

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

TWIN TOWERS OFFICE BUILDING
2600 BLAIR STONE ROAD
TALLAHASSEE, FLORIDA 32301-8241



BOB GRAHAM
GOVERNOR

VICTORIA J. TSCHINKEL
SECRETARY

September 24, 1984

Mr. James T. Wilburn, Chief
Air Management Branch
Air & Waste Management Division
U.S. EPA, Region IV
345 Courtland Street, N.E.
Atlanta, Georgia 30365

Dear Mr. Wilburn:

RE: Final Determination - Georgia-Pacific Corporation
Federal Permit No. PSD-FL-079

Enclosed please find the department's response to your comments on the Final Determination for the subject project. We recommend that the applicant be granted Authority to Construct, subject to the conditions in the Final Determination as amended.

Sincerely,

C. H. Fancy, P.E.
Deputy Chief
Bureau of Air Quality
Management

CHF/pa

Enclosure

cc: Vernon Adams
David Buff
Doug Dutton
Bill Blommel
Nancy Wright

FDER's Response
to Comments on the
Final Determination

Georgia-Pacific Corporation
Putnam County
Palatka, Florida

Federal Permit Number:
PSD-FL-079

Florida Department of Environmental Regulation
Bureau of Air Quality Management
Central Air Permitting

September 24, 1984

Response to Comments
Georgia-Pacific Corporation
PSD-FL-079

Comments were received on June 29, 1984, from Mr. James T. Wilburn of the U.S. Environmental Protection Agency, Region IV. Three issues that require resolution will be stated below. Each issue will be followed by the FDER's response. Mr. Wilburn's letter will be attached for reference.

Issue No. 1

As per our February 11, 1983, letter and in accordance with "Ambient Monitoring Guidelines for Prevention of Significant Deterioration" (EPA 450/4-80-022), less than one full year of sulfur dioxide ambient monitoring data will be acceptable if the applicant demonstrates through historical data or dispersion modeling that the data are obtained during a time period when maximum air quality levels can be expected. We do not have any demonstration to this effect in our files and request that this issue be addressed.

Response

The sulfur dioxide monitoring program conducted by Georgia-Pacific was a voluntary effort and was not used in analyzing the air quality impact of the proposed modification except to confirm that the 20 ug/m³ background value that was used in the analysis was a conservative choice. Since the company submitted a complete application for a PSD permit prior to June 7, 1981, it was subject to the 1978 ambient monitoring guidelines (EPA 450/2-78-019, May 1978). These guidelines state: "The primary use of preconstruction monitoring is to determine the status of the particular area with respect to the NAAQS. If a source is shown not to pose a threat to NAAQS and is remote, then no monitoring will be required." It was in accordance with these guidelines that the department determined that the SO₂ monitoring program proposed by Georgia-Pacific, while not required, would be acceptable.

Since the monitoring program was not required and would not be directly used in the air quality impact analysis, no consideration was given to possible seasonal variations in SO₂ levels. It is our belief, however, that any seasonal variations that may exist would be insignificant. SO₂ emissions from power plants in the state are likely to be highest during the summer air conditioning season, but this is also the season of generally favorable dispersion conditions. Also, most of the SO₂ monitors in the state, including those that have been operated in the vicinity of Georgia-Pacific, have recorded annual mean concentrations barely above the minimum detectable levels

of these monitors. For example, site 3780-001 at Kay Larkin airport had an annual mean of 6 ug/m³ during 1981 (the minimum detectable level for a pulsed fluorescent SO₂ analyzer such as that used by Georgia-Pacific's consultant is 5 ug/m³). During the four-month monitoring program, the Georgia-Pacific SO₂ monitor had a mean concentration of 10 ug/m³. Monthly or seasonal variations in levels this close to the minimum detectable would not be meaningful.

Issue No. 2

The stack parameters given in the proposed case for the modifications at this facility document each lime kiln as emitting approximately 11 lbs./hr. of sulfur dioxide. However, the calculations below demonstrate that sulfur dioxide emissions of 11 lbs./hr. equate to a 98% control efficiency.

