tissue necrosis (EPA, 1982). Typical background levels of SO_2 range from 2.5 to 25 migrograms per cubic meter ($\mu g/m^3$). Observed SO_2 effect levels for several plant species and plant sensitivity groupings are presented in Tables 3 and 4, respectively.

Many studies have been conducted to determine the effects of high-concentration, short-term SO_2 exposure on the vegetation of natural communities. Sensitive plants include ragweed, legumes, blackberry, southern pine, and red and black oak. These species are injured by exposure to 3-hour SO_2 concentrations of 790 to 1,570 $\mu g/m^3$. Intermediate plants include locust and sweetgum. These species are injured by exposure to 3-hour SO_2 concentrations of 1,570 to 2,100 $\mu g/m^3$. Resistant species (injured at concentrations above 2,100 $\mu g/m^3$ for 3 hours) include white oak and dogwood (EPA, 1982). Jack pine seedlings exposed to SO_2 concentrations of 470 to 520 $\mu g/m^3$ for 24 hours demonstrated inhibition of foliar lipid synthesis; however, this inhibition was found to be reversible (Malhotra and Kahn, 1978). Black oak exposed to 1,310 $\mu g/m^3$ of SO_2 for 24 hours a day for one week demonstrated a 48 percent reduction in photosynthesis (Carlson, 1979).

A study of native Floridian species (Woltz and Howe, 1981) demonstrated that cypress, slash pine, live oak, and mangrove exposed to 1,300 $\mu g/m^3$ SO_2 for 8 hours were not visibly damaged. These findings support the levels cited by other researchers on the effects of SO_2 exposure on vegetation. A corroborative study (McLaughlin and Lee, 1974) demonstrated that approximately 20 percent of a cross-section of plants, ranging from sensitive to tolerant, were visibly injured at 3-hour SO_2 concentrations of 920 $\mu g/m^3$.

Two lichen species indigenous to Florida exhibited signs of SO_2 damage in the form of decreased biomass gain and photosynthetic rates as well as membrane leakages when exposed to concentrations of 200 to 400 $\mu g/m^3$ for 6 hours/week for 10 weeks (Hart et al., 1988).

Table 1. Maximum Predicted Concentrations at Bradwell Bay NWA

Pollutant	Concentrations[a] (μg/m³) for Averaging Times				
	Annual	24-Hour	8-Hour	3-Hour	1-Hour
Sulfur Dioxide (SO_2)	0.002	0.070	0.13	0.31	0.50
Nitrogen Dioxide (NO_2)	0.055	1.25	2.73	5.69	8.49
Particulate Matter (PM_{10})	0.068	1.3	3.51	7.3	11.0
Carbon Monoxide (CO)	0.013	3.41	7.45	15.05	23.11

[a] From the ISCST3 model and 5 years of hourly meteorological data from Tallahassee Regional Airport, 1986-1990

Table 2. Maximum Predicted Concentrations at St. Marks NWA

Pollutant	Concentrations[a] (μg/m³) for Averaging Times				
	Annual	24-Hour	8-Hour	3-Hour	1-Hour
Sulfur Dioxide (SO_2)	0.006	0.19	0.42	0.85	1.30
Nitrogen Dioxide (NO_2)	0.018	0.60	1.13	2.61	4.26
Particulate Matter (PM_{10})	0.022	0.76	1.43	3.33	5.49
Carbon Monoxide (CO)	0.038	1.23	2.37	5.54	8.95

[a] From the ISCST3 model and 5 years of hourly meteorological data from Tallahassee Regional Airport, 1986-90

Table 3. SO_2 Effects Levels for Various Plant Species

Plant Species	Observed Effect Level ($\mu g/m^3$)	Exposure (Time)	Reference
Sensitive to tolerant	920 (20 percent displayed visible injury)	3 hours	McLaughlin and Lee, 1974
Lichens	200-400	6 hr/wk for 10 weeks	Hart *et al.*, 1988
Cypress, slash pine, live oak, mangrove	1,300	8 hours	Woltz and Howe, 1981
Jack pine seedlings	470-520	24 hours	Malhotra and Kahn, 1978
Black oak	1,310	Continuously for 1 week	Carlson, 1979

Table 4. Sensitivity Groupings of Vegetation Based on Visible Injury at Different SO_2 Exposures[a]

Sensitivity Grouping	SO_2 Concentration		Plants
	1-Hour	3-Hour	
Sensitive	1,310 - 2,620 $\mu g/m^3$ (0.5 - 1.0 ppm)	790 - 1,570 $\mu g/m^3$ (0.3 - 0.6 ppm)	Ragweeds Legumes Blackberry Southern pines Red and black oaks White ash Sumacs
Intermediate	2,620 - 5,240 $\mu g/m^3$ (1.0 - 2.0 ppm)	1,570 - 2,100 $\mu g/m^3$ (0.6 - 0.8 ppm)	Maples Locust Sweetgum Cherry Elms Tuliptree Many crop and garden species
Resistant	>5,240 $\mu g/m^3$ (>2.0 ppm)	>2,100 $\mu g/m^3$ (>0.8 ppm)	White oaks Potato Upland cotton Corn Dogwood Peach

[a] Based on observations over a 20-year period of visible injury occurring on over 120 species growing in the vicinities of coal-fired power plants in the southeastern United States.

Source: EPA, 1982a.

The maximum predicted SO_2 concentrations in the Class I areas were modeled using 1, 3, 8, 24, and annual averaging times. The predicted concentrations range from 0.002 (annual averaging time) to 0.31 $\mu g/m^3$ (1-hour averaging time) and 0.0006 (annual averaging time) to 0.16 $\mu g/m^3$ (1-hour averaging time) for the Bradwell Bay and St. Marks NWAs, respectively (Tables 1 and 2). These levels are much lower than those known to cause damage to test species. The maximum predicted 24-hour incremental increase in SO_2 at Bradwell Bay (0.046 $\mu g/m^3$) is 0.02% of the value that caused a decrease in lichen biomass, and poses only a minimal threat to area vegetation.

Nitrogen Dioxide: Nitrogen dioxide is another pollutant of concern for the proposed plant. This compound can injure plant tissue with symptoms usually appearing as irregular white to brown collapsed lesions between the leaf veins and near the margins. Conversely, non-injurious levels of NO_2 can be absorbed by plants, enzymatically transformed into ammonia, and incorporated into plant constituents such as amino acids (Matsumaru et al., 1979).

Plant damage can occur through either acute (short-term, high concentration) or chronic (long-term, relatively low concentration) exposure. For plants that have been determined to be more sensitive to NO_2 exposure than others, acute (1, 4, and 8 hours) exposure caused 5 percent foliar injury at concentrations ranging from 3,800 to 15,000 $\mu g/m^3$ (Heck and Tingey, 1979). Chronic exposure of selected plants (some considered NO_2-sensitive) to NO_2 concentrations of 2,000 to 4,000 $\mu g/m^3$ for 213 to 1,900 hours caused reductions in yield of up to 37 percent and some chlorosis (Zahn, 1975).

By comparison of published toxicity values for NO_2 exposure to both acute and long-term (annual averaging time) modeled concentrations, the possibility of plant damage in the Class I areas can be examined. For an acute exposure (1-hour averaging time), the maximum predicted concentrations in the Bradwell Bay and St. Marks NWAs are 12.98 and 6.59 $\mu g/m^3$, respectively (Tables 1 and 2), which is 0.34 to 0.17 percent of the level that caused foliar injury to sensitive species. In the chronic exposure scenario, the annual estimated NO_2 concentrations (0.076 and 0.025 $\mu g/m^3$ in Bradwell Bay and St. Marks, respectively) are 0.004 to 0.001 percent of the levels that caused reduction in yield and chlorosis in plant tissue.

Although it has been shown that simultaneous exposure to SO_2 and NO_2 results in synergistic plant injury (Ashenden and Williams, 1980), the magnitude of this response is generally only 3 to 4 times greater than either pollutant alone and usually occurs at unnaturally high levels for each pollutant. Therefore, the concentrations within the Class I areas are still far below the levels that potentially cause plant injury for either acute or chronic exposure.

Particulate Matter: Although information pertaining to the effects of PM on plants is scarce, baseline concentrations are available (Mandoli and Dubey, 1988). Ten species of native Indian plants were exposed to levels of PM that ranged from 210 to 366 $\mu g/m^3$ for an 8-hour averaging period. Damage in the form of a higher leaf area/dry weight ratio was observed at varying degrees for most plants tested. Concentrations of PM lower than 163 $\mu g/m^3$ did not appear to be injurious to the tested plants.

The 1-hour, 3-hour, 8-hour, 24-hour, and annual estimated PM_{10} concentrations in the Bradwell Bay NWA are 11.0, 7.3, 3.5, and 0.060 $\mu g/m^3$ (Table 1), respectively. In the St. Marks NWA, the estimated concentrations are 5.49, 3.33, 1.43, 0.76, and 0.022 $\mu g/m^3$ (Table 2), respectively. By comparison of published toxicity values for PM_{10} exposure (8-hour averaging time) with the predicted concentrations in the Class I areas, the possibility of plant damage due to the project can be determined. The 8-hour estimated PM_{10} concentrations at the point of maximum impact in the Bradwell Bay and St. Marks NWAs (3.5 and 1.43 $\mu g/m^3$, respectively) are below the values that affected plant foliage, respectively.

Carbon Monoxide: As with PM, information pertaining to the effects of CO on plants is scarce. The main effect of high concentrations of CO is the inhibition of cytochrome *c* oxidase, the terminal oxidase in the mitochondrial electron transfer chain. Inhibition of cytochrome *c* oxidase depletes the supply of ATP, the principal donor of free energy required for cell functions. However, this inhibition only occurs at extremely high concentrations of CO. Pollok et al. (1989) reported that exposure to a $CO:O_2$ ratio of 25 (equivalent to an ambient CO concentration of 6.85×10^6 $\mu g/m^3$) resulted in stomatal closure in the leaves of the sunflower (*Helianthus annuus*). Naik et al. (1992) reported cytochrome *c* oxidase inhibition in corn, sorghum, millet, and Guinea grass at $CO:O_2$ ratios of 2.5 (equivalent to an ambient CO concentration of 6.85×10^5 $\mu g/m^3$). These plants were considered the species most sensitive to CO-induced inhibition of cytochrome *c* oxidase.

The 1-hour, 3-hour, 8-hour, 24-hour, and annual estimated CO concentrations in the Bradwell Bay NWA are 23.11, 15.05, 7.45, 3.41, and 0.013 $\mu g/m^3$ (Table 1), respectively. In the St. Marks NWA, the estimated CO concentrations are 8.95, 5.54, 2.37, 1.23, and 0.038 $\mu g/m^3$ (Table 2), respectively. The predicted maximum 1-hour concentrations in the Bradwell Bay and St. Marks NWAs (23.11 and 8.95 $\mu g/m^3$, respectively) are far less than 0.001 the values that caused inhibition in laboratory studies.

In summary, the phytotoxic effects from the proposed plant emissions are minimal. It is important to note that the elements were conservatively modeled with the assumption that 100 percent was available for plant uptake. This is rarely the case in a natural ecosystem.

Impacts to Wildlife

A wide range of physiological and ecological effects to fauna has been reported for gaseous and particulate pollutants (Newman, 1981; Newman and Schreiber, 1988). The most severe of these effects have been observed at concentrations above the secondary ambient air quality standards. Physiological and behavioral effects have been observed in experimental animals at or below these standards. No observable effects to fauna are expected at concentrations below the values reported in Table 5.

The major air quality risk to wildlife in the United States is from continuous exposure to pollutants above the National Ambient Air Quality Standards. This occurs in non-attainment areas (*e.g.*, Los Angeles Basin). Risks to wildlife also may occur for species living in the vicinity of an emission source that experiences frequent upsets or episodic conditions resulting from malfunctioning equipment, unique meteorological conditions, or startup operations (Newman and Schreiber, 1988). Under these conditions, chronic effects (*e.g.*, particulate contamination) and acute effects (*e.g.*, injury to health) have been observed (Newman, 1981).

Table 5. Examples of Reported Effects of Air Pollutants at Concentrations below the Secondary National Ambient Air Quality Standards

Pollutant	Reported Effect	Concentration ($\mu g/m^3$)	Exposure
Sulfur Dioxide[1]	Respiratory stress in guinea pigs	427 to 854	1 hour
	Respiratory stress in rats	267	7 hours/day; 5 day/week for 10 weeks
	Decreased abundance in deer mice	13 to 157	continually for 5 months
Nitrogen Dioxide[2,3]	Respiratory stress in mice	1,917	3 hours
	Respiratory stress in guinea pigs	96 to 958	8 hours/day for 122 days
Particulate Matter[1]	Respiratory stress, reduced respiratory disease defenses	120 PbO_3	continually for 2 months
	Decreased respiratory disease defenses in rats, same with hamsters	100 $NiCl_2$	2 hours

Source: [1]Newman and Schreiber, 1988.
[2]Gardner and Graham, 1976.
[3]Trzeciak et al., 1977.

For impacts on wildlife, the lowest threshold values of SO_2, NO_2, and particulate matter which are reported to cause physiological changes are 13, 96, and 100 $\mu g/m^3$, respectively (Table 5). These values are up to orders of magnitude larger than maximum predicted concentrations for the Class I areas. No effects on wildlife AQRVs from SO_2, NO_x, and particulate matter are expected.

Impacts to Visibility

A change in visibility is characterized by either a change in the visual range, defined as the greatest distance that a large dark object can be seen, or by a change in the light-extinction coefficient (b_{ext}). The b_{ext} is the attenuation of light per unit distance due to the scattering and absorption by gases and particles in the atmosphere. A change in the extinction coefficient produces a perceived visual change that is measured by a visibility index called the deciview. The deciview (dv) is defined as:

$$dv = 10 \ln (1 + b_{exts} / b_{extb})$$

where

b_{exts} is the extinction coefficient calculated for the source, and
b_{extb} is the background extinction coefficient

The source extinction coefficient is determined from NOx, SO_2, and PM_{10} emission's increase from the proposed project. The background extinction coefficient s for each area evaluated are based on existing ambient monitoring data. Based on predicted SO_4, NO_3, and PM_{10} concentrations, the increase in the project's emissions were compared a 5 percent change in light extinction of the background levels. This is equivalent to a change in deciview of 0.5.

The modeling analysis determined the deciview change at receptors along two circles of 64.4 and 81.8 km. These represent the closest and furthest distance of the St. Marks National Wilderness Area (NWA) PSD Class I area from the G-P Hosford Plant. As all of Bradwell Bay NWA lies within 50 km from the project site, a regional haze analysis did not include the Bradwell Bay NWA.

Methodology

Following the recommendations of the Interagency Workgroup on Air Quality Modeling (IWAQM) Phase II report, a level II screening analysis was performed using the California Puff (CALPUFF) long-range transport model, along with an enhanced ISC meteorological data record. The CALPUFF postprocessor model CALPOST was used to summarize the maximum concentrations of SO_4, NO_3, and PM_{10} that were predicted with the CALPUFF model.

CALPUFF used in a manner recommended by the IWAQM Phase 2 Summary Report (EPA, 12/98). A summary of the parameter settings that were used in the CALPUFF model is presented in Table A-1 along with the IWAQM Phase 2 recommended parameter settings. The recommended parameter settings are presented in Appendix B of the IWAQM Phase II Summary Report. The CALPUFF model was used in an ISC screening mode with an "enhanced" ISCST3 meteorological data set.

The following CALPUFF settings/values were implemented in the Level II screening analysis:

- Use of six pollutant species of SO_2, SO_4, NO_x, HNO_3, NO_3, and PM10.
- Use of MESOPUFF II scheme for chemical transformation with CALPUFF default background concentrations
- Include both dry and wet deposition and plume depletion
- Use Agricultural, unirrigated land use; minimum mixing height of 50 m

- Use transitional plume rise, stack-tip downwash, and partial plume penetration
- Use puff plume element dispersion, PG /MP coefficients, rural mode, and ISC building downwash scheme
- Use of partial plume path adjustment terrain effects
- Use highest, second-highest predicted concentration 5 years for comparison to the maximum percent change in extinction

Emission Inventory

Based on recommendations of the IWAQM Phase II Report, the regional haze analysis considered only the maximum 24-hour increase in emissions due to the G-P Hosford Plant's proposed project. A summary of the maximum SO_2, NO_x and PM_{10} emission rates for each source is presented in Table 6.

Table 6. Maximum SO_2, NO_x, and PM_{10} Emission Increases (g/s) for the Regional Haze Analysis

Source	SO_2	NO_x	PM_{10}
EP_1A	0.105	4.62	4.69
EP_1B	0.105	4.62	4.69
EP_2	--	1.35	0.36
EP_3	--	--	0.26
EP_4	--	--	0.33
EP_5	--	--	0.49
EP_6	--	--	0.27
EP_7	--	--	0.043
EP_8	--	--	0.24
EP_9	--	--	0.26
EP_10	0.084	1.68	1.01

Building Wake Effects

The air modeling analysis included the G-P Hosford Plant's building dimensions to account for the effects of building-induced downwash on the emission sources. Dimensions for all significant building structures were processed with the Building Profile Input Program (BPIP), Version 95086, and were included in the CALPUFF model.

Receptor Locations

Receptors were located along a two circles that was centered over the G-P Hosford Plant with radii equal to the minimum (i.e., 64.4 km) and maximum (81.8 km) distances from the St. Marks NWA PSD Class I Area. The circles were each comprised of 180 polar receptors, spaced at 2-degree intervals for a total of 360 receptors. Because the area's terrain is flat, all receptors were assumed to be at zero elevation.

Background Visual Ranges and relative humidity factors

Because PM_{10} is the only pollutant and is non-hydroscopic, relative humidity factors were not required to calculate the change in visibility due to the proposed project. The background extinction coefficient was based on data representative of the mean of the top 20-percentile air quality days. For the St. Marks NWA, a background extinction coefficient of 0.0602 km^{-1} was used, equating to a background visual range of 65 km.

Meteorological Data

A five-year data record was used for years 1986 through 1990. The data set consisting of hourly surface observations from the Tallahassee and twice-daily mixing height data obtained from

Apalachicola National Weather Service (NWS) offices. The surface and upper data were preprocessed into an ASCII modeling format by EPA 's PCRAMMET meteorological preprocessing program. An anemometer height of 25 ft was used.

Additional meteorological parameters were added to the meteorological data records for use with the CALPUFF model. The addition parameters include friction velocity, Monin-Obukhov length, and surface roughness used for calculating dry deposition; precipitation type code and precipitation rate used for calculating wet deposition, and short-wave solar radiation and relative humidity use for calculating chemical transformation rates. The dry deposition parameters were added to the meteorological data records using the PCRAMMET model in dry deposition mode. Using the guidance provided in Section 3.1 of the PCRAMMET User's Manual (8/98), the following input values were selected:

- Surface roughness at both application and measurement sites: 0.15 m
- Noontime Albedo: 0.18
- Bowen Ratio: 0.8
- Anthropogenic Heat flux: 0
- Minimum Monin-Obukhov Length: 2 m
- Fraction of Net Radiation Absorbed by Ground: 0.15

Hourly precipitation amounts, relative humidity and short-wave radiation values were added separately to the meteorological data set. These parameters were obtained from Tallahassee surface data available from Solar and Meteorological Surface Observation Network (SAMSON) data.

Based on the precipitation classification scheme provided in the CALPUFF Users's Manual (Table 2-11) (7/95), each hour's precipitation code was set to 0 1, 2 or 3. An hour in which no precipitation occurred received a code of 0. If precipitation occurred, the code was set from 1 to 3 depending on the intensity. All precipitation was assumed to be in the form of rain.

Chemical Transformation

The air modeling analysis included all chemical transformation processes that occur for the emitted species.

Results

Table 7 summarizes the highest, second-highest concentrations for each species for five years of meteorological data. The maximum concentrations are 0.000962, 0.110, and 0.576 for sulfate, nitrate, and PM_{10}, respectively. Table 8 presents the hourly relative humidity for the worst-case days for each of the species. The computed f(RH) reflect the October 1999 Federal Land Manager's Air Quality Related Values Workgroup (FLAG) Draft Phase I report.

Table 9 presents the visibility calculations. The calculations reflect the IWAQM methodology. The maximum change in perception is 0.491 deciview, or 4.921 percent. This is below the visibility threshold of 5%. Therefore, it is concluded that the G-P Hosford Plant will not pose a significant impact on the visibility at the St. Marks NWR PSD Class I area.

Table 7.Highest-Second Highest Predicted Species Concentrations and Day

Species Predicted	Year	Concentration[a] (ug/m^3)	Julian Day
SO_4	1986	0.000937	303
	1987	0.000878	345
	1988	**0.000962**	**364**
	1989	0.000763	101
	1990	0.000705	71
NO_3	1986	**0.110**	**303**
	1987	0.093	36
	1988	0.107	22
	1989	0.086	40
	1990	0.065	49
PM10	1986	0.463	341
	1987	0.449	245
	1988	**0.576**	**12**
	1989	0.490	21
	1990	0.360	261

a. Predicted with CALPUFF model and ISCST3 meteorological data from Tallahassee/Apalachicola for 1986-1990

Note: Values in bold indicated selected species values and worst days

Table 8. Computed Daily Average RH Factors for Predicted Worst Days

Hour	October 30, 1986		January 12, 1988		December 29, 1988	
Ending	RH(%)	f(RH)	RH(%)	f(RH)	RH(%)	f(RH)
0	90	4.7	88	4.0	83	3.1
1	90	4.7	92	5.9	86	3.6
2	90	4.7	92	5.9	86	3.6
3	90	4.7	88	4.0	86	3.6
4	90	4.7	92	5.9	86	3.6
5	90	4.7	88	4.0	86	3.6
6	90	4.7	88	4.0	80	2.7
7	90	4.7	88	4.0	74	2.1
8	84	3.2	70	1.9	69	1.9
9	78	2.5	55	1.3	61	1.5
10	76	2.3	52	1.3	60	1.4
11	64	1.6	41	1.1	60	1.4
12	62	1.5	37	1.0	56	1.3
13	62	1.5	30	1.0	56	1.3
14	64	1.6	31	1.0	56	1.3
15	66	1.7	29	1.0	53	1.3
16	66	1.7	31	1.0	54	1.3
17	71	2.0	55	1.3	67	1.7
18	73	2.1	73	2.1	80	2.7
19	73	2.1	82	3.0	86	3.6
20	76	2.3	89	4.4	77	2.4
21	78	2.5	92	5.9	83	3.1
22	84	3.2	85	3.4	89	4.4
23	84	3.2	89	4.4	89	4.4
Average		3.03		3.03		2.54

a. Hourly relative humidity data from Tallahassee, Fl
b. Factors are derived from Draft Phase I FLAG Report (October, 1999)

Table 9. Regional Haze Screening Analysis Results, G-P Hosford Mill

Item	Units	Value
Maximum Predicted Concentration	ug/m^3	
PM10		0.576180
SO_4		0.000962
NO_3		0.110120
Computed Concentrations	ug/m^3	
$(NH_4)_2SO_4$		0.001323
NH_4NO_3		0.1421
Average Relative Humidity Factor(a)		3.03
Background Visual Range(b), Vr		65
Background Extinction Coeff.(bext)	km^{-1}	0.0602
Source Extinction Coeff (bexts)	km^{-1}	
$(NH_4)_2SO_4$		0.000012
NH_4NO_3		0.001291
PM10		0.001729
Total bexts	km^{-1}	0.003032
Deciview Change		0.491
Percent Change (%)		4.91
Allowable Criteria (%)		5.0

a. Computed from Tallahassee RH data
b. Provided by U.S. Fish and Wildlife Service

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Attachment F

AIR QUALITY ANALYSIS

ATTACHMENT F
AIR QUALITY ANALYSIS
HOSFORD, FL ORIENTED STRANDBOARD FACILITY

F.1 AIR MODELING METHODOLOGY

F.1.1 Significant Impact Analysis

The proposed project will result in emissions increases above the United States Environmental Protection Agency (US EPA) Prevention of Significant Deterioration (PSD) significant emission rate levels for several criteria pollutants (see Table 5-1 in main body of report): ozone (based on the increase in volatile organic compound (VOC) emissions), particulate matter less than 10 microns in diameter (PM_{10}), nitrogen oxides (NO_x), carbon monoxide (CO) total suspended, and particulate matter (TSP). For PM_{10}, NO_x, and CO, a significant impact analysis was performed to determine whether the emissions result in predicted impacts in excess of the PSD modeling significance levels. Because the project is a completely new facility, the significant impact analysis includes all sources.

In addition to modeling for comparison to the PSD modeling significance levels, the results are also compared to the US EPA monitoring deminimis levels to determine if pre-construction monitoring is required.

Current US EPA and Florida Department of Environmental Protection (FDEP) policies stipulate that the highest predicted annual average and short-term (*i.e.*, 24 hours and less) concentrations be used for comparison to the applicable significant impact levels and deminimis monitoring concentrations.

F.1.2 NAAQS/PSD Class II Modeling Analysis

If the project's net emissions increase results in air quality impacts that are above the significant impact level for a particular pollutant, then more detailed air quality modeling analyses are performed for that pollutant to demonstrate compliance with the National Ambient Air Quality Standards (NAAQS) and allowable PSD increments.

In general, when 5 years of meteorological data are used for an air quality modeling analysis, the highest annual and the highest, second-highest (HSH) short-term concentrations are used for comparison to the applicable NAAQS and allowable PSD increments.

The US EPA has promulgated NAAQS for PM_{10}, nitrogen dioxide (NO_2), and CO and allowable PSD Class II increments for PM_{10} and NO_2. The State of Florida has adopted these air quality standards.

For Liberty County, the minor source baseline dates have not been triggered for either PM_{10} or NO_x. The baseline date will be triggered for both pollutants once this PSD permit application is ruled complete.

F.1.3 PSD Class I Modeling Analysis

Generally, if the project site is within 100 kilometers (km) of a PSD Class I area, a significant impact analysis is also performed at the PSD Class I area. Currently, the National Park Service (NPS) has recommended significant impact levels for PSD Class I areas, although the recommended levels have never been promulgated as rules. US EPA has also proposed PSD Class I area significant impact levels, but they have not yet been finalized. The nearest PSD Class I areas to the proposed facility are the St. Marks National Wilderness Area and the Bradwell Bay National Wilderness Area. These areas are within 50 kilometers of the facility, to the southeast, along Florida's coastline. A significant impact analysis was conducted for these areas.

F.1.4 Model Selection

The selection of an appropriate air dispersion model is based on the model's ability to simulate air quality impacts in areas surrounding the proposed Hosford site. The area surrounding the proposed plant is mostly rural and flat. Based on these features, the Industrial Source Complex Short-Term (ISCST3) model (Version 99155) is selected for predicting maximum concentrations in all areas in the vicinity of the plant site.

The criteria used to determine when the rural or urban mode is appropriate are based on land use in the vicinity of the source (Auer, 1978). If the land use is classified as heavy industrial, light-moderate industrial, commercial, or compact residential for more than 50 percent of the area within a 3-km radius circle centered on the plant site, the urban option should be selected. Otherwise, the rural option is more appropriate. Based on an analysis of U.S. Geological Survey (USGS) topographic maps, land use within 3 km of the proposed Hosford Plant is mostly rural. Therefore, the rural mode is used for the ISCST3 modeling.

In this analysis, the US EPA regulatory default options are utilized in the ISCST3 model to predict all maximum impacts. These options include:

1. Final plume rise at all receptor locations
2. Stack-tip downwash
3. Buoyancy-induced dispersion
4. Default wind speed profile coefficients
5. Default vertical potential temperature gradients
6. Calm wind processing

F.1.5 Meteorological Data

Meteorological data used in the modeling analysis to predict air quality impacts consists of a preprocessed, five-year record of hourly surface weather observations and twice-daily upper air soundings from the National Weather Service (NWS). The hourly surface observations were collected at the Tallahassee Airport. The upper air data was collected at Apalachicola, Florida. The period of record covers the years 1986 through 1990. FDEP prepared the preprocessed meteorological data and provided it to Georgia-Pacific (G-P). G-P did not perform any additional processing of the data. The NWS office at Tallahassee is located approximately 30 miles northeast of the proposed Hosford Plant and is the closest primary weather station to the study area that is representative. G-P used an anemometer height of 25 feet for the air dispersion modeling analyses.

F.1.6 Ambient Monitoring Analysis

Background concentrations are necessary to determine total ambient air quality impacts to demonstrate compliance with the NAAQS. "Background concentrations" are defined as concentrations due to sources other than those specifically included in the modeling analysis. For all pollutants, background would include other point sources not included in the modeling (*i.e.*, distant sources or small sources, fugitive emission sources, and natural background sources).

<u>PM_{10} Ambient Background Concentrations</u>

Presented in Attachment 1 is a summary of existing continuous ambient PM_{10} data for monitors located in the area for the period 1996 through 1998. Concentration data from monitoring stations from Gulf and Bay counties were selected as being representative of what should be expected at the Hosford site because these stations are closest to Hosford. Concentration data from the Charlotte county, Punta Gorda site was selected as being representative of what should be expected at the Hosford site because this station is located in a rural region. In an effort to chose a conservative background concentration, data for these stations was compiled in a table and the highest ambient concentrations for the 24 and annual averaging periods was chosen.

The PM_{10} monitoring data show that ambient PM_{10} concentrations were well below the ambient air quality standards of 50 micrograms per cubic meter ($\mu g/m^3$) annual average and 150 $\mu g/m^3$ 24-hour average.

For purposes of an ambient PM_{10} background concentration for use in the modeling analysis, the annual average concentration of 27 $\mu g/m^3$ recorded at the Punta Gorda monitor during 1997 was selected. The 24 hour concentration of 54 $\mu g/m^3$ recorded at Port St. Joe during 1998 was selected for use as an ambient PM_{10} background concentration.

NO_x Ambient Background Concentrations

Presented in Attachment 1 is a summary of existing continuous ambient NO_2 data for monitors located in the area. Data are presented for 1996 through 1998. As shown, no NO_2 monitors were operational in the vicinity of Hosford during this period. The nearest NO_2 monitoring stations are located in Pensacola.

The NO_2 monitoring data show that ambient NO_2 concentrations were well below the ambient air quality standards of 100 $\mu g/m^3$ annual average.

For purposes of an ambient NO_2 background concentration for use in the modeling analysis, the annual average concentration of 16 $\mu g/m^3$ recorded at the Pensacola monitor during 1997 was selected. This concentration is very conservative since this monitor is impacted by significant mobile sources in Pensacola, while Hosford has relatively little mobile traffic.

F.1.7 Receptor Locations

Significant Impact/Maximum Impact

For predicting the significant impact area, a polar receptor grid is utilized. The receptors are spaced at 500 m and 1000 m intervals in areas beyond the plant boundary. The receptors extend out from the plant to a distance where no impacts above the significant impact levels are predicted. Along the plant boundary, fenceline receptors are spaced at 50-meter (m) intervals. Access to the G-P property will be restricted along the modeled boundary by man-made boundaries (*e.g.*, fences).

NAAQS/PSD Class II Areas

For the NAAQS and PSD increment analyses, a polar receptor grid, along with discrete receptors placed along the fenceline, is utilized. G-P modeled additional polar receptors beyond the fenceline at 100 to 500 m increments out to a downwind distance of the significant impact distance.

Modeling refinements are performed to ensure that the maximum predicted impacts are identified. If the maximum predicted impact occurs in an area with receptor spacing greater than 100 m, additional receptors, surrounding the maximum impact location, are modeled in a refined analysis. The refined analysis applies receptors spaced 100 m apart or less.

PSD Class I Areas

G-P used discrete Cartesian receptors for the Class I areas. G-P modeled receptors spaced at 2 km and 3 km intervals inside the Class I areas. The total numbers of receptors are 18, and 15 for the Bradwell Bay and St. Marks NWAs, respectively. G-P modeled the proposed plant by itself to determine if the plant will have a significant impact. The maximum impacts were compared to the EPA proposed significant impact levels. If an impact is greater than these levels, then a full PSD Class I analysis was performed. A full PSD Class I analysis includes the G-P plant and additional sources provided by FDEP. The total predicted impact by all sources are compared to the PSD Class I increments.

F.1.8 Source Parameters - G-P Hosford Sources

All proposed G-P emission sources are included in all analyses. The proposed Hosford Plant will operate continuously, and all sources are modeled without any restrictions on the daily or annual hours of operation.

The sources include fuel-burning, material handling sources, and other process equipment. The locations and stack parameters used for the point sources are presented in Table 1. All source locations are relative to the center of the Process Building press with respect to true north (3 degrees counterclockwise from plant north).

Sources that will emit PM_{10} include:

1. Dryer Regenerative Thermal Oxidizer (RTO) stacks (EP-1A and EP-1B),
2. Press Vent RTO stack (EP-2),
3. Thermal Oil Heater with Electrostatic Precipitator (ESP) (EP-10) (in bypass mode only)
4. Seven baghouses for material handling:
   - Screen Fines/Saw Trim Transfer System (EP-3),
   - Saw Trim/Finishing Line (EP-4),
   - Mat Reject/Flying Saw (EP-5),
   - Specialty Saw/Sander (EP-6),
   - Fuel Handling System (EP-7),
   - Forming Bins (EP-8), and
   - Hammermill System (EP-9).

The emission rates for the PM_{10} sources are presented in Table 2.

Sources that will emit CO and NO_2, include the Dryer RTO stacks (EP-1A and EP-1B), the Press Vent RTO stack (EP-2), and the Thermal Oil System Stack (EP-10) (in bypass mode only). No other point sources at the proposed plant emit CO or NO_2. The proposed emission rates for the CO and NO_2, sources are presented in Table 2. EP-1 Dryer emissions include emissions from the Thermal Oil System. The ESP controls the Thermal Oil System emissions. In normal operation, the ESP exhaust will be routed through the Dryer RTO (EP-1A, EP-1B). In bypass mode, the ESP will vent to atmosphere through stack EP-10. The model was run assuming the ESP was bypassing the RTO. This assumption creates a "double-counting" of emissions from the Thermal Oil System.

Table 1. Stack Parameters for Emission Sources at Proposed G-P Plant, Hosford

Model ID	Description	Stack Parameters: Source Location (m) [a] X	y	Stack Height (ft)	(m)	Stack Exit Temp K	F	Stack Exit Velocity (fpm)	(m/s)	Stack Diameter (in)	(m)
EP-1A	Dryer RTO Stack A	-98.3	-84.3	130	39.6	399.3	259.0	3013	15.31	102	2.59
EP-1B	Dryer RTO Stack B	0	0	130	39.6	399.3	259.0	3013	15.31	102	2.59
EP-2	Press Vent RTO Stack	-167	0.4	100	30.5	340.9	154.0	3633	18.46	86	2.18
EP-3	Screen Fines/Saw Trim Baghouse CP-003	-36.1	8.8	110	33.5	294.3	70.0	3143	15.97	28	0.71
EP-4	Saw Trim/Finishing Line Baghouse CP-001	-272.7	-109.1	100	30.5	294.3	70.0	2970	15.09	44	1.12
EP-5	Mat Reject/Flying Saw Baghouse CP-005	-90.8	-39.7	120	36.6	294.3	70.0	3637	18.48	48	1.22
EP-6	Specialty Saw/Sander Baghouse 1 CP-006-1	-269.7	-106.5	90	27.4	294.3	70.0	2963	15.05	40	1.02
EP-7	Fuel Handling System Baghouse CP-006-2	-43.9	5.7	75	22.9	294.3	70.0	--	0.01[b]	10	0.25
EP-8	Forming Bins Baghouse CP-002	-93.9	-55.3	105	32.0	294.3	70.0	4509	22.91	30	0.76
EP-9	Hammermill/Dry Fuel System Baghouse	-34	10.3	110	33.5	294.3	70.0	2996	15.22	30	0.76
EP-10	Thermal Oil Heating System ESP	-129.5	16.5	120	36.6	644.3	700.0	1250	6.35	66	1.68

Notes:
[a] Source Locations are with respect to the Dryer RTO Stack B in a true north coordinate system.
[b] Source has a raincap, exit velocity set equal to 0.01 m/s.

Table 2. Emission Rates for Sources at Proposed G-P Plant, Hosford

Model ID	Description	Proposed Facility-Wide Emissions: PM_{10} (tpy)	PM_{10} (g/s)	CO (tpy)	CO (g/s)	NO_x (tpy)	NO_x (g/s)
EP-1A	Dryer RTO Stack A	163.05	4.69	73.58	2.12	160.53	4.62
EP-1B	Dryer RTO Stack B	163.05	4.69	73.58	2.12	160.53	4.62
EP-2	Press Vent RTO Stack	12.40	0.36	31.76	0.91	47.00	1.35
EP-3	Screen Fines/Saw Trim Baghouse CP-003	9.2	0.26	---	---	---	---
EP-4	Saw Trim/Finishing Line Baghouse CP-001	11.52	0.33	---	---	---	---
EP-5	Mat Reject/Flying Saw Baghouse CP-005	17.08	0.49	---	---	---	---
EP-6	Specialty Saw/Sander Baghouse 1 CP-006-1	9.5	0.27	---	---	---	---
EP-7	Fuel System Baghouse 2 CP-006-2	1.5	0.043	---	---	---	---
EP-8	Forming Bins Baghouse CP-002	8.32	0.24	---	---	---	---
EP-9	Hammermill/Dry Fuel System Baghouse	9.2	0.26	---	---	---	---
EP-10	Thermal Oil Heating System ESP	35.0	1.01	530	15.2	58.4	1.68
Totals[a]		439.8	12.6	708.9	20.4	426.5	12.3

a Totals may not represent sum of individual values due to rounding.

F.1.9 Building Downwash

In accordance with current US EPA policy, the effect of building downwash on predicted air quality concentration levels is evaluated in the modeling analysis. For this analysis, the US EPA-developed Building Profile Input Program (BPIP, Version 95086) is used to determine the appropriate direction-specific building heights and widths for all point sources at the proposed facility whose stack heights are below that considered good engineering practice (GEP). A summary of the horizontal and vertical structure dimensions at the G-P plant that are considered in the downwash analysis is provided in Table 3.

Table 3. Building Dimensions for Proposed G-P Plant, Hosford

Building Description	Maximum Horizontal Dimensions (ft)		Height (m)
	Length	Width	
Process Building, (Section A)	340	200	22.86
Process Building, (Section B)	480	200	24.38
Process Building, Lower Bay	210	200	15.75
Process Building, High Bay	100	200	26.67
Thermal Oil Building	100	80	18.3
Dryer RTO A	145	23	9.75
Dryer RTO B	145	23	9.75
Press RTO	80	24	9.75
Mechanical Building	180	40	11.7
Dryer Control Building	60	37	10.67
ESP Building 1	37	12	15.5
Administration	280	40	10.67
Finish Warehouse	480	320	11.7

F.1.10 Emission Inventory of Competing Sources

As discussed in the results section (Section F.2), preliminary modeling of the proposed facility indicated a significant impact (*i.e.*, maximum impact at or above the PSD significance levels) for PM_{10} and NO_2. The significant impacts for PM_{10} and NO_2 are predicted to occur up to distances of 14 and 7 km, respectively. No significant impact is predicted for CO. Therefore, a full air quality analysis, to demonstrate compliance with the NAAQS and Class II PSD increments, is performed for PM_{10} and NO_2.

A full analysis must reflect competing facilities with emissions for this pollutant. Competing facilities considered in the analysis include sources within the screening area. The screening area is the area within a circle centered on the proposed facility with a radius equal to the significant impact distance plus 50 km. Therefore, for this facility, the screening areas for PM_{10} and NO_2 are 64 and 57 km, respectively.

FDEP provided for all competing, PM_{10} and NO_2 emitting facilities. Copies of the original emission inventory data are provided in Attachment 1 to this report. Facilities that are beyond G-P's proposed project significant impact distance are evaluated with the North Carolina Screening Technique. Using this technique, facilities whose maximum annual emissions, in tons per year, do not exceed the quantity 20 x (D-S) (where D is the distance between the competing source and G-P Hosford and S is the proposed project's significant impact distance) are eliminated from further consideration in the NAAQS modeling analysis. Additional information on the North Carolina Screening Technique is included in Attachment 2.

A summary of PM_{10} competing facilities within 64 km of the proposed facility site is presented in Table 4. For each facility, its distance and direction relative to the G-P site were determined. Based on the distance, an emission threshold, Q, was determined. Facilities within the significant impact area (*i.e.*, 14 km for PM_{10}) were automatically included in the NAAQS modeling analysis. Emissions for facilities that are beyond the significant impact area were compared to the threshold. If the emissions were below the threshold, the facility was eliminated from the NAAQS modeling analysis.

For facilities that were included in the modeling analysis, the source emission rates and stack parameters were developed for inclusion in the modeling analysis. A summary of these data is presented in Table 5. The emission data represent the maximum potential hourly rate for each source.