No. 6, 2.5% S, fuel oil emissions - 1 kiln

$$\frac{102 \times 10^6 \text{ BTU/hr.}}{149,000 \text{ BTU/gal.}} \times \frac{8 \text{ lbs.}}{\text{gal.}} \times .025 \times 2 = 274 \text{ lbs./hr. SO}_2$$

TRS Incineration - 1 kiln

Digester = 1.6 lbs. Sulfur/Ton ADP (AP-42)

Brown Stock Washer = 0.22 lbs. Sulfur/Ton ADP (AP-42)

Multiple Effect Evaporators = 0.5 lbs. Sulfur/Ton ADP (AP-42)

$$(1.6 + 0.22 + 0.5) \frac{1200 \text{ TADP}}{\text{DAY-KILN}} \times 2 \times \frac{\text{Day}}{24 \text{ hrs.}} = 232 \text{ lbs./hr. SO}_2$$

$$1 - (11 / (274 + 232)) \times 100 = 97.8\%$$

Even though calcium oxide is an excellent absorption media for sulfur dioxide, we have reservations regarding the high efficiency of the control from a device not specifically designed to remove sulfur dioxide. We therefore recommend that sulfur dioxide emissions limits of 11 lbs./hr. for each kiln be stated in the permit and that these kilns be tested for compliance upon start-up.

Response

Since the efficiency of the in-process removal of SO₂ within the No. 5 lime kiln appears high (see reference calculations), the bureau agrees with the USEPA, Region IV, and the specific conditions will be amended to incorporate the recommended SO₂ limits and testing requirements for the No. 5 lime kiln. Therefore, the following shall be incorporated in and shall become a part of the permit, PSD-FL-079:

Specific Conditions

- E. 13. SO₂ emission limits shall not exceed 11 lbs/hr.
- E. 14. SO₂ emissions shall be tested for compliance upon start-up. Compliance testing shall be required using EPA Method 6 pursuant to Appendix A, Reference Methods. Compliance tests shall be conducted at 90-100% of the permitted maximum total process input rate. Test results shall be submitted to the FDER's Northeast District office and the USEPA Region IV office within 45 days of the completion of the final test run.

Issue No. 3

In regard to the shutdown of three lime kilns, three recovery boilers and three smelt tanks from which offsets were claimed for netting purposes, we request that either the company submit a letter stating that this equipment is to be dismantled upon start-up of the new mill, or prohibition of their operation be included as a permit condition. In addition, we request that you verify the operation of this equipment prior (two years) to the PSD baseline date for this area. Verification should consist of actual emissions inventory for this equipment during the two years prior to the PSD baseline date.

Response

In the Preliminary Determination, there was no emissions credit allowed the applicant due to the greater than five-year time-frame involved between the shutdown dates and the applicant's projected commencement of construction date. However, reasonable estimates of the emission reductions resulting from the shutdowns were used in the increment evaluation and analysis.

Enclosed is a document dated May 31, 1983, which is an affidavit from Mr. Vernon Adams with Georgia-Pacific Corporation attesting to the physical removal of the reference facilities in question. Also enclosed are annual operating reports for 1976 for the three recovery boilers and three smelt tanks. These reports are the only emissions inventory information we have for the baseline period. They show actual emission levels much greater than those used in modeling the increment expansion resulting from the shutdowns.

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ATTACHMENT 1



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION IV

345 COURTLAND STREET
ATLANTA, GEORGIA 30365

JUN 21 1984

REF: 4AW-AM

Mr. C. H. Fancy, P.E., Deputy Chief
Bureau of Air Quality Management
Florida Department of Environmental Regulation
Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, Florida 32301

RE: PSD-FL-079, Georgia Pacific Corporation

Dear Mr. Fancy:

This is to acknowledge receipt of your May 16, 1984, letter containing the final determination and proposed permit conditions for the above company's kraft pulp mill modifications in Palatka, Florida.