For Englehard (Facility ID 0390005) only, sources were combined based on the US EPA's method for merging sources (US EPA, 1992). For each stack, the parameter M was computed as:

$$M = (h_s)(V)(T_s)/(Q)$$

Table 4. PM_{10} Competing Sources Considered in the NAAQS Analysis, G-P Hosford									
Facility ID Number	Facility Name	UTM Coordinates		Location Relative to G-P Hosford			Facility Wide Data		Include in Modeling Analysis
		East (km)	North (km)	X (m)	Y (m)	Dist. (km)[a]	Emission Rate (tpy)	Threshold "Q"	
0390029	Station 14	719.9	3377.4	6400	7900	10.2	1.9	63	No
0770009	Timber Energy Resources	709.4	3358.1	-4100	-11400	12.1	48.4	102	No
0390032	C. W. Roberts Contracting Inc.	726.5	3371.4	13000	1900	13.1	2.1	123	No
0390025	Florida Rock Industries, Inc.	728.4	3385.4	14900	15900	21.8	28.4	296	No
0390026	Florida Rock Industries, Inc.	728.4	3385.4	14900	15900	21.8	28.4	296	No
0390030	Harborlite Corporation	729.8	3385.2	16300	15700	22.6	27.9	313	No
0390006	Higdon Furniture Co	729.7	3386.5	16200	17000	23.5	11.0	330	No
0390007	Pat Higdon Industries	729.9	3386.5	16400	17000	23.6	5.0	332	No
0390020	Mactavish Furniture Industries	730.6	3385.8	17100	16300	23.6	13.3	332	No
0390033	Sasser Morgan-Mcclellan Funeral Home	732.6	3386.1	19100	16600	25.3	2.6	366	No
0770007	North Florida Lumber	689.54	3358.88	-23960	-10620	26.2	83.3	384	No
0390005	Engelhard Corporation	732.6	3387.5	19100	18000	26.2	301.0	385	No
0630014	Scholz Plant	702.4	3395.8	-11100	26300	28.5	707.0	431	Yes
0390022	Byrd Landfill	737.6	3385.6	24100	16100	29.0	47.5	440	No
0130007	Blountstown Concrete Plant	684.43	3370.28	-29070	780	29.1	0.9	442	No
0390004	Florida State Hospital – Chattahoochee	707.6	3399.2	-5900	29700	30.3	5.7	466	No
0390034	Chattahoochee Sand And Gravel	703.08	3398.09	-10420	28590	30.4	15.0	469	No
~~0630044~~	~~Apalachee Correctional Institution~~	~~703.04~~	~~3399.32~~	~~-10460~~	~~29820~~	~~31.6~~	~~1.4~~	~~492~~	~~No~~
0730003	Arvah B.Hopkins Generating Station	749.53	3371.7	36030	2200	36.1	1767.3	582	Yes
0730040	Mitchell Brothers, Inc.	752	3370.9	38500	1400	38.5	55.8	631	No
7770014	Peavy And Son Construction Company	742.4	3395.2	28900	25700	38.7	22.2	633	No
0730056	General Dynamics	754	3374.4	40500	4900	40.8	10.0	676	No
0730068	Fairchild Cremation Services, Inc.	754.2	3373.5	40700	4000	40.9	0.3	678	No
0730012	Sonas Systems	754.5	3370.4	41000	900	41.0	79.8	680	No
0390009	Havana Mills	747.1	3394.3	33600	24800	41.8	260.0	695	No
0730052	Terminal Service Company	755.2	3373.1	41700	3600	41.9	0.2	697	No
0730072	U.S. Marine	754.98	3379.1	41480	9600	42.6	14.4	712	No
0630028	Marianna Sawmill	683.3	3400.1	-30200	30600	43.0	115.2	720	No
0730057	Talla - Comm Industries Inc.	756.6	3367.3	43100	-2200	43.2	10.0	723	No
0730065	National Linen Service	759	3368.3	45500	-1200	45.5	1.9	770	No
0730046	Florida Rock Industry	759.1	3367.9	45600	-1600	45.6	0.8	773	No
0630046	Dolomite Inc.	673.92	3392.93	-39580	23430	46.0	0.3	780	No
0730069	Fl. Mining & Materials Concrete	759.6	3369.9	46100	400	46.1	0.4	782	No
7770255	Southern Concrete And Construction	759.68	3363.26	46180	-6240	46.6	0.7	792	No
0730009	Physical Plant	760.5	3368.9	47000	-600	47.0	49.5	800	No
0730062	Department Of Management Services	760.9	3370.2	47400	700	47.4	0.2	808	No
0730066	Fl. Mining & Materials Concrete	760.8	3366.1	47300	-3400	47.4	10.0	808	No
0730060	Mcneill Company Inc.	761.7	3364.6	48200	-4900	48.4	39.3	829	No
0730030	Sikes Industries, Inc.	762.4	3369.6	48900	100	48.9	4.4	838	No
7770064	Woodville Plant	762.8	3361.6	49300	-7900	49.9	30.9	859	No
0630035	Plant #2	677	3404.5	-36500	35000	50.6	40.1	871	No
0730042	Culley & Sons Funeral Home	765.2	3372.5	51700	3000	51.8	0.4	896	No
0630052	Concrete Plant #2	672.31	3401.25	-41190	31750	52.0	49.0	900	No
7775064	Anderson Columbia	672.12	3401.19	-41380	31690	52.1	8.0	902	No
0730034	Mitchell Brothers, Inc.	766.2	3372.1	52700	2600	52.8	14.8	915	No
0730059	Fl. Mining & Materials Concrete	766.6	3372.2	53100	2700	53.2	10.0	923	No
0630024	Marianna Concrete Plant	670	3406	-43500	36500	56.8	1.1	996	No
0450008	Eagle Recycling, Inc.	669.14	3333.88	-44360	-35620	56.9	16.8	998	No
0630038	Alliance Laundry Systems Llc	674.4	3412.8	-39100	43300	58.3	11.0	1027	No
1290007	L. B. Brooks	749.5	3322.6	36000	-46900	59.1	10.0	1042	No
0630002	Baxter Asphalt & Concrete	666.7	3406.9	-46800	37400	59.9	43.0	1058	No
1290003	Primex Technologies	767.6	3342.2	54100	-27300	60.6	62.1	1072	No
0630041	Golden Peanut Company	675.2	3416.9	-38300	47400	60.9	40.2	1079	No
1290002	St.Marks Refinery,Inc.	769	3340.1	55500	-29400	62.8	56.7	1116	No
1290001	Tallahassee City Purdom Station	769.5	3339.97	56000	-29530	63.3	689.0	1126	Yes[b]
0630039	Clover Leaf Gin, Incorporated	670.3	3416.3	-43200	46800	63.7	49.3	1134	No
1290005	St. Marks Terminal	769.3	3338.4	55800	-31100	63.9	5.6	1138	No

Notes:

Sources within GP's Significant Impact Area are automatically included in the modeling analysis.

[a] Facilities greater than 64 km from GP were removed from the analysis. (50 km beyond significant impact area (14 km))

[b] Purdom Generating Station was included due to the large amount of particulate emissions from this source.

Table 5. Summary of Modeling Parameters for PM_{10} Competing Sources

Facility ID	Facility Name/ Stack Description	Model ID	PM_{10} Emission Rate g/s	Stack Height (m)	Stack Diameter (m)	Exit Temperature (K)	Exit Velocity (m/s)
0390005	Englehard Corporation	0390005	8.966	17.68	0.40	299.8	0.00
0390029	Station 14 NG Fired engine, 2,700	0390029A	0.01	15.24	0.43	560.93	52.39
0390029	Station 14 NG Fired engines, 1401, 1402, 1403, 1404, 1405	0390029B	0.0441	8.6	0.44	589	36.6
0390032	CW Roberts – Baghouse	0390032A	0.0378	12.5	1.28	394.26	17.37
0390032	CW Roberts – Asphalt Heater	0390032B	0.0194	4.3	0.2	533.2	4.6
0630014	Scholz - Unit 1	0630014A	7.3961	45.72	4.11	438.71	12.19
0630014	Scholz - Unit 2	0630014B	7.3961	45.72	4.11	438.71	12.19
0730003	Hopkins Boiler #1	0730003A	11.378	67.06	3.35	399.82	11.95
0730003	Hopkins Combustion Turbine #1	0730003B	0.35	8.84	2.8	700.93	34.87
0730003	Hopkins Combustion Turbine #2	0730003C	0.572	9.14	4.48	740.93	21.15
0730003	Hopkins Boiler #2	0730003D	31.50	76.2	4.27	377.59	21
0770009	Timber Energy Resources Boiler	0770009A	1.45	24.69	2.19	460.93	12.19
1290001	Purdom	UNIT7	0.25	54.9	274	422	14.44
1290001	Purdom	GT2	0.01	11.6	3.05	744	25.56
1290001	Purdom	UNIT8	1.14	60.97	5	367	24.24
1290001	Purdom	COOLT	0.3	13.4	10.08	305	7.09

where:
- M = merged stack parameter which accounts for the relative influence of stack height, plume rise, and emission rate on concentrations
- h_s = stack height (m)
- V = $(\pi/4)\, d_s^2 v_s$ = stack gas volumetric flow rate (m^3/s)
- d_s = inside stack diameter (m)
- v_s = stack gas exit velocity (m/s)
- T_s = stack gas exit temperature (K)
- Q = pollutant emission rate (g/s)

The stack with the lowest value of M is used as the representative stack. Then, the sum of the emissions from all applicable sources is assumed to be emitted from the representative stack. Table 6 summarizes the information for the sources, which are combined for the air modeling analysis.

A summary of NO_2 competing facilities within 57 km of the proposed facility site is presented in Table 7. For each facility, its distance and direction relative to the G-P site were determined. Based on the distance, an emission threshold, Q, was determined. Facilities within the significant impact area (*i.e.*, 7 km for NO_2) were automatically included in the NAAQS modeling analysis. Emissions for facilities that are beyond the significant impact area were compared to the threshold. If the emissions were below the threshold, these facilities were eliminated from the NAAQS modeling analysis.

For facilities that were included in the modeling analysis, the source emission rates and stack parameters were developed for inclusion in the modeling analysis. A summary of these data is presented in Table 8. The emission data represent the maximum potential annual rate for each source.

FDEP also provided an inventory of sources of PM_{10} and NO_2, which consume and expand PSD increment. Table 9 presents a summary of these non G-P sources for the PSD Class II and Class I analyses.

Table 6. Summary of Stack Merge Calculations for PM_{10} NAAQS Competing Sources								
Facility ID	Facility Name	Stack ID	PM_{10} Emission Rate (g/s)	Stack Height (m)	Stack Diameter (m)	Exit Temp (K)	Exit Velocity (m/s)	Computed M Factor
390005	Engelhard Corporation	2	0.8820	18.59	1.55	366.5	10.20	78769
390005	Engelhard Corporation	8	0.8820	18.59	1.55	366.5	10.20	78769
390005	Engelhard Corporation	11	0.3276	12.19	0.76	299.8	15.01	167439
390005	Engelhard Corporation	13	0.1386	15.24	0.37	299.8	33.24	1095791
390005	Engelhard Corporation	14	0.5292	30.48	0.76	328.7	20.18	382066
390005	Engelhard Corporation	15	0.5544	30.48	1.16	328.7	17.16	310036
390005	Engelhard Corporation	16	0.0882	19.81	0.40	299.8	15.31	1031027
390005	Engelhard Corporation	17	0.0630	27.43	0.37	299.8	15.72	2052387
390005	Engelhard Corporation	18	0.4914	24.99	0.64	299.8	32.27	492056
390005	Engelhard Corporation	19	0.8820	18.59	1.55	294.3	10.20	63246
390005	Engelhard Corporation	20	0.0882	16.15	0.37	299.8	15.72	863306
390005	Engelhard Corporation	21	0.0630	16.15	0.37	299.8	13.48	1035967
390005	Engelhard Corporation	22	0.0252	30.48	0.24	299.8	14.15	5130968
390005	Engelhard Corporation	23	0.0252	30.48	0.24	299.8	14.15	5130968
390005	Engelhard Corporation	24	0.0252	30.48	0.24	302.6	14.15	5178506
390005	Engelhard Corporation	25	0.2142	14.63	0.67	299.8	16.04	328405
390005	Engelhard Corporation	26	0.0630	14.63	0.37	299.8	15.72	1094607
390005	Engelhard Corporation	27	0.0504	18.29	0.30	299.8	11.32	1231432
390005	Engelhard Corporation	28	0.3024	19.81	0.76	299.8	12.94	254105
390005	Engelhard Corporation	29	0.5922	28.96	1.98	380.4	18.06	335981
390005	Engelhard Corporation	30	0.5922	28.96	1.98	380.4	18.06	335981
390005	Engelhard Corporation	31	0.0882	27.43	0.55	299.8	19.96	1861576
390005	Engelhard Corporation	32	0.1260	28.96	0.46	299.8	17.25	1188430
390005	Engelhard Corporation	33	0.5040	25.60	1.37	299.8	19.16	291895
390005	Engelhard Corporation	35	0.3024	30.48	0.91	299.8	21.56	651552
390005	Engelhard Corporation	36	0.1260	21.34	0.67	299.8	20.05	1017713
390005	Engelhard Corporation	37	0.0781	17.68	0.40	299.8	0.00	207
390005	Engelhard Corporation	38	0.0479	20.73	0.24	299.8	0.00	396
390005	Engelhard Corporation	39	0.2596	34.44	0.46	299.8	34.50	1372433
390005	Engelhard Corporation	40	0.0252	28.04	0.24	299.8	11.82	3944982
390005	Engelhard Corporation	42	0.0227	10.36	0.61	299.8	1.62	221528
390005	Engelhard Corporation	43	0.0227	14.33	0.24	299.8	10.11	1913933
390005	Engelhard Corporation	44	0.0252	21.64	0.24	299.8	11.82	3044497
390005	Engelhard Corporation	46	0.1474	28.04	0.21	299.8	92.40	5269691
390005	Engelhard Corporation	48	0.0139	19.81	0.24	299.8	0.00	1306
390005	Engelhard Corporation	49	0.0869	31.09	0.30	299.8	25.87	2773910
390005	Engelhard Corporation	50	0.0869	31.09	0.30	299.8	25.87	2773910
390005	Engelhard Corporation	53	0.0164	21.34	0.24	299.8	0.00	1190
390005	Engelhard Corporation	41a	0.0214	27.13	0.30	299.8	6.14	2333168
390005	Engelhard Corporation	41b	0.0050	27.13	0.15	299.8	6.21	10020341
390005	Engelhard Corporation	41c	0.0151	26.82	0.24	299.8	7.07	3762710
390005	Engelhard Corporation	41d	0.0504	27.43	0.30	299.8	15.20	2480457
390005	Engelhard Corporation	41e	0.0151	27.43	0.24	299.8	7.07	3848226
Selected Merged Stack Parameters								
390005	Engelhard Corporation	37	8.9660	17.68	0.40	299.8	0.00	207

Table 7. NO_2 Competing Sources Considered in the NAAQS Analysis, G-P Hosford

Facility ID Number	Facility Name	UTM Coordinates East (km)	UTM Coordinates North (km)	Location Relative to G-P Hosford X (m)	Location Relative to G-P Hosford Y (m)	Location Relative to G-P Hosford Dist. (km)[a]	Emissions Threshold "Q"	Total Emission Rate (tpy)	Include In Modeling Analysis
0390029	Florida Gas Transmission Co	719.9	3377.4	6400	7900	10.2	63	1185.2	Yes
0770009	Timber Energy Resources	709.4	3358.1	-4100	-11400	12.1	102	140.0	Yes
0390032	C. W. Roberts Contracting Inc.	726.5	3371.4	13000	1900	13.1	123	11.9	No
0390030	Harborlite Corporation	729.8	3385.2	16300	15700	22.6	313	9.1	No
0390006	Higdon Furniture Co	729.7	3386.5	16200	17000	23.5	330	1.8	No
0390007	Pat Higdon Industries	729.9	3386.5	16400	17000	23.6	332	0.3	No
0390020	Mactavish Furniture Ind.	730.6	3385.8	17100	16300	23.6	332	4.7	No
0390033	Sasser Morgan-Mcclellan	732.6	3386.1	19100	16600	25.3	366	1.0	No
0770007	North Florida Lumber	689.54	3358.88	-23960	-10620	26.2	384	73.9	No
0390005	Engelhard Corporation	732.6	3387.5	19100	18000	26.2	385	124.0	No
0630014	Gulf Power Co	702.4	3395.8	-11100	26300	28.5	431	1264.9	Yes
0390022	City Of Quincy	737.6	3385.6	24100	16100	29.0	440	97.4	No
0390004	Dept. Of Children + Families	707.6	3399.2	-5900	29700	30.3	466	62.1	No
0630044	Apalachee Correctional	703.04	3399.32	-10460	29820	31.6	492	14.0	No
0730003	City Of Tallahassee Hopkins	749.53	3371.7	36030	2200	36.1	582	3055.1	Yes
0730040	Mitchell Brothers, Inc.	752	3370.9	38500	1400	38.5	631	99.0	No
7770014	Peavy And Son Construction	742.4	3395.2	28900	25700	38.7	633	53.1	No
0730068	Fairchild Cremation Services.	754.2	3373.5	40700	4000	40.9	678	0.2	No
0730012	Sonas Systems Of Florida	754.5	3370.4	41000	900	41.0	680	57.5	No
0390009	Coastal Lumber Co	747.1	3394.3	33600	24800	41.8	695	62.0	No
0630028	Louisiana Pacific Corp	683.3	3400.1	-30200	30600	43.0	720	10.3	No
0730065	National Linen Service	759	3368.3	45500	-1200	45.5	770	5.4	No
0730009	Florida A&M University	760.5	3368.9	47000	-600	47.0	800	98.1	No
0730062	Department Of Mgmt Services	760.9	3370.2	47400	700	47.4	808	2.9	No
7770064	Peavy & Son Construction Co.	762.8	3361.6	49300	-7900	49.9	859	83.4	No
0630035	Anderson Columbia Company,	677	3404.5	-36500	35000	50.6	871	5.6	No
0730034	Mitchell Brothers, Inc.	766.2	3372.1	52700	2600	52.8	915	26.0	No
0450008	Eagle Recycling, Inc.	669.14	3333.88	-44360	-35620	56.9	998	2.5	No
1290001	Tallahassee City Purdom	769.5	3339.97	56000	-29530	63.3	1126	2719.3	Yes[a]

Notes:

Sources within GP's Significant Impact Area are automatically included in the modeling analysis.

[a] Facilities greater than 57 km from GP were removed from the analysis. (50 km beyond significant impact area (7 km))

[a] Purdom Generating station was included in the analysis due to it's large NO_X emissions.

Table 8. Summary of Modeling Parameters for NO_2 Competing Sources

Facility ID	Facility Name/ Stack Description	Model ID	NO_2 Emission Rate g/s	Stack Height (m)	Stack Diameter (m)	Exit Temperature (K)	Exit Velocity (m/s)
0390029	Florida Gas, Station 14 – 2,700 Gas Fired Engine	0390029A	1.34	15.2	0.43	561	52.39
0390029	Florida Gas, Station 14 – 4 Gas-Fired Engines (1401-1405)	0390029B	32.76	8.6	0.44	589	36.60
0630014	Gulf Power, Scholz – Unit 1	0630014A	59	45.72	4.11	438.71	12.19
0630014	Gulf Power, Scholz – Unit 2	0630014B	59	45.72	4.11	438.71	12.19
0730003	Hopkins Boiler #1	0730003A	50	67.06	3.35	399.80	11.95
0730003	Hopkins Combustion Turbine #1	0730003B	6.46	8.84	2.8	700.93	34.87
0730003	Hopkins Combustion Turbine #2	0730003C	10.5	9.14	4.48	740.93	21.15
0730003	Hopkins Boiler #2	0730003D	94.5	76.2	4.27	377.59	21
0770009	Timber Energy Resources Carbonaceous Boiler	0770009A	4.2	24.69	2.19	460.93	12.19
1290001	Purdom Generating Station	UNIT7	13.2	54.9	2.74	422	14.44
1290001	Purdom Generating Station	GT2	0.21	11.6	3.05	744	25.56
1290001	Purdom Generating Station	AUXBOIL	0.00299	9.2	0.61	450	6.47

Table 9. Summary of PSD Increment Analysis Competing Sources provided by FDEP

Facility ID Number	Facility Name/ Stack Description	MODEL ID	Emission Rate (g/s)		Stack Height (m)	Stack Diameter (m)	Exit Temp (K)	Exit Velocity (m/s)
			NOx	PM_{10}				
0730003	**City of Tallahassee Hopkins Generating Station**							
	Boiler #2	HOPK	94.5	29.32	76.2	4.27	400	21.0
1290001	**City of Tallahassee Purdom Generating Station**							
	Unit #2	UNIT2	--	-1.81	26.0	1.95	478	5.89
	Unit #3	UNIT3	--	-1.81	26.0	1.95	478	5.89
	Unit #4	UNIT4	--	-1.81	26.0	1.95	478	5.89
	Unit #5	UNIT5	-0.52	-4.73	38.1	3.96	447	7.23
	Unit #6	UNIT6	-1.25	-4.73	38.1	3.96	447	7.23
	Unit #7	UNIT7	11.98	--	54.9	2.74	422	14.44
	Unit #8	UNIT8	--	2.14	54.9	5.00	353	15.38
	Cool T.	COOLT	--	0.30	13.4	10.08	305	7.09
	Gas Turbine	GT2	0.17	--	11.6	3.05	744	25.56
	Auxiliary Boiler	AUXBOIL	0.0675	--	9.2	0.61	450	6.47

F.2 AIR MODELING ANALYSIS RESULTS

F.2.1 Significant Impact Analysis

Particulate Matter

By modeling the emissions that would result from the proposed project, it was determined that the proposed facility will have a significant PM_{10} impact out to 14 km. The results of the significant impact analysis are presented in Table 10. The maximum 24-hour total PM_{10} impact due to the proposed project is 31.7 $\mu g/m^3$, which is above the modeling and monitoring significance levels of 5 and 10 $\mu g/m^3$, respectively. Also, the maximum annual value of 7.1 $\mu g/m^3$ exceeds the modeling significance level for that averaging period. Therefore, full NAAQS and PSD Class II increment analyses are performed for PM_{10}.

Nitrogen Dioxide

By modeling the emissions that would result from the proposed project, it was determined that the proposed facility will have a significant NO_2 impact out to 7 km. The results of the significant impact analysis are presented in Table 11. For this analysis, all of the NO_x is assumed to be converted to NO_2. The maximum annual impact due to the proposed project is 3.8 $\mu g/m^3$, which is above the modeling significance level of 1 $\mu g/m^3$, but below the monitoring significance level of 14 $\mu g/m^3$. Therefore, a full NAAQS analysis is performed for NO_2, but pre-construction monitoring is not required.

Carbon Monoxide

The results of the CO significant impact analysis are presented in Table 12. The maximum 1-hour and 8-hour CO impacts due to the proposed project are 654 and 276 $\mu g/m^3$, respectively. These impacts are well below the modeling significance levels of 2000 and 500 $\mu g/m^3$ for the 1-hour and 8-hour averaging periods, respectively. Therefore, NAAQS and Class II increment analyses are not performed for CO. Furthermore, the maximum 8-hour concentration is much less than the monitoring significance level of 575 $\mu g/m^3$. As such, pre-construction monitoring is not required for CO.

Table 10. Significant Impact Analysis Results, PM_{10}

Averaging Period	Year	Modeled Concentration ($\mu g/m^3$)	Receptor Location[a]		Period Ending (YYMMDDHH)	Modeling Significance Level ($\mu g/m^3$)	Monitoring Significance Level ($\mu g/m^3$)	Maximum Distance to Significant Impact (km)
			Distance X (m)	Distance Y (m)				
24-hour	1986	27.7	-186	-556	86110124	5	10	14
	1987	25.1	-245	-544	87090424	5	10	10
	1988	27.7	-186	-556	87010824	5	10	14
	1989	31.7	744	462	89060924	5	10	7
	1990	25.1	-478	-165	89022724	5	10	7
Annual	1986	4.4	-186	-556	---	1	---	6
	1987	7.1	-186	-556	---	1	---	7
	1988	6.1	-186	-556	---	1	---	7
	1989	3.8	-52	295	---	1	---	4
	1990	3.7	-42	-234	---	1	---	4

Note: YY= year, MM=Month, DD=Day, HH=Hour.

[a] Relative to Dryer RTO Stack B

Table 11. Significant Impact Analysis Results, NO_2

Averaging Period	Year	Modeled Concentration[b] ($\mu g/m^3$)	Receptor Location[a]		Modeling Significance Level ($\mu g/m^3$)	Monitoring Significance Level ($\mu g/m^3$)	Maximum Distance to Significant Impact (km)
			Distance X (m)	Distance Y (m)			
	1986	2.2	-245	-544	1	14	5
Annual	1987	3.8	-245	-544	1	14	7
	1988	3.2	-205	-564	1	14	6
	1989	2.1	-131	227	1	14	4
	1990	2.4	-131	227	1	14	4

[a] Relative to Dryer RTO Stack B

b Assumes full conversion of NO_x to NO_2.

Table 12 Significant Impact Analysis Results, CO							
Averaging Period	Year	Modeled Concentration (µg/m³)	Receptor Location[a]		Period Ending (YYMMDDHH)	Modeling Significance Level (µg/m³)	Monitoring Significance Level (µg/m³)
			Distance X (m)	Distance Y (m)			
1-hour	1986	645	-131	227	86021721	2000	---
	1987	609	-103	282	87120324	2000	---
	1988	638	-180	224	88112004	2000	---
	1989	654	-84	231	89020320	2000	---
	1990	630	-180	224	90082407	2000	---
8-hour	1986	276	42	240	86040824	500	575
	1987	171	-193	230	87041224	500	575
	1988	216	-193	230	88042408	500	575
	1989	177	-131	227	89012916	500	575
	1990	201	-422	-74	90022708	500	575

Note: YY= year, MM=Month, DD=Day, HH=Hour.

[a] Relative to Dryer RTO Stack B

F.2.2 NAAQS Analysis

Particulate Matter

Background concentrations of 54 and 27 μg/m^3 are added to the modeling results for the 24-hour and annual averaging periods, respectively. A summary of the PM_{10} NAAQS modeling results is presented in Table 13. From the modeling, the highest, second-highest 24-hour average and the maximum annual concentrations are 29.6 and 7.3 μg/m^3, respectively.

As summarized in Table 14, when adding the background concentrations, the highest, second-highest 24-hour average and maximum annual values are 83.6 and 34.3 μg/m^3, respectively. These impacts are less than the NAAQS of 150 and 50 μg/m^3 for the 24-hour and annual averaging periods, respectively. Therefore, it is demonstrated that the proposed facility will not cause or contribute to a violation of the NAAQS.

Nitrogen Dioxide

A background concentration of 16 μg/m^3 is added to the modeling results. A summary of the NO_2 NAAQS modeling results is presented in Table 15. From the modeling, the highest annual concentration is 16.2 μg/m^3.

As summarized in Table 16, when adding the background concentration, the maximum annual value is 32.2 μg/m^3. This impact is less than the NAAQS of 100 μg/m^3. Therefore, it is demonstrated that the proposed facility will not cause or contribute to a violation of the NAAQS.

Table 13. NAAQS Modeling Results, PM_{10}						
Averaging Period	Year	Modeled Concentration ($\mu g/m^3$)	Receptor Location[a] Distance X (m)	Distance Y (m)	Period Ending (YYMMDDHH)	NAAQS ($\mu g/m^3$)
24-hour HSH	1986	26.3	-186	-556	86111324	150
	1987	23.1	-88	-575	87021824	150
	1988	24.4	-201	-553	88020524	150
	1989	29.6	670	394	89061024	150
	1990	22.1	-478	-165	90042024	150
Annual	1986	4.5	-186	-556	---	50
	1987	7.3	-186	-556	---	50
	1988	6.3	-186	-556	---	50
	1989	4.0	-52	295	---	50
	1990	3.9	-41	234	---	50

Note: YY= year, MM=Month, DD=Day, HH=Hour. HSH= High,Second Highest

[a] Relative to Dryer RTO Stack B

Table 14. Total NAAQS Results (Modeled + Background), PM_{10}				
Averaging Period	Modeled Concentration ($\mu g/m^3$)	Background Concentration ($\mu g/m^3$)	Total Concentration ($\mu g/m^3$)	NAAQS ($\mu g/m^3$)
24-hour HSH	29.6	54	83.6	150
Annual	7.3	27	34.3	50

Note: HSH= High, Second Highest

Table 15. NAAQS Modeling Results, NO_2					
Averaging Period	Year	Modeled Concentration (μg/m³)	Receptor Location[a]		NAAQS (μg/m³)
			Distance X (m)	Distance Y (m)	
Screening Analysis					
Annual	1986	9.2	5362	4500	100
	1987	14.4	6062	3500	100
	1988	13.7	6062	3500	100
	1989	8.1	6062	3500	100
	1990	6.2	6062	3500	100
Refined Analysis					
Annual	1987	16.2	5517	4310	100

Note: YY= year, MM=Month, DD=Day, HH=Hour.

[a] Relative to Dryer RTO Stack B

Table 16. Total NAAQS Results (Modeled & Background), NO_2				
Averaging Period	Modeled Concentration (μg/m³)	Background Concentration (μg/m³)	Total Concentration (μg/m³)	NAAQS (μg/m³)
Annual	16.2	16	32.2	100

F.2.3 Class II Increment Analysis

Particulate Matter

The results for the PM_{10} PSD Class II increment analysis are summarized in Table 17. Since five years of meteorological data are utilized in the analysis, the highest, second-highest 24-hour concentrations are used for comparison to the increment value. The highest, second-highest 24-hour average and the maximum annual concentrations are 29.6 and 7.1 $\mu g/m^3$, respectively. These values are less than the PSD Class II increments of 30 and 17 $\mu g/m^3$, for the 24-hour and annual averaging periods, respectively. As such, it is demonstrated that this project will not cause or contribute to a violation of the PSD increments.

Nitrogen Dioxide

The results for the NO_2 PSD Class II increment analysis are summarized in Table 18. The maximum annual average concentration is 3.9 $\mu g/m^3$, which is less than the allowable PSD Class II increment of 25 $\mu g/m^3$. As such, it is demonstrated that this project will not cause or contribute to a violation of the PSD increment.

F.2.4 Class I Area Significant Impact Analysis

The results of the PM_{10} and NO_2 Class I increment analyses are presented in Table 19.

Particulate Matter

The maximum 24-hour and annual PM_{10} concentrations are 1.60 and 0.068 $\mu g/m^3$, respectively. The 24 hour concentration is above the US EPA proposed PSD Class I significance levels of 0.3 $\mu g/m^3$ for the 24-hour and annual averaging periods, respectively. Therefore, further analysis for the PSD Class I Area is performed for PM_{10}.

Nitrogen Dioxide

The maximum annual NO_2 concentration, conservatively assuming full conversion of NO_x to NO_2, is 0.068 $\mu g/m^3$. This value is well below the US EPA proposed PSD Class I significance level of 0.1 $\mu g/m^3$. Therefore, no further analysis for the PSD Class I area is performed.

Table 17. PSD Class II Increment Analysis, PM_{10}						
Averaging Period	Year	Modeled Concentration ($\mu g/m^3$)	Receptor Location[a]		Period Ending (YYMMDDHH)	PSD Increment ($\mu g/m^3$)
			Distance X (m)	Distance Y (m)		
24-hour	1986	26.3	-186	-556	86111324	30
	1987	23.1	-88	-575	87021824	30
	1988	24.4	-201	-553	88020524	30
	1989	29.6	670	394	89061024	30
	1990	21.9	-478	-165	90042024	30
Annual	1986	4.3	-186	-556	---	17
	1987	7.1	-186	-556	---	17
	1988	6.1	-186	-556	---	17
	1989	3.8	-52	295	---	17
	1990	3.7	-41	234	---	17

Note: YY= year, MM=Month, DD=Day, HH=Hour.
[a] Relative to RTO Stack B

Table 18. PSD Class II Increment Analysis, NO_2					
Averaging Period	Year	Modeled Concentration[b] ($\mu g/m^3$)	Receptor Location[a]		PSD Increment ($\mu g/m^3$)
			Distance X (m)	Distance Y (m)	
Annual	1986	2.3	-245	-544	25
	1987	3.9	-245	-544	25
	1988	3.3	-205	-564	25
	1989	2.2	-131	227	25
	1990	2.5	-131	227	25

[a] Relative to RTO Stack B
[b] Assumes full conversion of NO_x to NO_2.

Table 19. Class I Increment Significant Impact Analysis, PM_{10} and NO_2					
Pollutant	Averaging Period	Year	Modeled Concentration ($\mu g/m^3$)	Period Ending (YYMMDDHH)	Screening Level[a] ($\mu g/m^3$)
PM_{10}	24-hour	1986	1.23	86090524	0.3
		1987	0.87	87012524	0.3
		1988	1.60	88121724	0.3
		1989	1.16	89022424	0.3
		1990	1.29	90102424	0.3
	Annual	1986	0.048	---	0.2
		1987	0.035	---	0.2
		1988	0.038	---	0.2
		1989	0.068	---	0.2
		1990	0.058	---	0.2
NO_2	Annual	1986	0.039	---	0.1
		1987	0.029	---	0.1
		1988	0.031	---	0.1
		1989	0.055	---	0.1
		1990	0.047	---	0.1

Note: YY= year, MM=Month, DD=Day, HH=Hour.
[a] US EPA proposed screening levels for Class I areas.

F.2.5 Full PSD Class I Increment Analysis for PM_{10}

The refined analysis for PM_{10} accounts for sources, which are consuming increment in the PSD Class I Area, as well as sources that were in operation when baseline date was established and have been removed from service or had their emissions reduced. The maximum 24-hour and annual PM_{10} modeled concentrations are 0.96 and 0.048 $\mu g/m^3$, respectively. These values are less than the PSD Class I increments of 8 and 4 $\mu g/m^3$, for the 24-hour and annual averaging periods, respectively. As such, it is demonstrated that this project will not cause or contribute to a violation of the PSD increments.

Table 20. Class I Increment Analysis, PM_{10}

Pollutant	Averaging Period	Year	Modeled Concentration ($\mu g/m^3$)	Period Ending (YYMMDDHH)	PSD Class I Increment ($\mu g/m^3$)
PM_{10}	24-hour	1986	0.73	86021524	8
		1987	0.63	87061324	8
		1988	0.76	88042924	8
		1989	0.96	89091724	8
		1990	0.91	90041624	8
	Annual	1986	0.017	---	4
		1987	0.013	---	4
		1988	0.011	---	4
		1989	0.048	---	4
		1990	0.033	---	4

Note: YY= year, MM=Month, DD=Day, HH=Hour.

[a] US EPA proposed screening levels for Class I areas.

Attachment 1

BACKGROUND CONCENTRATIONS

Table A1-1Summary of NO_2 Ambient Monitoring Data Collected near Hosford					
Year	County	Station ID	Monitor Location	Number of Observations	Concentration Annual Average ($\mu g/m^3$)
1998	No data available for stations near Hosford				
1997	Escambia	3540-004-F01	Pensacola/Ellyson Industrial Park	6161	16
1996	Escambia	3540-004-F01	Pensacola/Ellyson Industrial Park	3548	15
				Selected Background Concentration	**16**

Note: $\mu g/m^3$= micrograms per cubic meter.

Table A1-2. Summary of PM_{10} Ambient Monitoring Data Collected Near Hosford						
Year	County	Station ID	Monitor Location	Number of Observations	Concentration	
					2nd High 24 Hour Average ($\mu g/m^3$)	Annual Average ($\mu g/m^3$)
1998	Bay	12-005-1004	Panama City, Cherry St and Henderson Ave S.T.P.	27	52	No Data
1998	Gulf	12-045-1003	Port St. Joe, Water Plant on Kenny's Mill Road	30	54	No Data
1997	Charlotte	3760-002-F01	Punta Gorda/3201 Golf Course Blvd.	27	43	27
1996	Bay	3480-004-F02	Panama City, Cherry St and Henderson Ave S.T.P.	57	50	23
1996	Gulf	3740-003-F02	Port St. Joe, Water Plant on Kenny's Mill Road	59	47	20
				Selected Background Concentration	**54**	**27**

Note: $\mu g/m^3$ = micrograms per cubic meter.

Attachment 2

FDEP EMISSIONS INVENTORY

Table 1-1, Summary of Air Pollutant Standards and Terms

Gulf Power Company
Scholz Generating Plant

FINAL Permit No.: 0630014-001-AV
Facility ID No.: 0630014

This table summarizes information for convenience purposes only. This table does not supersede any of the terms or conditions of the permit.

E. U. ID No.	Brief Description	Pollutant Name	Fuel(s)	Hours/ Year	Allowable Emissions			Equivalent Emissions*		Regulatory Citation(s)	See Permit Condition(s)
					Standard(s)	lbs./hour	TPY	lbs./hour	TPY		
-001	Boiler #1	VE	Coal	8760	40%			N/A	N/A	62-296.405(1)(a)	A.5.
	(645.7 MMBtu/hour - Coal)		Liquid Fuel	8760	40%			N/A	N/A	62-296.405(1)(a)	A.5.
	(12.4 MMBtu/hour -Oil)	PM	Coal	8760	0.1 lb/MMBtu	N/A	N/A	64.6	282.9	62-296.405(1)(b)	A.7.
			Liquid Fuel	8760	0.1 lb/MMBtu	N/A	N/A	1.2	5.4	62-296.405(1)(b)	A.7.
		PM - SB	Coal	3 hr/day	0.3 lb/MMBtu	N/A	N/A	193.7	353.5	62-210.700(3)	A.8.
	-Acid Rain Phase I Unit	**	Liquid Fuel	3 hr/day	0.3 lb/MMBtu	N/A	N/A	3.7	6.8	62-210.700(3)	A.8.
	-Acid Rain Phase II Unit	SO_2	Coal	8760	6.17 lb/MMBtu	N/A	N/A	3,984.0	17,449.8	62-204.240(1)	A.9.
			Liquid Fuel	8760	2.75 lb/MMBtu	N/A	N/A	34.1	149.4	62-296.405(1)(c)1.j.	A.10
-002	Boiler #2	VE	Coal	8760	40%			N/A	N/A	62-296.405(1)(a)	A.5.
	(645.7 MMBtu/hour - Coal)		Liquid Fuel	8760	40%			N/A	N/A	62-296.405(1)(a)	A.5.
	(12.4 MMBtu/hour - Oil)	PM	Coal	8760	0.1 lb/MMBtu	N/A	N/A	64.6	282.9	62-296.405(1)(b)	A.7.
			Liquid Fuel	8760	0.1 lb/MMBtu	N/A	N/A	1.2	5.4	62-296.405(1)(b)	A.7.
		PM - SB	Coal	3 hr/day	0.3 lb/MMBtu	N/A	N/A	193.7	353.5	62-210.700(3)	A.8.
	-Acid Rain Phase I Unit	**	Liquid Fuel	3 hr/day	0.3 lb/MMBtu	N/A	N/A	3.7	6.8	62-210.700(3)	A.8.
	-Acid Rain Phase II Unit	SO_2	Coal	8760	6.17 lb/MMBtu	N/A	N/A	3,984.0	17,449.8	62-2204.240(1)	A.9.
			Liquid Fuel	8760	2.75 lb/MMBtu	N/A	N/A	34.1	149.4	62-296.405(1)(c)1.j.	A.10

Notes:
* The "Equivalent Emissions" listed are for informational purposes.
** PM - SB refers to "soot blowing" and "load change".

Section IV. Acid Rain Part.

Operated by: Gulf Power Company
ORIS Code: 0642

Subsection A. This subsection addresses Acid Rain, Phase II.

The emissions units listed below are regulated under Acid Rain, Phase II.

E.U. ID No.	Description
-001	Boiler Number 1 - 645.7 MMBtu/hour
-002	Boiler Number 2 - 645.7 MMBtu/hour

A.1. The Phase II permit applications, the Phase II NO_X compliance plans and the Phase II NO_X averaging plans submitted for this facility, as approved by the Department, are a part of this permit (included as Attachments). The owners and operators of these Phase II acid rain units must comply with the standard requirements and special provisions set forth in the applications listed below:

a. DEP Form No. 62-210.900(1)(a), F.A.C., received 12/18/95 (Signed 12/8/95).
b. DEP Form No. 62-210.900(1)(a)4., F.A.C., received 12/22/97 (Signed 12/18/97).
c. DEP Form No. 62-210.900(1)(a)5., F.A.C., received 08/24/99 (signed 08/17/99).

[Chapter 62-213 and Rule 62-214.320, F.A.C.]

A.2. Sulfur dioxide (SO_2) allowance allocations and nitrogen oxide (NO_X) requirements for each Acid Rain unit are as follows:

E.U. ID #	EPA ID	Year	2000	2001	2002	2003	2004
-001	**ID No. 1 Boiler 1**	**SO_2 allowances, under Table 2, 3, or 4 of 40 CFR 73**	1,958*	1,958*	1,958*	1,958*	1,958*
		NO_X limit	Pursuant to 40 CFR 76.11, the Florida Department of Environmental Protection approves five (5) NO_X emissions averaging plans for this unit. Each plan is effective for one calendar year for the 2000, 2001, 2002, 2003 and 2004. Under each plan, this unit's NO_X emissions shall not exceed the annual average alternative contemporaneous emission limitation of **0.68** lb/MMBtu. In addition, this unit shall not have an annual heat input **greater than 1,855,434** MMBtu. Also, see Additional Requirements 1, 2 and 3, below.				

E.U. ID #	EPA ID	Year	2000	2001	2002	2003	2004
-002	**ID No. 2 Boiler 2**	**SO_2 allowances, under Table 2, 3, or 4 of 40 CFR 73**	2,050*	2,050*	2,050*	2,050*	2,050*
		NO_X limit	Pursuant to 40 CFR 76.11, the Florida Department of Environmental Protection approves five (5) NO_X emissions averaging plans for this unit. Each plan is effective for one calendar year for the 2000, 2001, 2002, 2003 and 2004. Under each plan, this unit's NO_X emissions shall not exceed the annual average alternative contemporaneous emission limitation of **0.77** lb/MMBtu. In addition, this unit shall not have an annual heat input **greater than 1,864,795** MMBtu. Also, see Additional Requirements 1, 2 and 3, below.				

*The number of allowances held by an Acid Rain source in a unit account may differ from the number allocated by the USEPA under Table 2, 3, or 4 of 40 CFR 73.

Additional Requirements

1. Under the plan (NO_X Phase II averaging plan), the actual Btu-weighted annual average NO_X emission rate for the units in the plan shall be less than or equal to the Btu-weighted annual average NO_X emission rate for the same units had they each been operated, during the same period of time, in compliance with the applicable emission limitations under 40 CFR 76.5, 76.6, or 76.7, except that for any early election units, the applicable emission limitations shall be under 40 CFR 76.7. If the designated representative demonstrates that the requirement of the prior sentence (as set forth in 40 CFR 76.11(d)(1)(ii)(A)) is met for a year under the plan, then this unit shall be deemed to be in compliance for that year with its alternative contemporaneous annual emission limitation and annual heat input limit.

2. In accordance with 40 CFR 72.40(b)(2), approval of the averaging plan shall be final only after the Alabama Department of Environmental Management, the Jefferson County (Alabama) Department of Health, the Georgia Department of Natural Resources and the Mississippi Department of Environmental Quality, have also approved this averaging plan.

3. In addition to the described NO_X compliance plan, this unit shall comply with all other applicable requirements of 40 CFR part 76, including the duty to reapply for a NO_X compliance plan and requirements covering excess emissions.