In the process of checking this submittal, three issues requiring resolution have arisen as a result of our February 11, 1983, comment letter on the preliminary determination and the review of the final determination and proposed PSD permit conditions. These issues involve the acceptance of less than one year of preconstruction monitoring data for sulfur dioxide, enforceable permit conditions for sulfur dioxide emissions from the lime kilns (4 and 5), and shutdown of three recovery boilers, three smelt tanks, and three lime kilns.

As per our February 11, 1983, letter and in accordance with "Ambient Monitoring Guidelines for Prevention of Significant Deterioration" (EPA 450/4-80-022), less than one full year of sulfur dioxide ambient monitoring data will be acceptable if the applicant demonstrates through historical data or dispersion modeling that the data are obtained during a time period when maximum air quality levels can be expected. We do not have any demonstration to this effect in our files and request that this issue be addressed.

The stack parameters given in the proposed case for the modifications at this facility document each lime kiln as emitting approximately 11 lbs./hr. of sulfur dioxide. However, the calculations below demonstrate that sulfur dioxide emissions of 11 lbs./hr. equate to a 98% control efficiency.

No. 6, 2.5% S, fuel oil emissions - 1 kiln

$$\frac{102 \times 10^6 \text{ BTU/hr.}}{149,000 \text{ BTU/gal.}} \times \frac{8 \text{ lbs.}}{\text{gal.}} \times .025 \times 2 = 274 \text{ lbs./hr. SO}_2$$

TRS Incineration - 1 kiln

Digester = 1.6 lbs. Sulfur/Ton ADP (AP-42)

Brown Stock Washer = 0.22 lbs. Sulfur/Ton ADP (AP-42)

Multiple Effect Evaporators = 0.5 lbs. Sulfur/Ton ADP (AP-42)

$$(1.6 + 0.22 + 0.5) \frac{1200 \text{ TADP}}{\text{DAY-KILN}} \times 2 \times \frac{\text{DAY}}{24 \text{ hrs.}} = 232 \text{ lbs./hr. SO}_2$$

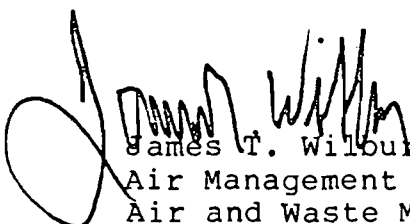
$$1 - [11 / (274 + 232)] \times 100 = 97.8\%$$

Even though calcium oxide is an excellent adsorption media for sulfur dioxide, we have reservations regarding the high efficiency of the control from a device not specifically designed to remove sulfur dioxide. We therefore recommend that sulfur dioxide emissions limits of 11 lbs./hr. for each kiln be stated in the permit and that these kilns be tested for compliance upon start-up. Also, please note that the above calculations show that TRS emissions from existing equipment (as sulfur) are greater than the significance levels of 10 TPY for reduced sulfur compounds. However, since the BACT that is to be employed for these emissions will be incineration in the lime kilns, we feel that addressing these contemporaneous emission increases further is not necessary.

In regard to the shutdown of three lime kilns, three recovery boilers and three smelt tanks from which offsets were claimed for netting purposes, we request that either the company submit a letter stating that this equipment is to be dismantled upon start-up of the new mill, or prohibition of their operation be included as a permit condition. In addition, we request that you verify the operation of this equipment prior (two years) to the PSD baseline date for this area. Verification should consist of actual emissions inventory for this equipment during the two years prior to the PSD baseline date.

We will await your response to the above issues prior to our issuance of the PSD construction permit for this source. If you have any questions regarding this letter, please contact Mr. Michael Brandon of my staff at 404/881-7654.