Phase I Station Characteristics

08-Jun-92
CS14.WK1

Compressor Station:	Number 14
Name:	Quincy
County:	Gadsden
Nearest City:	Quincy
Compressor Supervisor:	James Dollar
Mailing Address:	Route 3, Box 3390 Quincy, Florida 32351-9803
Telephone:	904-627-8090
Latitude:	30-30-38
Longitude:	84-42-28
UTM Zone:	16
UTM Easting:	719.97 km
UTM Northing:	3,377.39 km
Elevation (ft):	260

Phase I Engine Characteristics

Engine Identification	1	2	3	4	5
Permit Number					
Serial Nnumber	G-2369	G-2370	G-2371	G-2662	G-2779
Operating Time					
Hours/Day	24	24	24	24	24
Days/Week	7	7	7	7	7
Weeks/Year	52	52	52	52	52
Engine Type	Recip	Recip	Recip	Recip	Recip
Date of Installation	1958	1958	1958	1968	1968
Engine Make	Worthington	Worthington	Worthington	Worthington	Worthington
Engine Model	SEHG-8	SEHG-8	SEHG-8	SEHG-8	SEHG-8
Horsepower Rating	2000	2000	2000	2000	2000
Air Charging	Turbo.	Turbo.	Turbo.	Turbo.	Turbo.
Exhaust Temperature (F)	600	600	600	600	600
Mass Flow Rate (lbs/hr) (a)	28172	28172	28172	28172	28172
Volumetric Flow Rate (acfm)	11637	11637	11637	11637	11637
Volumetric Flow Rate (dscfm)	5333	5333	5333	5333	5333
Exit Velocity (af/s)	119.5	119.5	119.5	119.5	119.5
Water Vapor Content (%)	8	8	8	8	8
Ave. Fuel Consumption (MMCF/Hr) (b)	0.0144	0.0144	0.0144	0.0144	0.0144
Max. Fuel Consumption (MMCF/Hr) (b)	0.0144	0.0144	0.0144	0.0144	0.0144
Specific Fuel Consump. (BTU/bhp-hr)	6350	6350	6350	6350	6350
Maximum Heat Input (MMBTU/Hr)	15	15	15	15	15
Stack Height (ft)	28.08	28.08	28.08	28.08	28.08
Stack Diameter (in)	17.25	17.25	17.25	17.25	17.25
Stack to Building Offset (ft)	17.00	17.00	17.00	17.00	17.00
Building Height (ft) (c)	31.75	← same	← same	← same	← same
Building Length (ft) (c)	240 ~~200.00~~	←	←	←	←
Building Width (ft) (c)	55.00	←	←	←	←

Phase I Fuel Characteristics

Fuel Type	N.G.	N.G.	N.G.	N.G.	N.G.
Heating Value (BTU/CF)	1040	1040	1040	1040	1040
Heat Capacity (BTU/lb)	22857	22857	22857	22857	22857
Density (lb/cubic ft)	0.0455	0.0455	0.0455	0.0455	0.0455
Percent Sulfur (%) (d)	0.031	0.031	0.031	0.031	0.031
Percent Ash (%)	N/A	N/A	N/A	N/A	N/A

Phase II Station Characteristics

08–Jun–92
CS14.WK1

Compressor Station:	Number 14
Name:	Quincy
County:	Gadsden
Nearest City:	Quincy
Compressor Supervisor:	James Dollar
Mailing Address:	Route 3, Box 3390 Quincy, Florida 32351–9803
Telephone:	904–627–8090
Latitude:	30–30–38
Longitude:	84–42–28
UTM Zone:	16
UTM Easting:	719.97 km
UTM Northing:	3,377.39 km
Elevation (ft):	260

Phase II Engine Characteristics

Engine Identification	6
Permit Number	
Serial Nnumber	48489
Operating Time	
Hours/Day	24
Days/Week	7
Weeks/Year	52
Engine Type	Recip
Date of Installation	1991
Engine Make	Cooper–Bessemer
Engine Model	GMVR–12 C2
Horsepower Rating	~~2400~~ 2700
Air Charging	Turbo.
Exhaust Temperature (F)	550
Mass Flow Rate (lbs/hr) (a)	36860
Volumetric Flow Rate (acfm)	15857
Volumetric Flow Rate (dscfm)	7511
Exit Velocity (af/s)	71.68
Water Vapor Content (%)	8
Ave. Fuel Consumption (MMCF/Hr) (b)	0.0162
Max. Fuel Consumption (MMCF/Hr) (b)	0.0162
Specific Fuel Consump. (BTU/bhp–hr)	7000
Maximum Heat Input (MMBTU/Hr)	16.8
Stack Height (ft)	50.75
Stack Diameter (in)	26
Stack to Building Offset (ft)	17.00
Building Height (ft) (c)	31.75
Building Length (ft) (c)	240.00
Building Width (ft) (c)	55.00

Phase II Fuel Characteristics

Fuel Type	N.G.
Heating Value (BTU/CF)	1040
Heat Capacity (BTU/lb)	22857
Density (lb/cubic ft)	0.0455
Percent Sulfur (%) (d)	0.031
Percent Ash (%)	N/A

Table 1-1, Summary of Air Pollutant Standards and Terms

Florida Gas Transmission
Compressor Station No. 14

FINAL Permit No.: 0390029-001-AV
Facility ID No.: 0390029

This table summarizes information for convenience purposes only. This table does not supersede any of the terms or conditions of this permit.

E.U. ID No. | **Brief Description**
006 | *Internal Combustion Engine No. 1406*

			Allowable Emissions			Equivalent Emissions*			
Pollutant Name	Fuel(s)	Hours/Year	Standard(s)	lbs./hour	TPY	lbs./hour	TPY	Regulatory Citation(s)	See permit condition(s)
Nitrogen Oxides	Gas	8760		10.6	46.4			62-212.400	III.A.5
Carbon Monoxide	Gas	8760		11.1	48.7			62-212.400	III.A.5
VOC (non methane)	Gas	8760		2.6	11.5			62-212.400	III.A.5
PM (TSP)	Gas	8760		0.08	0.35			62-212.400	III.A.5
PM (PM10)	Gas	8760		0.08	0.35			62-212.400	III.A.5
Sulfur Dioxide	Gas	8760		0.46	2.0			62-212.400	III.A.5
Visible Emissions	Gas	8760		5% Opacity				62-212.400	III.A.5

E.U. ID No. | **Brief Description**
007 | Internal Combustion Engines No. 1401, 1402, 1403, 1404, 1405

			Allowable Emissions			Equivalent Emissions*			
Pollutant Name	Fuel(s)	Hours/Year	Standard(s)	lbs./hour	TPY	lbs./hour	TPY	Regulatory Citation(s)	See permit condition(s)
Nitrogen Oxides	Gas	8760				260.0	1138.8		
Carbon Monoxide	Gas	8760				35.3	154.6		
VOC (non methane)	Gas	8760				15.9	69.65		
PM (TSP)	Gas	8760				0.35	1.65		
PM (PM10)	Gas	8760				0.35	1.65		
Sulfur Dioxide	Gas	8760				2.1	9.0		
Visible Emissions	Gas	8760				5% Opacity			

NOTES: * The " Equivalent Emissions" listed are for informational purposes only.

Table 1-1. Summary of Air Pollutant Standards and Terms

Engelhard Corporation
Quincy Operations

FINAL Permit No.: 0390005-002-AV
Facility ID No.: 0390005

This table summarizes information for convenience purposes only. This table does not supersede any of the terms or conditions of this permit.

GEL CLAY PRODUCTION EQUIPMENT NOT SUBJECT TO NSPS (BAGHOUSES)

E.U. ID No. **Brief Description**
017 Min-U-Gel Truck Loading and Bagging

			Allowable Emissions			Equivalent Emissions*			
Pollutant Name	Fuel(s)	Hours/Year	Standard(s)	lbs./hour	TPY	lbs./hour	TPY	Regulatory Citation(s)	See permit condition(s)
PM			0.017 gpdscf	0.5	2.2			62-212.400, F.A.C.	A.4.
VE			5% opacity					62-212.400, F.A.C.	A.3.

E.U. ID No. **Brief Description**
021 Coarse Gel West Bagging

			Allowable Emissions			Equivalent Emissions*			
Pollutant Name	Fuel(s)	Hours/Year	Standard(s)	lbs./hour	TPY	lbs./hour	TPY	Regulatory Citation(s)	See permit condition(s)
PM			0.017 gpdscf	0.5	1.9			62-212.400, F.A.C.	A.4.
			5% opacity					62-212.400, F.A.C.	A.3.

E.U. ID No. **Brief Description**
022 East Product Storage Bin

			Allowable Emissions			Equivalent Emissions*			
Pollutant Name	Fuel(s)	Hours/Year	Standard(s)	lbs./hour	TPY	lbs./hour	TPY	Regulatory Citation(s)	See permit condition(s)
PM			0.017 gpdscf	0.2	0.9			62-212.400, F.A.C.	A.4.
			5% opacity					62-212.400, F.A.C.	A.3.

E.U. ID No. **Brief Description**
023 West Product Storage Bin

			Allowable Emissions			Equivalent Emissions*			
Pollutant Name	Fuel(s)	Hours/Year	Standard(s)	lbs./hour	TPY	lbs./hour	TPY	Regulatory Citation(s)	See permit condition(s)
PM			0.017 gpdscf	0.2	0.9			62-212.400, F.A.C.	A.4.
			5% opacity					62-212.400, F.A.C.	A.3.

E.U. ID No. **Brief Description**
024 Miscellaneous Product Storage Bin

			Allowable Emissions			Equivalent Emissions*			
Pollutant Name	Fuel(s)	Hours/Year	Standard(s)	lbs./hour	TPY	lbs./hour	TPY	Regulatory Citation(s)	See permit condition(s)
PM			0.017 gpdscf	0.2	0.9			62-212.400, F.A.C.	A.4.
			5% opacity					62-212.400, F.A.C.	A.3.

E.U. ID No. **Brief Description**
025 Fine Gel Mill Product Collector

			Allowable Emissions			Equivalent Emissions*			
Pollutant Name	Fuel(s)	Hours/Year	Standard(s)	lbs./hour	TPY	lbs./hour	TPY	Regulatory Citation(s)	See permit condition(s)
PM			0.017 gpdscf	1.7	7.3			62-212.400, F.A.C.	A.4.
			5% opacity					62-212.400, F.A.C.	A.3.

E.U. ID No. **Brief Description**
026 Fine Gel Classifier System

			Allowable Emissions			Equivalent Emissions*			
Pollutant Name	Fuel(s)	Hours/Year	Standard(s)	lbs./hour	TPY	lbs./hour	TPY	Regulatory Citation(s)	See permit condition(s)
PM			0.017 gpdscf	0.5	2.2			62-212.400, F.A.C.	A.4.
			5% opacity					62-212.400, F.A.C.	A.3.

Total - Gel Clay Production Not Subject to NSPS 3.8 16.3

GEL CLAY PRODUCTION EQUIPMENT SUBJECT TO NSPS (BAGHOUSES)

E.U. ID No. **Brief Description**
013 Fine Grinding

			Allowable Emissions			Equivalent Emissions*			
Pollutant Name	Fuel(s)	Hours/Year	Standard(s)	lbs./hour	TPY	lbs./hour	TPY	Regulatory Citation(s)	See permit condition(s)
PM			0.05 grms/dscm	1.1	4.4			62-204.800, F.A.C.	B.4.
VE			5% opacity					62-204.800, F.A.C.	B.3.

E.U. ID No. **Brief Description**
016 Extrusion Reagent Process

			Allowable Emissions			Equivalent Emissions*			
Pollutant Name	Fuel(s)	Hours/Year	Standard(s)	lbs./hour	TPY	lbs./hour	TPY	Regulatory Citation(s)	See permit condition(s)
PM			0.05 grms/dscm	0.7	3.1			62-204.800, F.A.C.	B.4.
VE			5% opacity					62-204.800, F.A.C.	B.3.

E.U. ID No. **Brief Description**
018 #4 Mill Material Handling

Pollutant Name	Fuel(s)	Hours/Year	Allowable Emissions: Standard(s)	Allowable Emissions: lbs./hour	Allowable Emissions: TPY	Equivalent Emissions*: lbs./hour	Equivalent Emissions*: TPY	Regulatory Citation(s)	See permit condition(s)
PM			0.05 grms/dscm	3.9	17.1			62-204.800, F.A.C.	B.4.
VE			5% opacity					62-204.800, F.A.C.	B.3.

E.U. ID No. **Brief Description**
020 East Bagging and Fugitive Dust

Pollutant Name	Fuel(s)	Hours/Year	Allowable Emissions: Standard(s)	Allowable Emissions: lbs./hour	Allowable Emissions: TPY	Equivalent Emissions*: lbs./hour	Equivalent Emissions*: TPY	Regulatory Citation(s)	See permit condition(s)
PM			0.05 grms/dscm	0.7	2.8			62-204.800, F.A.C.	B.4.
VE			5% opacity					62-204.800, F.A.C.	B.3.

E.U. ID No. **Brief Description**
027 Loadout East Bagging

Pollutant Name	Fuel(s)	Hours/Year	Allowable Emissions: Standard(s)	Allowable Emissions: lbs./hour	Allowable Emissions: TPY	Equivalent Emissions*: lbs./hour	Equivalent Emissions*: TPY	Regulatory Citation(s)	See permit condition(s)
PM			0.05 grms/dscm	0.4	1.4			62-204.800, F.A.C.	B.4.
VE			5% opacity					62-204.800, F.A.C.	B.3.

E.U. ID No. **Brief Description**
028 Classifier Product Bagging System

Pollutant Name	Fuel(s)	Hours/Year	Allowable Emissions: Standard(s)	Allowable Emissions: lbs./hour	Allowable Emissions: TPY	Equivalent Emissions*: lbs./hour	Equivalent Emissions*: TPY	Regulatory Citation(s)	See permit condition(s)
PM			0.05 grms/dscm	2.4	9.9			62-204.800, F.A.C.	B.4.
			5% opacity					62-204.800, F.A.C.	B.3.

Total Gel Clay Production Equipment (NSPS) 9.2 38.6

GRANULAR CLAY PRODUCTION EQUIPMENT SUBJECT TO NSPS

E.U. ID No. **Brief Description**
011 #1 Milling Area

Pollutant Name	Fuel(s)	Hours/Year	Allowable Emissions: Standard(s)	Allowable Emissions: lbs./hour	Allowable Emissions: TPY	Equivalent Emissions*: lbs./hour	Equivalent Emissions*: TPY	Regulatory Citation(s)	See permit condition(s)
PM		5740	0.05 gms/dscm	2.6	7.5			62-204.800, F.A.C.	C.4.
VE			5% opacity					62-204.800, F.A.C.	C.3.

E.U. ID No. **Brief Description**
031 Fluid Bed Dryer Material Handling

Pollutant Name	Fuel(s)	Hours/Year	Allowable Emissions: Standard(s)	Allowable Emissions: lbs./hour	Allowable Emissions: TPY	Equivalent Emissions*: lbs./hour	Equivalent Emissions*: TPY	Regulatory Citation(s)	See permit condition(s)
PM			0.05 gms/dscm	0.7	2.8			62-204.800, F.A.C.	C.4.
VE			5% opacity					62-204.800, F.A.C.	C.3.

E.U. ID No. **Brief Description**
032 Reconstitution Area

Pollutant Name	Fuel(s)	Hours/Year	Allowable Emissions: Standard(s)	Allowable Emissions: lbs./hour	Allowable Emissions: TPY	Equivalent Emissions*: lbs./hour	Equivalent Emissions*: TPY	Regulatory Citation(s)	See permit condition(s)
PM			0.05 gms/dscm	1.0	4.4			62-204.800, F.A.C.	C.4.
VE			5% opacity					62-204.800, F.A.C.	C.3.

E.U. ID No. **Brief Description**
033 #1A Mill System

Pollutant Name	Fuel(s)	Hours/Year	Allowable Emissions: Standard(s)	Allowable Emissions: lbs./hour	Allowable Emissions: TPY	Equivalent Emissions*: lbs./hour	Equivalent Emissions*: TPY	Regulatory Citation(s)	See permit condition(s)
PM			0.05 gms/dscm	4.0	17.6			62-204.800, F.A.C.	C.4.
			5% opacity					62-204.800, F.A.C.	C.3.

E.U. ID No. **Brief Description**
035 Finishing Area

Pollutant Name	Fuel(s)	Hours/Year	Allowable Emissions: Standard(s)	Allowable Emissions: lbs./hour	Allowable Emissions: TPY	Equivalent Emissions*: lbs./hour	Equivalent Emissions*: TPY	Regulatory Citation(s)	See permit condition(s)
PM			0.05 gms/dscm	2.4	10.6			62-204.800, F.A.C.	C.4.
			5% opacity					62-204.800, F.A.C.	C.3.

E.U. ID No. **Brief Description**
036 Granular Packaging Area

Pollutant Name	Fuel(s)	Hours/Year	Allowable Emissions: Standard(s)	Allowable Emissions: lbs./hour	Allowable Emissions: TPY	Equivalent Emissions*: lbs./hour	Equivalent Emissions*: TPY	Regulatory Citation(s)	See permit condition(s)
PM			0.05 gms/dscm	1.0	4.4			62-204.800, F.A.C.	C.4.
			5% opacity					62-204.800, F.A.C.	C.3.

Total Granular Clay Production (NSPS) 11.7 47.3

GRANULAR CLAY FIRED EQUIPMENT NOT SUBJECT TO NSPS

E.U. ID No. **Brief Description**
029 Fluid Bed Dryer - North

Best Available Copy

Pollutant Name	Fuel(s)	Hours/Year	Allowable Emissions Standard(s)	lbs./hour	TPY	Equivalent Emissions lbs./hour	TPY	Regulatory Citation(s)	See permit condition(s)
PM			0.017 gpdscf	4.7	20.6			62-212.400, F.A.C.	D.5.
NOX					124 TPY (facility)			62-212.400, F.A.C.	D.6.: Facility 9
VE			5% opacity					62-212.400, F.A.C.	D.4.

E.U. ID No. **Brief Description**
031 Fluid Bed Dryer Material Handling

Pollutant Name	Fuel(s)	Hours/Year	Allowable Emissions Standard(s)	lbs./hour	TPY	Equivalent Emissions lbs./hour	TPY	Regulatory Citation(s)	See permit condition(s)
PM			0.017 gpdscf	4.7	20.6			62-212.400, F.A.C.	D.5.
NOX					124 TPY (facility)			62-212.400, F.A.C.	D.6.: Facility 9
VE			5% opacity					62-212.400, F.A.C.	D.4.

Totals Granular Clay Fired Equipment not NSPS:

PM	9.4	41.2
NOX		124 (facility)

GRANULAR CLAY FIRED EQUIPMENT NOT SUBJECT TO NSPS

E.U. ID No. **Brief Description**
014 High Temperature Drying Kiln no. 1

Pollutant Name	Fuel(s)	Hours/Year	Allowable Emissions Standard(s)	lbs./hour	TPY	Equivalent Emissions lbs./hour	TPY	Regulatory Citation(s)	See permit condition(s)
PM				4.2	18.4			62-212.400, F.A.C.	E.5.
NOX					124 TPY (facility)			62-212.400, F.A.C.	E.6., Facility 9
VE			5% opacity					62-212.400, F.A.C.	E.4.

E.U. ID No. **Brief Description**
015 High Temperature Drying Kiln no. 1

Pollutant Name	Fuel(s)	Hours/Year	Allowable Emissions Standard(s)	lbs./hour	TPY	Equivalent Emissions lbs./hour	TPY	Regulatory Citation(s)	See permit condition(s)
PM				4.4	19.3			62-212.400, F.A.C.	E.5.
NOX					124 TPY (facility)			62-212.400, F.A.C.	E.6., Facility 9
VE			5% opacity					62-212.400, F.A.C.	E.4.

Totals Granular Clay Fired Equipment:

PM	6.4	27.6
NOX		124 TPY (facility)

GELLING CLAY FIRED EQUIPMENT NOT SUBJECT TO NSPS

E.U. ID No. **Brief Description**
002 Mill #4A

Pollutant Name	Fuel(s)	Hours/Year	Allowable Emissions Standard(s)	lbs./hour	TPY	Equivalent Emissions lbs./hour	TPY	Regulatory Citation(s)	See permit condition(s)
PM				7.0	30.7			62-212.400, F.A.C.	F.5.
NOX					124 TPY (facility)			62-212.400, F.A.C.	F.6.
VE			5% opacity					62-212.400, F.A.C.	F.4.

E.U. ID No. **Brief Description**
008 Mill #4

Pollutant Name	Fuel(s)	Hours/Year	Allowable Emissions Standard(s)	lbs./hour	TPY	Equivalent Emissions lbs./hour	TPY	Regulatory Citation(s)	See permit condition(s)
PM				7.0	30.7			62-212.400, F.A.C.	F.5.
NOX					124 TPY (facility)			62-212.400, F.A.C.	F.6.
VE			5% opacity					62-212.400, F.A.C.	F.4.

E.U. ID No. **Brief Description**
019 Mill # 4B

Pollutant Name	Fuel(s)	Hours/Year	Allowable Emissions Standard(s)	lbs./hour	TPY	Equivalent Emissions lbs./hour	TPY	Regulatory Citation(s)	See permit condition(s)
PM				7.0	30.7			62-212.400, F.A.C.	F.5.
NOX					124 TPY (facility)			62-212.400, F.A.C.	F.6.
VE			5% opacity					62-212.400, F.A.C.	F.4.

Totals Gelling Clay Fired Equipment:

NOX		124 TPY (facility)
PM	21	92.1

ACM MILLING/ULTRA FINE GRIND WITH BAGHOUSES - NPSP

E.U. ID No. **Brief Description**
038 ACM Milling

Pollutant Name	Fuel(s)	Hours/Year	Allowable Emissions Standard(s)	lbs./hour	TPY	Equivalent Emissions lbs./hour	TPY	Regulatory Citation(s)	See permit condition(s)
PM			0.05 gms/dscf	6.8	20.8			62-204.800, F.A.C.	G.4.
VE			5% opacity					62-204.800, F.A.C.	G.3.

E.U. ID No. **Brief Description**
039 Ultra Fine Grind

Pollutant Name	Fuel(s)	Hours/Year	Allowable Emissions Standard(s)	lbs./hour	TPY	Equivalent Emissions lbs./hour	TPY	Regulatory Citation(s)	See permit condition(s)
				2.0	6.9				
PM			0.05 gms/dscf					62-204.800, F.A.C.	G.4.
VE			5% opacity					62-204.800, F.A.C.	G.3.