Sincerely yours,


James T. Wilburn, Chief
Air Management Branch
Air and Waste Management Division

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ATTACHMENT 2



Georgia-Pacific Corporation

Hudson Pulp & Paper Corp.
A wholly-owned subsidiary

P.O. Box 919
Palatka, Florida 32077
Telephone (904) 325-2001

May 31, 1983

Mr. Clair Fancy, Deputy Chief
Bureau of Air Quality
Department of Environmental Regulation
2600 Blair Stone Road
Tallahassee, Florida 32301-8241

DER

JUN 03 1983

BAQM

Dear Mr. Fancy:

In order to document the permanent shutdown of Hudson's lime kilns 1-3 and recovery boilers 1-3 at the Palatka mill, I have prepared the attached affidavit. If this is not sufficient documentation, your permit files should contain the required information. We will be glad to supply more information if needed.

In regard to the requested public hearing, please send us a copy of the petition from the Florahome Chapter of the American Association of Retired Persons.

Our engineers are currently performing the requested testing and modeling for heavy metals. We will forward this information to you when it becomes available.

If you have any questions or if I can be of further service, please call me.

Sincerely,

Vernon L. Adams
Supervisor of Environmental
Affairs

:la
Attachment
cc: R. C. Sherwood



Georgia-Pacific Corporation

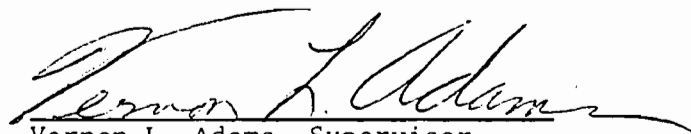
Hudson Pulp & Paper Corp.
A wholly-owned subsidiary

P.O. Box 919
Palatka, Florida 32077
Telephone (904) 325-2001

May 31, 1983

TO WHOM IT MAY CONCERN:

I hereby swear I have personal knowledge that Hudson Pulp & Paper Corp. has permanently shut down and dismantled Lime Kilns No. 1, No. 2, and No. 3, and Recovery Boilers No. 1, No. 2, and No. 3, at its Palatka, Florida plant.

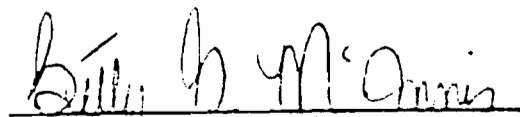

Vernon L. Adams, Supervisor
Environmental Affairs

b

STATE OF FLORIDA

COUNTY OF PUTNAM

Sworn to me on this 31st day of May, 1983. Witness my hand and official seal at Palatka, Putnam County, Florida. My commission expires March 7, 1986.


Betty G. McInnis, Notary

b

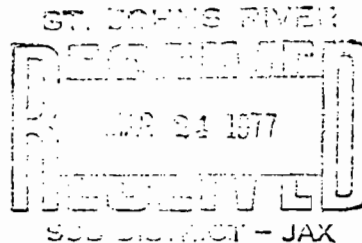
ATTACHMENT 3

BEST AVAILABLE COPY

HUDSON PULP & PAPER CORP.

P. O. BOX 919 PALATKA, FLORIDA 32077 (904) 325-2001

March 1, 1977



Mr. Wm. R. Opp
Subdistrict Manager
Florida Department of Environmental Regulation
3426 Bills Road
Jacksonville, Florida 32207

Dear Mr. Opp:

Enclosed are the 1976 annual reports on permitted air pollution sources. As you are aware, the #1, #2, and #3 Recovery Boilers and Smelt Tank vents have been retired.

If you require any additional information, please feel free to call me.

Sincerely,

Bob

W. R. Wilson
Environmental Group Leader

mg

encl.

cc W. L. Baxter
D. A. Martinez

Calendar year 1976

Submit a separate report for each permitted source by FEBRUARY 28, 1977

SECTION 1: General

SOURCE NAME:

MAILING ADDRESS: HUDSON PULP & PAPER CORP.

Palatka, Fla. 32077

TELEPHONE NO: 325-2001

OPERATING PERMIT NO: A054 - 2058

SOURCE DESCRIPTION: Recovery Boiler #1

SECTION 2: PROCESS OPERATIONS:

- a. DURATION OF OPERATION AND FREQUENCY: 24 hrs/day 7 days/wk 50 wk/yr
e.g. 8 hrs perday, 5 dys per wk and 50 wk/yr.
- b. DESIGN CRITERIA: MAXIMUM OUTPUT 240 tons/day Black Liquor Solids Burned
e.g. 850 MW, 750 tons/dy
- c. NORMAL(AVERAGE) OUTPUT 340 tons/day Black Liquor Solids Burned
e.g. 424 MW, 670 tons/dy.
- d. MAXIMUM PEAK THAT OCCURED DURING ANY ONE DAY _____
e.g. 910 MW, 810 tons/dy.

SECTION 3: TOTAL AMOUNT OF MATERIALS USED/PROCESSED, COMPUTED ON THE SAME BASIS AS PROCESS WEIGHT:

TYPE(MATERIEL)	INPUT PROCESS WEIGHT- DRY
<u>Black Liquor Solids (BLS)</u>	_____ tons/yr
<u>Used to Produce Smelt</u>	<u>120,326 Tons BLS = 50,898 Smelt</u> tons/yr
_____	_____ tons/yr
_____	_____ tons/yr

SECTION 4: TOTAL AMOUNT OF FUEL USED. IF FUEL IS OIL, SPECIFY WEIGHT, e.g. NO 2, and % sulfur by weight. INCLUDE STANDEY FUELS.

_____ 10^6 cu ft _____ 716.8 _____ 10^3 gal NO. 6 OIL 23 %SULFUR

_____ 10^3 gal PROPANE _____ 10^3 gal KEROSENE

_____ tons COAL _____ 240.6 _____ 10^6 lb BLACK LIQUOR SOLIDS

_____ OTHER,specify type and units _____

SECTION 5: EMISSION: ESTIMATED/TESTED EMISSIONS(TONS PER YEAR)

- a. 3390 tons of particulates _____ NA tons of sulfur dioxide
- _____ NA tons of nitrogen dioxide _____ NA tons of carbon monoxide
- _____ NA tons of hydrocarbon _____ tons _____ (other)

b. STATE METHOD OF CALULATIONS USED IN DETERMINING EMISSION RATES _____

Test avg (lbs./hr) X 24 hrs/day X 7 days/wk. X 50 wks./yr. + 2000

ANNUAL OPERATING REPORT
calendar year 1976

SECTION 5 (cont'd)

c. STACK TESTED: _____ date _____
STACK TEST CONDITIONS: _____ PROCESS RATE DURING TEST _____
STACK TEST CONDUCTED BY: _____
STACK TEST WITNESSED BY: _____

SECTION 6: OPERATIONAL PROBLEMS, IF ANY: _____

- a. IMPROVEMENTS MADE TO PROCESS/POLLUTION CONTROL EQUIPMENT: Replaced

- b. TYPE OF MAINTENANCE PERFORMED: _____

- c. NUMBER OF UPSETS LASTING MORE THAN FOUR HOURS DURING THE YEAR: _____
- d. NUMBER OF UPSETS LASTING MORE THAN ONE HOUR BUT NOT MORE THAN FOUR HOURS: _____
- e. NUMBER OF UPSETS LASTING LESS THAN ONE HOUR: _____

CERTIFICATION:

I HEREBY CERTIFY THAT THE INFORMATION GIVEN IN THIS REPORT IS CORRECT TO THE BEST OF MY KNOWLEDGE.