Totals: ACM Milling/Ultra Fine 8.8 27.7

E. EMISSION POINT (STACK/VENT) INFORMATION
(Regulated Emissions Units Only)

Emission Point Description and Type: (See Table 47-5)

Table 47-5

	Mill #4A Scrubber	Mill #4 Scrubber	Mill #4B Scrubber
1. Identification of Emission Point on Plot Plan	2	8	19
2. Emission Point Type Code	1	1	1
3. Description of Emission Point	Stack #2	Stack #8	Stack #19
5. Discharge Type Code	V	V	V
6. Stack Height (ft)	61	61	61
7. Exit Diameter (ft)	5.1	5.1	5.1
8. Exit Temperature (F)	200	200	200
9. Actual Volumetric Flow Rate (acfm)	41,000	41,000	41,000
10. Percent Water Vapor	20	20	20
11. Maximum Dry Standard Flow Rate (dscfm)	25,850	25,850	25,850
13. Point UTM Coordinates	East 732580 North 3387500	East 732580 North 3387500	East 732580 North 3387500
Emission Point Comment	None	None	None

E. EMISSION POINT (STACK/VENT) INFORMATION
(Regulated Emissions Units Only)

Emission Point Description and Type: (See Table 42-5)

Table 42-5

	Min-U-Gel	Coarse Gel West Bagging	East Product Storage Bin	West Product Storage Bin	Misc. Product Storage Bin	Fine Gel Mill Product Collector	Fine Gel Classifier System
1. Identification of Emission Point on Plot Plan	Stack #17	Stack #21	Stack #22	Stack # 23	Stack #24	Stack #25	Stack #26
2. Emission Point Type Code	1	1	1	1	1	1	1
3. Description of Emission Point	Stack #17 only	Stack #21 only	Stack #22 only	Stack #23 only	Stack #24 only	Stack #25 only	Stack #26 only
5. Discharge Type Code	V	V	V	V	V	V	V
6. Stack Height (ft)	90	53	100	100	100	48	48
7. Exit Diameter (ft)	1.2	1.2	0.8	0.8	0.8	2.2	1.2
8. Exit Temperature (F)	80	80	80	80	80	80	80
9. Actual Volumetric Flow Rate (acfm)	3500	3000	1400	1400	1400	12000	3500
10. Percent Water Vapor	3.0	3.0	3.0	3.0	3.0	3.0	3.0
11. Maximum Dry Standard Flow Rate (dscfm)	3325	2850	1330	1330	1330	11400	3320
13. Point UTM Coordinates	East 732580 North 3387500	East 732580 North 3387500	East 732580 North 3387500	East 732580 North 3387500	East 732580 North 3387500	East 732580 North 3387500	East 732580 North 3387500
Emission Point Comment	None	None	None	None	None	None	None

E. EMISSION POINT (STACK/VENT) INFORMATION
(Regulated Emissions Units Only)

Emission Point Description and Type: (See Table 45-5)

Table 45-5

	Fluid Bed Dryer-North	Fluid Bed Dryer-South
1. Identification of Emission Point on Plot Plan	29	30
2. Emission Point Type Code	1	1
3. Description of Emission Point	Stack #29	Stack #30
5. Discharge Type Code	V	V
6. Stack Height (ft)	95	95
7. Exit Diameter (ft)	6.5	6.5
8. Exit Temperature (F)	225	225
9. Actual Volumetric Flow Rate (acfm)	118,000	118,000
10. Percent Water Vapor	4	4
11. Maximum Dry Standard Flow Rate (dscfm)	69,925	69,925
13. Point UTM Coordinates	East 732580 North 3387500	East 732580 North 3387500
Emission Point Comment	None	None

E. EMISSION POINT (STACK/VENT) INFORMATION
(Regulated Emissions Units Only)

Emission Point Description and Type: (See Table 46-5)

Table 46-5

	High Temperature Drying Kiln #1	High Temperature Drying Kiln #2
1. Identification of Emission Point on Plot Plan	14	15
2. Emission Point Type Code	1	1
3. Description of Emission Point	Stack #14	Stack #15
5. Discharge Type Code	V	V
6. Stack Height (ft)	100	100
7. Exit Diameter (ft)	2.5	3.8
8. Exit Temperature (F)	132	132
9. Actual Volumetric Flow Rate (acfm)	19,500	38,300
10. Percent Water Vapor	15	15
11. Maximum Dry Standard Flow Rate (dscfm)	14,560	28,600
13. Point UTM Coordinates	East 732580 North 3387500	East 732580 North 3387500
Emission Point Comment	None	None

E. EMISSION POINT (STACK/VENT) INFORMATION
(Regulated Emissions Units Only)

Emission Point Description and Type: (See Table 43-5)

Table 43-5

	Fine Grinding	Extrusion Reagent Process	#4 Mill Material Handling	East Bagging and Fugitive Dust	Loadout East Bagging	Classifier Product Bagging System
1. Identification of Emission Point on Plot Plan	Stack #13	Stack #16	Stack #18	Stack # 20	Stack #27	Stack #28
2. Emission Point Type Code	1	1	1	1	1	1
3. Description of Emission Point	Stack #13 only	Stack #16 only	Stack #18 only	Stack #20 only	Stack #27 only	Stack #28 only
5. Discharge Type Code	V	V	V	V	V	V
6. Stack Height (ft)	50	65	82	53	60	65
7. Exit Diameter (ft)	1.2	1.3	2.1	1.2	1.0	2.5
8. Exit Temperature (F)	80	80	80	80	80	80
9. Actual Volumetric Flow Rate (acfm)	7400	4000	22000	3500	1750	12500
10. Percent Water Vapor	3.0	3.0	3.0	3.0	3.0	3.0
11. Maximum Dry Standard Flow Rate (dscfm)	7030	3740	20600	3325	1660	11875
13. Point UTM Coordinates	East 732580 North 3387500	East 732580 North 3387500	East 732580 North 3387500	East 732580 North 3387500	East 732580 North 3387500	East 732580 North 3387500
Emis. Point Comment	None	None	None	None	None	None

E. EMISSION POINT (STACK/VENT) INFORMATION
(Regulated Emissions Units Only)

Emission Point Description and Type: (See Table 48-5)

Table 48-5

	ACM Feed Bin	Return Conveyor Exhaust	ACM Mill Receiver Collector	#1 Mill Classifier Feed Bin	Product Bin 400	Product Bin 405
1. Identification of Emission Point on Plot Plan	Stack #37	Stack #38	Stack #39	Stack # 40	Stack #41a	Stack #41b
2. Emission Point Type Code	1	1	1	1	1	1
3. Description of Emission Point	Stack #37 only	Stack #38 only	Stack #39 only	Stack #40 only	Stack #41a only	Stack #41b only
5. Discharge Type Code	H	H	V	V	V	V
6. Stack Height (ft)	58	68	113	92	89	89
7. Exit Diameter (ft)	1.3	0.8	1.5	0.8	1.0	0.5
8. Exit Temperature (F)	80	80	80	80	80	80
9. Actual Volumetric Flow Rate (acfm)	3600	2200	12000	1170	1000	250
10. Percent Water Vapor	3.0	3.0	3.0	3.0	3.0	3.0
11. Maximum Dry Standard Flow Rate (dscfm)	3420	2100	11400	1110	950	240
13. Point UTM Coordinates	East 732580 North 3387500	East 732580 North 3387500	East 732580 North 3387500	East 732580 North 3387500	East 732580 North 3387500	East 732580 North 3387500
Emission Point Comment	None	None	None	None	None	None

Table 48-5 (cont.)

	Bagger Exhaust	Receiver Bin Vent	FEM Mill #1 Receiver Collector	FEM Mill #2 Receiver Collector	#2 Classifier Feed Vent
1. Identification of Emission Point on Plot Plan	Stack #46	Stack #48	Stack #49	Stack # 50	Stack #53
2. Emission Point Type Code	1	1	1	1	1
3. Description of Emission Point	Stack #46 only	Stack #48 only	Stack #49 only	Stack #50 only	Stack #53 only
5. Discharge Type Code	V	H	V	V	H
6. Stack Height (ft)	92	65	102	102	70
7. Exit Diameter (ft)	0.7	0.8	1.0	1.0	0.8
8. Exit Temperature (F)	80	80	80	80	80
9. Actual Volumetric Flow Rate (acfm)	7000	625	4000	4000	750
10. Percent Water Vapor	3.0	3.0	3.0	3.0	3.0
11. Maximum Dry Standard Flow Rate (dscfm)	6650	595	3800	3800	715
13. Point UTM Coordinates	East 732580 North 3387500	East 732580 North 3387500	East 732580 North 3387500	East 732580 North 3387500	East 732580 North 3387500
Emission Point Comment	None	None	None	None	None

Table 48-5 (cont.)

	Product Bin 410	Product Bin 600	Product Bin 700	Bulk Loadout Exhaust-Truck	Bulk Loadout Exhaust-Rail	Receiver Bin Vent
1. Identification of Emission Point on Plot Plan	Stack #41c	Stack #41d	Stack #41e	Stack # 42	Stack #43	Stack #44
2. Emission Point Type Code	1	1	1	1	1	1
3. Description of Emission Point	Stack #41c only	Stack #41d only	Stack #41e only	Stack #42 only	Stack #43 only	Stack #44 only
5. Discharge Type Code	V	V	V	V	V	V
6. Stack Height (ft)	88	90	90	34	47	71
7. Exit Diameter (ft)	0.8	1.0	0.8	2.0	0.8	0.8
8. Exit Temperature (F)	80	80	80	80	80	80
9. Actual Volumetric Flow Rate (acfm)	700	2350	700	1000	1000	1170
10. Percent Water Vapor	3.0	3.0	3.0	3.0	3.0	3.0
11. Maximum Dry Standard Flow Rate (dscfm)	665	2230	665	950	950	1110
13. Point UTM Coordinates	East 732580 North 3387500	East 732580 North 3387500	East 732580 North 3387500	East 732580 North 3387500	East 732580 North 3387500	East 732580 North 3387500
Emission Point Comment	None	None	None	None	None	None

Attachment 3

NORTH CAROLINA SOURCE SCREENING PROCEDURE

To: Mark Aguilar FAX (404)
From Steve Marks 230-8314

4 Pages
9737574-0100

State of North Carolina
Department of Natural Resources and Community Development
Division of Environmental Management
512 North Salisbury Street • Raleigh, North Carolina 27611

James G. Martin, Governor
S. Thomas Rhodes, Secretary

July 22, 1985

R. Paul Wilms
Director

Mr. Lewis Nagler
Air Management Branch
EPA Region IV
345 Courtland Street
Atlanta, Georgia 30365

Dear Mr. Nagler:

Subject: A Screening Method for PSD

A simple screening procedure which is applicable to PSD has been developed by the North Carolina Air Quality Section. The "Screening Threshold" method is designed to rapidly and objectively eliminate from the emissions inventory those sources which are beyond the PSD impact area yet within the screening area, but are not likely to have significant interaction with the PSD source. Sources which are flagged by this procedure may then be evaluated with conventional screening techniques, or else be included in refined modeling.

Page I-C-18 of the PSD Workshop Manual does state "A simple screening model technique can be used to justify the exclusion of certain emissions...Such exclusions should be justified and documented." The "Screening Threshold" method is documented in the attachment.

We would very much appreciate your comments and ultimate approval. Please feel free to direct any questions or comments to me in writing or by phone at (919) 733-7015.

Sincerely,

Eldewins Haynes

Eldewins Haynes, Meteorologist
Air Permit Unit

Attachment

cc: Mr. Ogden Gerald
Mr. Mike Sewell
Mr. Sammy Amerson
Mr. Jerry Clayton
Mr. Richard Laster
Regional Air Engineers

"Screening Threshold" Method for PSD Modeling
North Carolina Air Quality Section

This method is best suited for situations where a PSD source has several sources outside its impact area, but within its screening area. The object is to find an effective means to minimize the number of such sources in a model, yet to include all sources which are likely to have a significant impact inside the impact area.

As a first-level screening technique, it is suggested to include those sources within the screening area when

$$Q \geq 20D$$

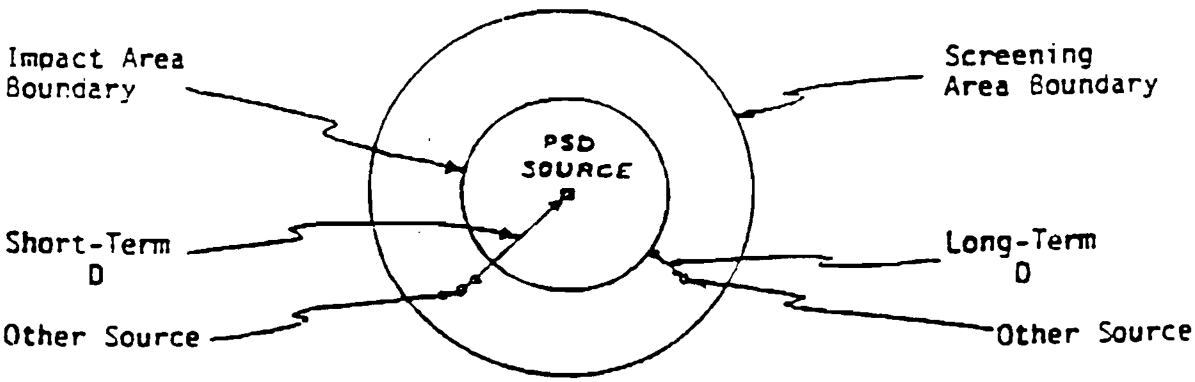
where Q is the maximum emission rate, in tons/year, of the source in the screening area; and D is a distance, in kilometers, from either:

a. the source in the screening area to the nearest edge of the impact area, for long-term analyses

or

b. the source in the screening area to the PSD source defining the impact area, for short-term analyses.

The figure below illustrates the difference between the long-term D and the short-term D.



This method does not preclude the use of alternate screening techniques or of more sophisticated screening techniques given the approval of the review agency. Also, this method does not prevent the review agency from specifying additional sources of interest in the modeling analysis.

The justification for this "Screening Threshold Method" rests upon the following assumptions:

a. effective stack height = 10 meters
b. stability class D (neutral)
c. 2.5 meter/second wind speed
d. mixing height = 300 meters
e. Q = 20D = critical emission rate for a given pollutant
f. one-hour concentrations derived from figure 3-5D in Turner's WADE or from PTDIS.
g. 3-hour and 24-hour concentrations estimated using "Vol. 10R". Annual impacts are 1/7 of 24 hour impacts.

The results, for various distances, are shown in the table below:

D (km)	Q (T/yr)	1-hr Conc. (ug/m³)	3-hr Conc. (ug/m³)	24-hr Conc. (ug/m³)	Annual Conc. (ug/m³)
0.5	10	47	42	19	2.7
1.0	20	32	29	13	1.9
1.5	30	27	24	10	1.4
2.0	40	23	21	9	1.3
3	60	18	16	7	1.0
4	80	17	15	7	1.0
5	100	14	13	6	1
6	120	13	12	5	1
10	200	10	9	4	1
20	400	7	6	3	1
30	600	6	6	3	1
40	800	6	6	3	1
50	1000	7	6	3	1

The "Screening Threshold" method is conservative. Most sources either have effective stack heights greater than 10 meters, or they have several short stacks spread out over an industrial complex. Thus, actual modeled concentrations will most likely be lower than the "Screening Threshold" would indicate in the table above. One implication of the table is that all major sources within 5 km of the subject PSD source or within 5 km of the PSD source's impact area should be scrutinized before being exempted from the final emissions inventory.

The "Screening Threshold" method is in qualitative agreement with the suggestions on page I-C-18 of the Prevention of Significant Deterioration Workshop Manual (1980). On that page, it is suggested that a 100 T/Y source 10 km outisde the impact area may be excluded from the analysis. The above table would exclude a 100 T/Y source more than 5 km beyond the impact area for long-term analyses or more than 5 km away from the PSD source for short-term analyses; if the source is inside the impact area, it must be included regardless of the "Screening

Threshold". The PSD Workshop Manual also states on page I-C-18 that a 10,000 T/Y source 40 km outside the impact area would probably have to be included in the increment analysis. By the "Screening Threshold" method, the critical distance D = Q/20 = 10,000/20 = 500 km. Thus a 10,000 T/Y source within 500 km would always be included for short-term and long-term analyses if within the screening area.

This "Screening Threshold" method is quick, inexpensive to execute, conservative, and consistent with the intent of the PSD Workshop Manual.

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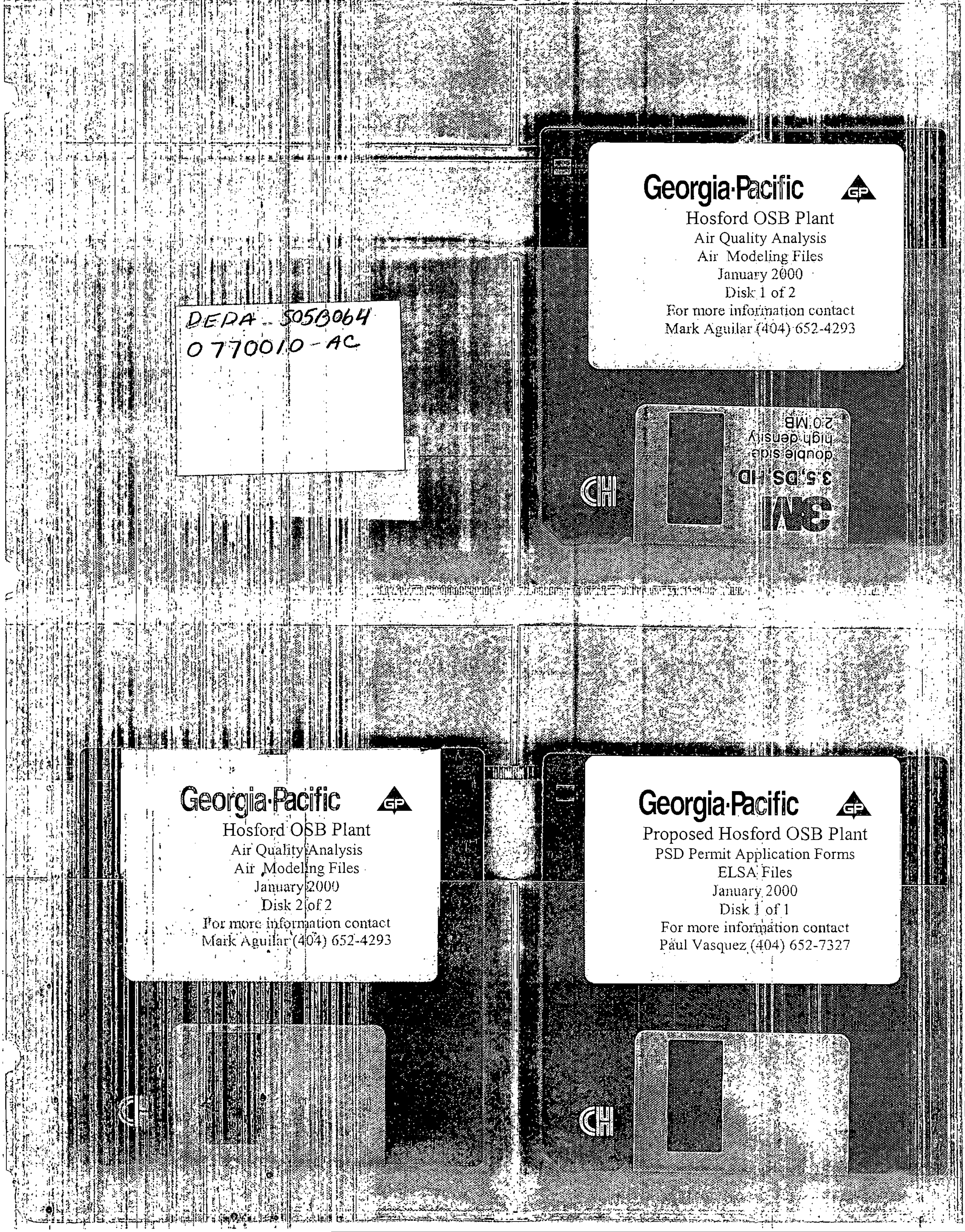

Attachment G

BACT ANALYSIS

ATTACHMENT G

BACT ANALYSIS

HOSFORD, FL ORIENTED STRANDBOARD FACILITY

G.1 INTRODUCTION

The control technology review requirements of the federal and State PSD regulations require that all applicable federal and State emission-limiting standards be met, and that Best Available Control Technology (BACT) be applied to control emissions from the source. The BACT requirements are applicable to all regulated pollutants for which the increase in emissions from the facility or modification exceeds the significant emission rate. The State of Florida has adopted the federal regulations (40 CFR 52.21) by reference (Florida Administrative Code 62-212.400(5)(c)).

BACT is defined in 40 CFR 52.21(b)(12) as:

> "*...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...which the Administrator, on a case-by-case basis, taking into account energy, environmental, and economic impacts and other costs, determines is achievable...*".

The requirements for BACT were promulgated within the framework of the PSD program in the 1977 Amendments to the Clean Air Act [Public Law 95-95; Part C, Section 165(a)(4)]. The primary purpose of BACT is to optimize consumption of PSD air quality increments and thereby enlarge the potential for future economic growth without significantly degrading air quality (US EPA, 1978; 1980). Guidelines for the evaluation of BACT can be found in EPA's Guidelines for Determining Best Available Control Technology (BACT) (US EPA, 1978) and in the PSD Workshop Manual (US EPA, 1990). These guidelines were drafted by US EPA to provide a consistent approach to BACT and to ensure that the impacts of alternative emission control systems are measured by the same set of parameters. In addition, through implementation of these guidelines, BACT in one area of the country may not be identical to BACT in another area. According to US EPA (1980):

> BACT analyses for the same types of emissions unit and the same pollutants in different locations or situations may determine that different control strategies should be applied to the different sites, depending on site-specific factors. Therefore, BACT analyses must be conducted on a case-by-case basis.

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 and take into consideration existing and future air quality in the vicinity of the proposed facility. BACT must, at a minimum, demonstrate compliance with New Source Performance Standards (NSPS) for a source (if applicable). An evaluation of the air pollution control techniques and systems, including a cost-benefit analysis of alternative control technologies capable of achieving a higher degree of emission reduction than the proposed control technology, is required. The cost-benefit analysis requires the documentation of the materials, energy, and economic penalties associated with the proposed and alternative control systems, as well as the environmental benefits derived from these systems. A decision on BACT is to be based on sound judgment, balancing environmental benefits with energy, economic, and other impacts (US EPA, 1978).

Historically, a bottom-up approach, consistent with the BACT Guidelines and PSD Workshop Manual, has been used. With this approach, an initial control level, which is usually NSPS, is evaluated against successively more stringent controls until a BACT level is selected. However, US EPA developed a concern that the bottom-up approach was not providing the level of BACT decisions originally intended. As a result, in December 1987, the US EPA Assistant Administrator for Air and Radiation mandated changes in the implementation of the PSD program, including the adoption of a new "top-down" approach to BACT decision-making.

The top-down BACT approach essentially starts with the most stringent (or top) technology and emissions limits that have been applied elsewhere to the same, or a similar, source category. The applicant must next provide a basis for rejecting this technology in favor of the next most stringent technology or propose to use the more stringent technology. Rejection of control alternatives may be based on technical or economic infeasibility. Such decisions are made on the basis of physical differences (*e.g.,* fuel type), locational differences (*e.g.,* availability of water), or significant 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. Several years ago, EPA issued a draft guidance document on the top-down approach entitled, "Top-Down Best Available Control Technology Guidance Document (US EPA, 1990)". However, to date, US EPA has not promulgated the top-down approach for determining BACT.

G.2 PROCESS DESCRIPTION

Logs, resin (liquid and powdered), and wax are the primary raw materials used in OSB panel production. The production process will be comprised of four principal manufacturing processes: (1) Furnish production, which includes debarking, slashing, and flaking; (2) flake drying; (3) forming and pressing; and (4) finishing, which includes sawing and sanding.

The various processes are described in more detail in the following sections.

G.2.1 Furnish Production

Logs will be unloaded and temporarily stored in the log yard. The logs will then be cut to size, debarked, and processed into flakes. Bark from the debarkers and other green end material from the log yard will be shipped off-site for use as wood fuel or for use in horticultural applications.

G.2.2 Flake Drying

The drying process will consist of five (5) flake dryers (horizontal, cylindrical rotary drum-type) heated by suspension-type burners, and a pneumatic system which conveys the flakes through the dryers. The suspension burners will be designed to burn ground wood fuel. Raw wood fuel will first be ground in the hammermill and then stored in a metering bin. From the metering bin, the ground wood fuel will be pneumatically transferred and blown into the burner. Maximum heat input to each dryer is 40 million British thermal units per hour (MMBtu/hr). The wood fuel will be introduced tangentially to the burners, creating a cyclonic flow pattern, thereby promoting combustion efficiency. The flue gases leaving the combustion zone will be at approximately 1600 degrees Fahrenheit (°F), but will be immediately cooled down to between 600 and 1200 degrees Fahrenheit by the addition of dilution air between the burner and the dryer. The hot exhaust from the burner combines with ambient air pulled through by the dryer's pneumatic system to dry the flakes. The amount of dilution air, and resulting gas temperature, are dependent on the dryer operating rate, wood moisture content, desired moisture content of the furnish, etc. Air pollutant emissions associated with the drying operation will include products of wood fuel combustion, such as PM, VOCs, CO, NO_x, and SO_2. They will also include additional PM, VOC, CO, and formaldehyde, which are produced in the wood drying process.

G.2.3 Forming and Pressing

The dried wood flakes will be blended with resin and wax and will then be placed as a mat on the forming line in layers oriented at right angles to provide structural integrity. The mat will then be moved into the thermal-oil-heated press, where it will be compressed and heated to bond the resin to the flakes. The thermal oil will be heated to the appropriate temperature in a separate system, consisting of two, wood fuel, suspension burners. Air pollutant emissions associated with the board press operation include PM, VOCs, CO, NO_x and formaldehyde. During normal operations, the exhaust gases from the thermal oil system burners will be routed through an electrostatic precipitator (ESP) before being routed through the dryer system.

G.2.4 Finishing

The pressed mats will be cut to size, cooled, and the edges will be sprayed with sealant to prevent swelling. The finished OSB will then be packed and shipped off-site. Dry end material will either be burned to heat the dryers and thermal oil system or shipped off-site for use as wood fuel or as furnish in other wood products manufacturing operations.

Numerous material handling operations, which represent both point sources and fugitive emission sources, will be associated with the production of the OSB. Those operations that can be characterized as point sources include the screen fines with saw trim transfer pneumatics, saw trim and finishing line pneumatics, materials reject and flying saw pneumatics, specialty saw and sander pneumatics, fuel system pneumatics, forming bin pneumatics, and hammermill system pneumatics. The pollutant emissions from these operations are limited to PM. Fugitive sources of PM include the bark handling (batch drops and wind erosion from storage piles), paved and unpaved roads, debarkers, bark hog, and edge-sealing of finished boards.

Additional fugitive emission sources of VOCs and/or formaldehyde include the resin storage tanks, blend house, and finished product storage.

Uncontrolled and controlled air pollutant emission rates from the various emission points associated with the categories of processing equipment listed above are summarized in Tables 1 and 2, respectively.

Table 1. Uncontrolled and Controlled Emissions, from Dryers and Press, Georgia-Pacific Corporation OSB Plant, Hosford, Florida														
Source	Proposed Control System	PM/PM10			VOC			CO			NOx			
		Uncontrolled (TPY)	Controlled (TPY)	Eff. (%)	Uncontrolled (TPY)	Controlled (TPY)	Eff. (%)	Uncontrolled (TPY)	Controlled (TPY)	Eff. (%)	Uncontrolled (TPY)	Controlled (TPY)	Eff. (%)	
Dryers	Multiclones/RTO	3,261	326.1	90.0	5,530	553	90.0	588.5	147.15	75.0	261.5	321.05 (a)	NA	
Press	RTO	49.6	12.4	75.0	878.2	87.82	90.0	127.04	31.76	75.0	47.0	47.0	NA	

Source: MEC Company (vendor), 1999
Georgia-Pacific, 1999

Notes:
(a) Controlled emissions from dryers are higher than uncontrolled due to fuel burned in RTO.

Table 2. Uncontrolled and Controlled Emissions, from Materials Handling Sources, Georgia-Pacific Corporation OSB Plant, Hosford, Florida					
Source	Description	Proposed Control System	PM/PM10		
			Uncontrolled (TPY)	Controlled (TPY)	Eff. (%)
CP-003 (EP-3)	Screen Fines With Saw Trim Transfer Pneumatics	Bagfilters	23,000	9.2	99.96
CP-001 (EP-4)	Saw Trim/Finishing Line Pneumatics	Bagfilters	4,302	11.52	99.73
CP-005 (EP-5)	Materials Reject/Flying Saw Pneumatics	Bagfilters	1,036	17.08	98.35
CP-006-1 (EP-6)	Specialty Saw/Sander Pneumatics	Bagfilters	3,691	9.5	99.74
CP-006-2 (EP-7)	Fuel System Pneumatics	Bagfilters	3,691	1.5	99.96
CP-002 (EP-8)	Forming Bins Pneumatics	Bagfilters	770	8.32	98.92
Dry Fuel System (EP-9)	Hammermill System Pneumatics	Bagfilters	23,000	9.2	99.96

G.3 APPLICABILITY

PM, VOC, CO and NO_x emissions are subject to PSD review (see Table 5-1 in main body of the report). As a result, sources of these emissions are subject to BACT review. According to the federal PSD regulations, a newly constructed major source must apply BACT for these pollutants for each new emissions unit constructed. As such, the BACT analysis is completed for the dryers, board press, and all material handling sources.

G.4 PROPOSED AIR EMISSION CONTROLS

The following control equipment is proposed as BACT for each equipment type:

1. Dryers - Multiclones followed by Regenerative Thermal Oxidation (RTO).
2. Board Press - RTO.
3. Material Handling Sources - Bagfilters.

These control devices are listed in Tables 1 and 2, along with their respective control efficiencies.

G.5 BACT ANALYSIS FOR DRYERS

G.5.1 Selection of Control Options

Selection of air emission control options for the dryers must consider the high moisture content of the gas stream, the relatively high concentration of fine, organic and inorganic particulate matter and the condensable VOC material present. These considerations limit the control options to those systems that have been either demonstrated in practice (at least on a pilot scale) to be able to operate in the previously described conditions or can be reasonably expected to handle the conditions based on applications with similarly harsh conditions. On this basis, the following control options can be considered to have a practical potential for application to OSB drying:

1. Regenerative thermal oxidation (RTO) with particulate matter control
2. Regenerative catalytic oxidation (RCO) with particulate matter control
3. Biofilter with particulate matter control
4. Recycle system with indirect heat exchange and particulate matter control
5. Wet electrostatic precipitation (wet ESP)

The first four options are capable of controlling VOC, PM and CO emissions. Biofilters are reported to control NO_x emissions as well. The last option is a particulate matter control device with a potential for VOC control as well. Various particulate matter control devices can be identified as having a practical potential for application. These include, in addition to the wet ESP, bagfilters, wet scrubbers, electrostatic filter beds (EFB) and so-called "sacrificial bed filters" developed by a few RTO vendors.

Control of NO_x requires additional equipment for each option other than biofiltration. Selective catalytic reduction (SCR) and selective non-catalytic reduction (SNCR) are add-on control systems that have a practical potential for application. Combustion control is also an alternative for NO_x control.

Although other options may be considered at this stage of the evaluation, none has the emission reduction potential of those already mentioned. Furthermore, there is sufficient documentation in the recent BACT evaluations issued to support various wood products manufacturing process permitting activities to dismiss them outright. These options include carbon adsorption and chemical scrubbers for VOC control.

Recent BACT determinations for dryers in the OSB industry, as contained on the RACT/BACT/LAER Clearinghouse (RBLC), are presented in Tables 3 through 6 for PM, VOCs, NO_x, and CO, respectively.

Table 3. Summary of PM BACT Determinations for Dryers

Company	State	Permit #	Permit Issue Date	Throughput	PM10 Emission Limit	Control Equipment	Efficiency (%)
GEORGIA-PACIFIC CORPORATION	AR	1803-AOP-R0	6/8/99	200 MMBtu/hr	74.5 lb/hr	RTO/Multiclones	90.0
LOUISIANA-PACIFIC CORP.	VA	11021	3/15/95	37 TPY	16.5 lb/hr	RTO in Series with Reverse Jet Wet Scrubber	90.0
GEORGIA-PACIFIC CORPORATION (b)	VA	30903	05/18/94	318,300 tons flakes/yr	101.86 TPY	Multiclone and ESP	--
J.M. HUBER CORPORATION	VA	30905	01/05/94	7,920 hr/yr	20.35 lb/hr	WESP and RTO	91.0
WEYERHAEUSER COMPANY	MS	1920-00012	11/30/94	30 MMBtu/hr	0.16 Lb/MSF 3/8"	RCO	80.0
LOUISIANA PACIFIC CORP.	AL	702-0027	2/8/94	--	16.65 lb/hr	RTO	89.9
WEYERHAUSER CO.	AL	408-S003	10/28/94	--	9.4 TPY	RCO	80.0
LOUISIANA PACIFIC CORP.	WI	92-MWH-099	3/22/94	22 MMBtu/hr	8.42 lb/hr	EFB, RTO	95
WEYERHAEUSER COMPANY	NC	3449R19	2/25/97	--	29.8 lb/hr	Wet ESP in series with RCO	90
WEYERHAEUSER COMPANY	NC	3449R19	2/25/97	--	4.16 lb/hr	Wet ESP in series with RCO	90
LOUISIANA PACIFIC CORP.	MI	19-88D	3/1/96	--	1.50E-02 gr/dscf	Wet ESP/RTO	--

Source: EPA's RACT/BACT/LAER Clearinghouse, 1999

Notes:

(a) Dryer exhaust includes emissions from thermal oil heating system

(b) Determination is a state BACT only, not federal

RTO = Regenerative Thermal Oxidizer

RCO = Regenerative Catalytic Oxidizer

ESP = Electrostatic Precipitator

WESP = Wet Electrostatic Precipitator

EFB = Electrostatic Filter Bed

gr/dscf = grains per dry standard cubic feet

Table 4. Summary of VOC BACT Determinations for Dryers							
Company	State	Permit #	Permit Issue Date	Throughput	Emission Limit	Control Equipment	Efficiency (%)
GEORGIA-PACIFIC CORPORATION	AR	1803-AOP-R0	6/8/99	200 MMBtu/hr	126.3 lb/hr (a)	RTO/Multiclones	90.0
BOISE CASCADE CORPORATION	WA	PSD-96-03	11/16/96	280,000 MSF 3/8 THS per yr	542.47 lb/day	--	--
WEYERHAEUSER COMPANY	MS	1920-00012	11/30/94	30 MMBtu/hr	0.22 lb/MSF 3/8	RCO	90.0
WEYERHAUSER CO.	AL	408-S003	10/28/94	--	48.5 TPY	RCO	90.0
GEORGIA-PACIFIC CORPORATION(b)	VA	30903	05/18/94	318,300 tons flakes/yr	101.86 TPY	--	--
LOUISIANA PACIFIC CORP.	AL	702-0027	2/8/94	--	44.0 lb/hr	RTO	99.3
J.M. HUBER CORPORATION	VA	30905	01/05/94	7,920 hr/yr	27.4 lb/hr	WESP and RTO	94.0
CELLWOOD PRODUCTS	SC	600-16	08/30/91	1,000,000 pairs of shutters/yr	56.35 lb/gal ACS	--	--
LOUISIANA PACIFIC CORP.	MI	19-88D	3/1/96		31.6 lb/hr	Combustion	
WEYERHAEUSER COMPANY	NC	3449R19	2/25/97		39.5 lb/hr	RCO	
WEYERHAEUSER COMPANY	NC	3449R19	2/25/97		28.9 lb/hr	RCO	
LOUISIANA PACIFIC CORP.	WI	92-MWH-099	3/22/94	21.58 MMBtu/hr	3.67 lb/hr	Wood Selection, RTO	

Source: EPA's RACT/BACT/LAER Clearinghouse, 1999

Notes:

(a) Dryer exhaust includes emissions from thermal oil heating system

(b) Determination is a state BACT only, not federal

RTO = Regenerative Thermal Oxidizer

RCO = Regenerative Catalytic Oxidizer

WESP = Wet Electrostatic Precipitator

Table 5. Summary of NOx BACT Determinations for Dryers							
Company	State	Permit #	Permit Issue Date	Throughput	Emission Limit	Control Equipment	Efficiency
GEORGIA-PACIFIC CORPORATION	AR	1803-AOP-R0	6/8/99	200 MMBtu/hr	73.3 (a)	Low-NOx burners/Fuel Enhancement	--
LOUISIANA-PACIFIC CORP.—NORTH	VA	11021	3/15/95	37 TPY	24.3 lb/hr	--	--
GEORGIA-PACIFIC CORPORATION(b)	VA	30903	05/18/94	318,300 tons flakes/yr	203.72 TPY	--	--
LOUISIANA PACIFIC CORP.	AL	702-0027	2/8/94	--	67.74 lb/hr	Low NOx Burners	--
J.M. HUBER CORPORATION	VA	30905	01/05/94	7,920 hr/yr	31.31 lb/hr	--	--
LOUISIANA PACIFIC CORP.	MI	19-88D	3/1/96		45.8 lb/hr	Combustion	--
POTLATCH CORPORATION – WOOD PRODUCTS, MN DIV.	MN	13700083-007	1/17/95	30 Tons flakes/hr	45.8 lb/hr	Good combustion practices, (*i.e.*, maintenance, limiting excess air.)	--
LOUISIANA PACIFIC CORP.	WI	92-MWH-099	3/22/94	22 MMBtu/hr	18.38 lb/hr	Good combustion, Low NOx technology in RTO	--
WEYERHAEUSER COMPANY	NC	3449R19	2/25/97		61.8 lb/hr	SCR as an integral part of the RCO	50

Source: EPA's RACT/BACT/LAER Clearinghouse, 1999

Notes:

(a) Dryer exhaust includes emissions from thermal oil heating system

(b) Determination is a state BACT only, not federal

RTO = Regenerative Thermal Oxidizer
RCO = Regenerative Catalytic Oxidizer
SCR = Selective Catalytic Reduction

Table 6. Summary of CO BACT Determinations for Dryers							
Company	State	Permit #	Permit Issue Date	Throughput	Emission Limit	Control Equipment	Efficiency (%)
GEORGIA-PACIFIC CORPORATION	AR	1803-AOP-R0	6/8/99	200 MMBtu/hr	33.6 (a)	RTO/Multiclones	75
LOUISIANA-PACIFIC CORP.—NORTH	VA	11021	3/15/95	37 TPY	31.9 lb/hr	RTO in Series with Wet Scrubber	70
GEORGIA-PACIFIC CORPORATION (b)	VA	30903	05/18/94	318,300 tons flakes/yr	203.72 TPY	--	--
LOUISIANA PACIFIC CORP.	AL	702-0027	2/8/94	--	156.28 lb/hr	--	58.4
J.M. HUBER CORPORATION	VA	30905	01/05/94	7,920 hr/yr	15.47 lb/hr	WESP and RTO	91.7
LOUISIANA PACIFIC CORP.	MI	19-88D	3/1/96		285 lb/hr	Combustion	70
LOUISIANA PACIFIC CORP.	WI	92-MWH-099	3/22/94	22 MMBtu/hr	15.1 lb/hr	Good combustion, RTO	90
WEYERHAEUSER COMPANY	NC	3449R19	2/25/97		61.8 lb/hr	SCR as an integral part of the RCO	50

Source: EPA's RACT/BACT/LAER Clearinghouse, 1999

Notes:

(a) Dryer exhaust includes emissions from thermal oil heating system

(b) Determination is a state BACT only, not federal

RTO = Regenerative Thermal Oxidizer
RCO = Regenerative Catalytic Oxidizer
SCR = Selective Catalytic Reduction

G.5.2 Elimination of Technically Infeasible Options

Of the control options identified, only three can be eliminated on the grounds of being technically infeasible. Biofiltration technology has been proposed for full-scale applications for board press emissions. However, the strict temperature limitations on the technology limit its potential to gas streams that can be consistently maintained below approximately 105°F. This is not the case with the OSB dryer exhaust unless very large quantities of dilution air are considered. It should also be noted that other wood products manufacturing facilities, such as those operated by Weyerhaeuser in Grayling, Michigan and Adel, Georgia, have been unable to maintain high VOC removal efficiencies on a continuing basis.

Likewise, selective catalytic reduction (SCR) for NO_x control is infeasible due to the inability to locate the equipment at a point in the process where the required temperature range is present (600-800°F). A system has been proposed for a full scale application on a particleboard plant in North Carolina. It is to be integrated with an RCO system. The BACT analysis for this project contains no information justifying the feasibility of this technology and therefore this option is not considered further.

SNCR technology for NO_x control has developed considerably since its inception in the early 70's. Both ammonia and urea based systems rely on a complex series of chemical reactions to reduce NO_x into molecular nitrogen (N_2). The effectiveness of the technology is highly dependent on a number of factors, the most critical being temperature, residence time, and the initial NO_x concentration. SNCR requires gas temperatures in the range of 1,600 to 2,000°F for an adequate residence time. The particular wood combustion process chosen as the heat source for the new drying system at Hosford cannot accommodate either an ammonia or a urea based SNCR system. The temperature of the gasses leaving the combustion chamber will be approximately 1,600°F. However, once combustion is complete and the gasses leave the combustion chamber they are rapidly reduced in temperature to accommodate the drying process. The gas temperature is reduced to between 600 and 1,200°F by adding dilution air. The anticipated residence time of less than 1 second is too short to obtain any reasonable reduction in NO_x emissions. Therefore, this option is not technically feasible.

Another example of a high temperature oxidation control device is dryer exhaust recycle, which represents an example of a process change that eliminates the need for end-of-the-pipe control of organics. The system is based on proven components and has a control efficiency similar to that of an RTO. However, the high temperature heat exchanger necessary to transfer heat from the heat source to the ambient air used to dry the wood requires costly materials of construction. In addition, a significantly greater amount of wood fuel has to be burned to completely oxidize all of the organic material in the high volume dryer exhaust which is, in fact, used as combustion air. Since the Plant is designed to burn wood fuel, there is no excess availability. For these reasons, exhaust gas recycle is not considered further.

As previously mentioned, so-called "sacrificial bed" pre-filters are being developed by several RTO vendors. Pilot scale studies have been conducted on wood dryers. In addition, Georgia-Pacific has operated a full-scale unit at its medium density fiberboard facility in Monticello, Georgia for the past two years. There have been numerous problems with the system and required maintenance is costly, in terms of both personnel and components.

Bagfilters and dry ESP's, it should be noted, are only feasible where the condensable VOC has been eliminated. This requirement limits their application to downstream of the VOC control device.

Although other control options have not been eliminated, it is important to consider the lack of long-term operating experience with most of the options evaluated.

G.5.3 Ranking of Control Options

This part of the evaluation is performed by ranking the various control options not eliminated in the previous step. Each remaining option is discussed in detail below and a hierarchy of control effectiveness is established.

RTO

RTO represents a general class of control devices which rely on high temperature oxidation of organic material. It is unique because of the high degree of thermal efficiency that is possible by alternately passing hot and cool gas through a fixed bed of ceramic material. As with other thermal oxidation devices, it incorporates a high temperature combustion chamber to ensure complete oxidation of organics. Due to the high volumes of air that must be treated and the very low concentration of organic material (in terms of fuel value), other less energy efficient incineration methods would clearly not be cost effective.

The ceramic media responsible for the high energy efficiency in the RTO poses significant operational problems in a wood dryer application since the dryer exhaust contains a substantial amount of particulate matter and condensable organics. Under these conditions, there is a great potential for plugging of the media bed. For this reason, RTO vendors universally recommend a high degree of precleaning, often through the addition of multiclones, before the gas stream is allowed to reach the RTO.

Experience from several full scale units that have been operating for close to a year indicates that the problem is serious, and in addition to the gradual build up of material on the ceramic media, a glazing phenomenon has occurred whereby ash remaining on the media has fused, and in some cases, broken down the media. The problem is more severe in applications without highly efficient particulate matter control. Higher than normal amounts of potassium and sodium salts in the inorganic fraction of the particulate matter are thought to be the cause since these salts can significantly lower ash fusion temperature. More operational experience is needed to determine the length of time before the bed has to be replaced and whether or not periodic replacement of the portion of the bed most seriously affected will prolong the total bed life. Nevertheless, it is recognized that the initial estimates of going up to three years or more before replacement is now shortened considerably.

Hosford will employ both primary cyclones (to capture wood material) and secondary cyclones (to capture fine dust) prior to the RTO, in order to reduce the PM loading to the RTO to an acceptable level.

RTO with multiclones has been demonstrated to control VOC, CO, and particulate matter. Based on current BACT determinations, the anticipated degree of control for the various pollutants is as follows: VOC - 90%, particulate matter - 90%, and CO - 75%.

It should be noted that information in the RBLC (see Table 4) indicates that two facilities can achieve VOC removal efficiencies in excess of 90% using RTOs. Georgia-Pacific believes that similar efficiencies may be achieved in practice by the RTOs proposed for Hosford. However, for permitting purposes, Georgia-Pacific is proposing a removal efficiency of 90%, consistent with at least three entries in the RBLC.

Emissions of NO_x are increased in the RTO due to the combustion of natural gas as a supplemental fuel. Georgia-Pacific plans to utilize a low-NO_x burner design. In addition, fuel enhancement will be employed for the natural gas. Fuel enhancement involves the injection of natural gas directly into the inlet pipe to the RTO, which simulates an enriched fuel value gas stream. A vendor guarantee of less than a 10 part per million by volume (ppmv) increase in NO_x forms the basis for this evaluation. Beyond this guarantee, credit is not taken for the burner design or the fuel enhancement.

Entries in the RBLC for carbon monoxide (see Table 6) indicate that two plants can achieve a removal efficiency of at least 90% with an RTO (J.M. Huber (Virginia) – 91.7%, Louisiana-Pacific (Wisconsin) – 90%). With regard to the entry for J.M. Huber, further discussions with the permittee reveal that the reported efficiency is an estimate based on using a controlled mass emission rate from the RTO vendor and an estimated uncontrolled mass emission rate. JM Huber used stack testing from another OSB facility to estimate the uncontrolled emission rate. Because the basis for the controlled and uncontrolled emission rates are not consistent, G-P believes that the stated CO removal efficiency is misleading for this technology. In fact, in subsequent BACT determinations for JM Huber OSB plants with RTOs for the dryers, the reported CO removal efficiency is 70%. With regard to the entry for Louisiana-Pacific, Georgia-Pacific contacted the Wisconsin Department of Natural Resources (WDNR) in January 2000. During that conversation, the permit engineer indicated that the source, after being placed in operation, could not achieve the 90% removal efficiency. As a result, the WDNR is in the process of revising the emission limit and removal efficiency for this source in the Title V permit. It should be recognized that subsequent BACT analyses for CO from OSB dryers at Louisiana-Pacific facilities set a removal efficiency of 70% (see Table 6).

The remaining BACT determinations show efficiencies of 50, 58.4, 70%, and 75%. The proposed 75% control rate for Hosford seeks to maximize carbon monoxide destruction, while minimizing the formation of nitrogen oxides. Very high carbon monoxide efficiencies can only be achieved with very high operating temperatures, which also lead to an increase in the formation of nitrogen oxides. Thus, one pollutant is heavily controlled at the expense of the other. In addition, abnormally high operating temperatures can lead to operational problems, such as deterioration of the bed and erosion of the insulation. As such, the proposed 75% control for carbon monoxide seeks to balance all of these effects.

RCO

RCO, preceded by multiclones for PM removal, also represents a general class of control devices that relies on high temperature oxidation of organics. However, the presence of a catalyst allows the oxidation reaction to occur at much lower temperature (600-900°F) than RTO. The general operation of the RCO is similar to an RTO and operational problems applicable to RTO are also applicable to RCO. Catalyst deactivation due to blinding of the catalyst part of the media bed is a more serious problem with an RCO since the control effectiveness would be adversely effected. An advantage of the RCO is that energy costs associated with its operation should be significantly less than an RTO system as a result of the lower operating temperatures.

The degree of control possible with an RCO system should approach that of an RTO. Since an RTO operating in the gas injection mode operates well below the temperatures where thermal NO_x is a problem, an RCO should not be any more effective in controlling the amount of additional NO_x created. For the purposes of this evaluation, the control effectiveness for CO emissions is considered equal to that of an RTO (75%) and based on current BACT determinations the control effectiveness of PM and VOC is estimated at 80% and 90%, respectively. Emissions of NO_x are increased in an RCO due to the combustion of supplemental fuel.

ESP

ESP's (including EFB's), which rely on the electrostatic charging potential of pollutants in the gas stream, have been proven on a wide variety of sources, including wood-fired combustion sources. Their application to wood dryer exhaust gas streams necessitates gas stream saturation equipment and wet electrode cleaning due to the sticky nature of the particulate matter. This has increased the operational complexity considerably and has added the additional complication of an extensive wastewater treatment requirement. Corrosion of internal metal surfaces can be reduced with stainless steel, but this issue is still a concern.

The degree of particulate matter control possible is very high. Wet ESP's have been employed on wood dryer exhaust gas streams in several commercial scale applications. They are very efficient on filterable particulate matter as measured by US EPA Reference Method 5. However, when total filterable and condensable particulate matter control efficiency is evaluated, the overall control efficiency drops to about 80%.

Since wet ESP's also cool the exhaust and allow some VOCs to condense and be captured, some VOC control is possible. The degree of VOC control has been measured using both US EPA Reference Methods 25 and 25A and the results have varied considerably. At least some of this variability is due to problems with the VOC test methods. For this evaluation, the degree of VOC control possible for wet ESP's is assumed to be 5%.

Wet Scrubber

There is a very wide variety of control devices in this classification. For the most part, they rely on inertial impaction between the scrubbing media (usually water) and the pollutants in the gas stream. As with wet ESP's, the wastewater consideration is the major concern. A relatively clean scrubbing media is required, and for dirty gas streams this usually requires a large quantity blowdown and clean water replacement. Where strict limitations apply, or even prohibitions on water use exist, as is the case in the wood products manufacturing industry, extensive wastewater treatment is needed. A highly efficient capture device for the media droplets formed when the gas mixes with the scrubbing media is also necessary. Wet Scrubbers are usually ruled out for consideration for this reason. However, a system such as that represented by the Dynawave® scrubber can operate with much higher solids loadings, with a significant reduction in the amount of wastewater to be handled.

The only pollutant considered for control with wet scrubber technology is particulate matter. The degree of control possible is very high for gas streams without a large fraction of submicron sized particles. However, dryer exhaust gas contains a significant percentage of very small inorganic and organic particulate matter. For this reason, this device is assigned a control efficiency of 80%. It is possible that some amount of VOC control (5%) will be accomplished with wet scrubber technology since it is capable of cooling the gas stream enough to allow some VOCs to condense and form aerosols which can then be captured.

In order of decreasing effectiveness, the various control options are combined and ranked as follows:

Control Option	*Degree of Control (%)*		
	PM	*CO*	*VOC*
RTO/Multiclones	*90*	*75*	*90*[1]
RCO/Multiclones	*80*	*75*	*90*
Wet ESP	*80*	*NA*	*5*
Wet Scrubbers	*80*	*NA*	*5*

[1]From Table 4, it is shown that some RTOs may have efficiencies exceeding 90%. However, in terms of a permit limit, Georgia-Pacific has a vendor guarantee of 90% control.

G.5.4 Selection of BACT

Since RTO (with multiclones) represents the highest overall degree of control technologically feasible, it is selected as BACT for PM, CO, and VOC emissions. A low-NOx burner design, combined with fuel enhancement, is proposed as BACT for NO_x. This selection matches the determination of the Arkansas Department of Environmental Quality (ADEQ) for an identical G-P OSB plant permitted in 1999.

It should be noted, as it has in prior sections of the PSD permit application, that under normal operating conditions, the exhaust from the thermal oil system burners will exit with the exhaust from the dryers through the multiclones and RTO, after passing through an electrostatic precipitator (ESP). As discussed above, the combined particulate matter control efficiency from the multiclones and RTO is expected to be 90%. In bypass mode, the thermal oil system exhaust will still pass through the ESP for an expected control efficiency for particulate matter of 85.8 percent. Since the thermal oil system will only be operating in this mode during bypass, a separate BACT analysis is not conducted for the system.

G. 6 BACT ANALYSIS FOR BOARD PRESS

G.6.1 Selection of Control Options

Recent BACT determinations for presses in the OSB industry, as contained in the RACT/BACT/LAER Clearinghouse, are presented in Tables 7 through 10 for PM, VOCs, NO_x, and CO, respectively.

As with the board drying operation, selection of control options for the board press pollutant emissions must consider the high moisture content of the gas stream and the condensable VOC material present. There is also a small amount of particulate matter to consider. These considerations limit the control options to those systems that have been either demonstrated in practice (at least on a pilot scale) to be able to operate in the previously described conditions or can be reasonably expected to handle the conditions based on applications with similarly harsh conditions. On this basis, the following control options can be considered to have a practical potential for application to OSB board presses:

1. RTO
2. RCO
3. Biofilter
4. Wet ESP

The first three options are capable of controlling VOCs, PM and CO. The last option is a particulate matter control device with a limited potential for VOC control.

At this point, some assumption regarding the potential for capturing board press emissions and directing them to a control device must be made. The design of the press is such that essentially total enclosure of the operation is possible and therefore capture efficiency can be assumed to be 100%.

G.6.2 Elimination of Technically Infeasible Options

All of the options identified are considered technically feasible with the qualifications presented in Sections G.5.2 and G.5.3.

G.6.3 Ranking of Control Options

This part of the evaluation is performed by ranking the various control options not eliminated in the previous step. Each remaining option not discussed in the previous section is discussed in detail below and a hierarchy of control effectiveness is established.

Table 7. Summary of PM BACT Determinations for Presses

Company	State	Permit #	Permit Issue Date	Throughput	Emission Limit	Control Equipment	Efficiency (%)
GEORGIA-PACIFIC CORPORATION	AR	1803-AOP-R0	6/8/99	475 MMsf/yr	2.8 lb/hr	RTO	75
WEYERHAEUSER COMPANY	NC	3449R19	02/25/97	--	3.29 lb/hr	--	--
WEYERHAEUSER COMPANY	NC	3449R19	02/25/97	--	6.9 lb/hr	--	--
LOUISIANA PACIFIC CORP.	MI	19-88D	03/01/96	--	12.1 PPH	RTO	--
WEYERHAEUSER COMPANY	MS	1920-00012	11/30/94	--	0.05 lb/MSF 3/8	--	--
WEYERHAUSER CO.	AL	408-S003	10/28/94	--	4 TPY	--	--
WEYERHAUSER CO.	AL	408-S003	10/28/94	--	4 TPY	--	--
GEORGIA-PACIFIC CORPORATION	VA	30903	05/18/94	50,000 sq ft/hr	63.66 TPY	--	--
LOUISIANA PACIFIC CORP.	WI	92-MWH-99	03/22/94	21.58 MMBtu/hr	0.65 lb/hr	RTO	--
LOUISIANA-PACIFIC CORP.	VA	11021	03/15/95	37 TPY	16.5 lb/hr	RTO	90.0
LOUISIANA PACIFIC CORP.	AL	702-0027	2/8/94	--	0.44 lb/hr	RTO	74.8
J.M. HUBER CORPORATION	VA	30905	01/05/94	7,920 hr/yr	20.35 lb/hr	WESP AND RTO	91.0
LOUISIANA PACIFIC CORP.	CO	89MO373	01/21/92	--	49 TPY	BAG FILTERS	--
TEMPLE-INLAND FOREST PRODUCTS CORP.	AL	106-0004-X006	3/16/98	150 Msf/yr 3/4 in basis	3.23 lb/hr	RTO AND LOW NOX BURNERS	85

Source: EPA's RACT/BACT/LAER Clearinghouse, 1999

Notes:
RTO = Regenerative Thermal Oxidizer
RCO = Regenerative Catalytic Oxidizer
ESP = Electrostatic Precipitator
WESP = Wet Electrostatic Precipitator

Table 8. Summary of VOC BACT Determinations for Presses

Company	State	Permit #	Permit Issue Date	Throughput	Emission Limit	Control Equipment	Efficiency (%)
GEORGIA-PACIFIC CORPORATION	AR	1803-AOP-R0	6/8/99	475 MMsf/yr	20 lbs./hr	RTO	90
WEYERHAEUSER COMPANY	NC	3449R19	02/25/97	--	32.1 lb/hr	--	--
WEYERHAEUSER COMPANY	NC	3449R19	02/25/97	--	21.3	--	--
LOUISIANA PACIFIC CORP.	MI	19-88D	03/01/96	--	9.1	RTO	95
LOUISIANA-PACIFIC CORP.	VA	11021	3/15/95	37 TPY	9.4	RTO	90
WEYERHAEUSER COMPANY	MS	1920-00012	11/30/94	--	0.15	--	--
WEYERHAUSER CO.	AL	408-S003	10/28/94	--	21	--	--
WEYERHAUSER CO.	AL	408-S003	10/28/94	--	4	--	--
GEORGIA-PACIFIC CORPORATION	VA	30903	05/18/94	50,000 sq ft/hr	21.22	Fan Powered Stack	--
LOUISIANA PACIFIC CORP.	WI	92-MWH-99	03/22/94	21.58 MMBtu/hr	1.73	RTO	95
LOUISIANA PACIFIC CORP.	AL	702-0027	2/8/94	--	4.74	RTO	99.7
LOUISIANA PACIFIC CORP.	CO	89MO373	01/21/92	--	124	COMBUSTION CONTROL	--
J.M. HUBER CORPORATION	VA	30905	01/05/94	7,920 hr/yr	27.4	WESP AND RTO	94
TEMPLE-INLAND FOREST PRODUCTS CORP.	AL	106-0004-X006	3/16/98	150 Msf/yr 3/4 in basis	6.13	RTO AND LOW-NOX BURNERS	90

Source: EPA's RACT/BACT/LAER Clearinghouse, 1999

Notes:

RTO = Regenerative Thermal Oxidizer

RCO = Regenerative Catalytic Oxidizer

ESP = Electrostatic Precipitator

WESP = Wet Electrostatic Precipitator

Table 9. Summary of NOx BACT Determinations for Presses

Company	State	Permit #	Permit Issue Date	Throughput	Emission Limit	Control Equipment
GEORGIA-PACIFIC CORPORATION	AR	1803-AOP-R0	6/8/99	475 MMsf/yr	10.7 lb/hr	RTO and Low NOx Burners
LOUISIANA-PACIFIC CORP.	VA	11021	3/15/95	37 TPY	24.3 lb/hr	--
GEORGIA-PACIFIC CORPORATION	VA	30903	05/18/94	50,000 sq ft/hr	1.27 TPY	--
LOUISIANA PACIFIC CORP.	AL	702-0027	2/8/94	--	12.84 lb/hr	Low NOx Burners
J.M. HUBER CORPORATION	VA	30905	01/05/94	7,920 hr/yr	31.31 lb/hr	--
TEMPLE-INLAND FOREST PRODUCTS CORPORATION	AL	106-0004-X006	3/16/98	150 MMsf/yr 3/4 in basis	20 PPM	RTO and Low NOx Burners
LOUISIANA PACIFIC CORP.	MI	19-88D	3/1/96		19.2 lb/hr	

Source: EPA's RACT/BACT/LAER Clearinghouse, 1999

Notes:

RTO = Regenerative Thermal Oxidizer

RCO = Regenerative Catalytic Oxidizer

ESP = Electrostatic Precipitator

WESP = Wet Electrostatic Precipitator

Table 10. Summary of CO BACT Determinations for Presses							
Company	State	Permit #	Permit Issue Date	Throughput	Emission Limit	Control Equipment	Efficiency(%)
GEORGIA-PACIFIC CORPORATION	AR	1803-AOP-R0	6/8/99	475 MMsf/yr	7.3 lb/hr	RTO	75
WEYERHAEUSER COMPANY	NC	3449R19	02/25/97	--	2.2 lb/hr	--	--
LOUISIANA PACIFIC CORP.	MI	19-88D	03/01/96	--	6 PPH	RTO	70
LOUISIANA-PACIFIC CORP.	VA	11021	3/15/95	37 TPH	31.9 lb/hr	RTO	70
GEORGIA-PACIFIC CORPORATION	VA	30903	05/18/94	50,000 sq ft/hr	29.71 TPY	Fan Powered Stack	--
LOUISIANA PACIFIC CORP.	WI	92-MWH-99	03/22/94	21.58 MMBtu/hr	8.2 lb/hr	RTO	--
LOUISIANA PACIFIC CORP.	AL	702-0027	2/8/94	--	20.84 lb/hr	RTO	74.4
J.M. HUBER CORPORATION	VA	30905	01/05/94	7,920 hr/yr	15.47 lb/hr	WESP and RTO	91.7
TEMPLE-INLAND FOREST PRODUCTS CORPORATION	AL	106-0004-X006	3/16/98	150 MMsf/yr 3/4 in basis	50 lb/hr	RTO and Low NOX Burners	0

Source: EPA's RACT/BACT/LAER Clearinghouse, 1999

Notes:

RTO = Regenerative Thermal Oxidizer

RCO = Regenerative Catalytic Oxidizer

ESP = Electrostatic Precipitator

WESP = Wet Electrostatic Precipitator

Biofilter

Biofilter technology relies on a sustained culture of microorganisms that are able to absorb and biologically degrade air pollutants in a gas stream. The design for controlling board press emissions incorporates some type of media bed to provide a habitat for the microorganisms and a system to distribute gas throughout the bed. If a biodegradable media is employed it has to be replaced when pressure drop through the bed gets too high. Both temperature and humidity must be controlled. The temperature limitation is a concern. However, in a board press application the temperature can be kept below the critical temperature without excessive dilution air.

Biofilter pilot testing has shown that VOCs, CO, particulate matter, and even NO_x can be controlled. Based on information contained in a Weyerhaeuser PSD permit BACT evaluation prepared in July 1994 (not included in RBLC), the degree of control possible is as follows: VOC - 90% and CO - 50%. No information regarding the particulate matter or NO_x control potential is provided in the BACT analysis.

In order of decreasing effectiveness, the various control options are combined and ranked as follows:

	Degree of Control (%)		
Control Option	*PM*	*CO*	*VOC*
RTO	*75*	*75*	*90*[1]
RCO	*75*	*75*	*90*
Biofilter	*NA*	*50*	*90*
Wet ESP	*80*	*NA*	*5*
Wet Scrubber	*80*	*NA*	*5*

[1]From Table 8, it is shown that some RTOs may have efficiencies exceeding 90%. However, in terms of a permit limit, Georgia-Pacific has a vendor guarantee of 90% control.

As is the case for the dryers, the RBLC (see Table 8) indicates that several facilities can achieve VOC removal efficiencies in excess of 90% using RTOs. Georgia-Pacific believes that similar efficiencies may be achieved in practice by the RTO proposed for Hosford. However, for permitting purposes, Georgia-Pacific is proposing a removal efficiency of 90%. Also, for the reasons noted above, for the dryers (see Section G.5.3), an efficiency greater than 75% for carbon monoxide can be achieved, but additional nitrogen oxides will be generated.

With regard to particulate matter, a number of the presses are shown to be uncontrolled. Others are shown to be controlled by RTOs, with removal efficiencies generally in the range of 75 to 90% (see Table 7). As noted above, with regard to the entry for J.M. Huber, further discussions with the permittee reveal that the reported efficiency is an estimate based on using a controlled mass emission rate from the RTO vendor and an estimated uncontrolled mass emission rate. JM Huber used stack testing from another OSB facility to estimate the uncontrolled emission rates. Because the bases for the controlled and uncontrolled emission rates are not consistent, G-P believes that the stated PM removal efficiency is misleading for this technology. It should also be noted that other facilities using the same technology as that proposed for the Hosford Plant (an RTO) still have much higher hourly emission rates (for smaller plants), even though the reported removal efficiencies are higher. As such, Georgia-Pacific believes that the proposed control, regenerative thermal oxidation, represents BACT for controlling particulate matter emissions from the press.

G.6.4 Selection of BACT

Since RTO represents the highest overall degree of control technologically feasible (equal to RCO, although overall PM control values for RCO are likely over-estimated), it is selected as BACT for PM, CO, and VOC emissions. A low-NOx burner design, combined with fuel enhancement, is proposed as BACT for NO_x. This selection matches the determination of the ADEQ for an identical G-P OSB plant permitted in 1999.

G.7 BACT ANALYSIS FOR MATERIAL HANDLING SOURCES

G.7.1 Selection of Control Options

Bagfilter-type dust collectors are feasible for controlling emissions from all of the previously described point sources. As discussed in the main body of this report (see Section 4.3 in that portion of the report), two methodologies are used in estimating particulate matter emissions for the bag filters. First, emission estimates are made using material throughput rates and a removal efficiency of 99.96 percent. The second methodology utilizes air flow rates and assumes a particulate matter loading of 0.01 grain per dry standard cubic foot (gr/dscf) exiting the baghouses. Both sets of calculations are included in Attachment B. The vendor is only willing to guarantee the higher of the two values for each of the material handling sources. For emission points EP-3, EP-7, and EP-9, the first methodology (material throughput and removal efficiency) yields the highest estimates. As such, a removal efficiency of 99.96 percent is proposed for the bagfilters associated with these sources. For emission points EP-4, EP-5, EP-6, and EP-8, the second methodology (air flow rate and loading) yields the highest estimates. Using these emission estimates, the back-calculated efficiencies are 99.73 (EP-4), 98.35 (EP-5), 99.74 (EP-6), and 98.92 (EP-8) percent, respectively. The common element for all of these, however, is the outlet loading of 0.01 gr/dscf.

Other particulate matter control methods, such as wet scrubbers or ESP's, although feasible, are not considered practical for these sources since they could not be any more effective and either create problems such as wastewater disposal (wet scrubbing systems) or are overly complex and energy intensive (ESP). No controls are considered for the hog fuel handling operations since the material handled produces a minimal amount of fugitive particulate matter emissions. The sawdust material handling system includes equipment to minimize the creation of fugitive particulate matter. These material conveying devices will be enclosed and the relatively dry material (sawdust, planer shavings, etc.) will be stored in an enclosed building. Since the proposed methods of particulate matter control are clearly the most effective in terms of the degree of control possible, no further evaluation of controls is warranted.