D. A. Martinez
Signature of owner or authorized representative

D. A. Martinez - Vice President - Mfg
Typed name and title

Date

BEST AVAILABLE COPY

ANNUAL OPERATING REPORT
Calendar year 1976

Submit a separate report for each permitted source by FEBRUARY 28, 1977

SECTION 1: General

SOURCE NAME:

MAILING ADDRESS: HUDSON PULP & PAPER CORP

Palatka, Fla. 32077

TELEPHONE NO: 325-2001

OPERATING PERMIT NO: A054 - 2059

SOURCE DESCRIPTION: Recovery Boiler #2

SECTION 2: PROCESS OPERATIONS:

- a. DURATION OF OPERATION AND FREQUENCY: 24 hrs/dy 7 dys/wk 50 wk/yr
e.g. 8 hrs perday, 5 dys per wk and 50 wk/yr.
- b. DESIGN CRITERIA: MAXIMUM OUTPUT 375 Tons/Day Black Liquor Solids Burned
e.g. 850 MW, 750 tons/dy
- c. NORMAL(AVERAGE) OUTPUT 486 Tons/Day Black Liquor Solids Burned
e.g. 124 MW, 670 tons/dy.
- d. MAXIMUM PEAK THAT OCCURED DURING ANY ONE DAY
e.g. 910 MW, 810 tons/dy.

SECTION 3: TOTAL AMOUNT OF MATERIALS USED/PROCESSED, COMPUTED ON THE SAME BASIS AS PROCESS WEIGHT:

TYPE(MATERIAL)	INPUT PROCESS WEIGHT- DRY
Black Liquor Solids (BLS) Used	tons/yr
to Produce Smelt	171,995 tons BLS = 72,754 tons/yr Smelt
	tons/yr
	tons/yr

SECTION 4: TOTAL AMOUNT OF FUEL USED. IF FUEL IS OIL, SPECIFY WEIGHT, e.g. NO 2, and % sulfur by weight. INCLUDE STANDBY FUELS.

10 ⁶ cu ft	884.5	10 ³ gal NO. 6 OIL 2.3% SULFUR
10 ³ gal PROPANE		10 ³ gal KEROSENE
tons COAL	344.0	10 ⁶ lb BLACK LIQUOR SOLIDS
OTHER, specify type and units		

SECTION 5: EMISSION: ESTIMATED/TESTED EMISSIONS(TONS PER YEAR)

- a. 3510 tons of particulates NA tons of sulfur dioxide
- NA tons of nitrogen dioxide NA tons of carbon monoxide
- NA tons of hydrocarbon tons (other)

b. STATE METHOD OF CALCULATIONS USED IN DETERMINING EMISSION RATES

Test lbs./hr X 24 hrs./day X 7 days/wk X 50 wk/year + 2000

BEST AVAILABLE COPY

Annual Operating Report
Calendar year 1976

Submit a separate report for each permitted source by FEBRUARY 28, 1977

SECTION 1: General

SOURCE NAME:

MAILING ADDRESS: HUMSON PULP & PAPER CORP.

Palatka, Fla. 32077

TELEPHONE NO: 325-2001

OPERATING PERMIT NO: A054 - 2063

SOURCE DESCRIPTION: Recovery Boiler #3

SECTION 2: PROCESS OPERATIONS:

a. DURATION OF OPERATION AND FREQUENCY: 24 hrs/day 7 dys/wk 50 wk/yr
e.g. 8 hrs perday, 5 dys per wk and 50 wk/yr.

b. DESIGN CRITERIA: MAXIMUM OUTPUT 375 Tons/Day Black Liquor Solids Burned
e.g. 850 MW, 750 tons/dy

c. NORMAL(AVERAGE) OUTPUT 471 Tons/Day Black Liquor Solids Burned
e.g. 424 MW, 670 tons/dy.

d. MAXIMUM PEAK THAT OCCURED DURING ANY ONE DAY _____
e.g. 910 MW, 810 tons/dy.

SECTION 3: TOTAL AMOUNT OF MATERIALS USED/PROCESSED, COMPUTED ON THE SAME BASIS AS PROCESS WEIGHT:

TYPE(MATERIAL)	INPUT PROCESS WEIGHT- DRY
<u>Black Liquor Solids (BLS) Used</u>	_____ tons/yr
<u>to Produce Smelt</u>	<u>166,686 tons BLS = 70,508 tons/yr</u> <u>Smelt</u>
_____	_____ tons/yr
_____	_____ tons/yr

SECTION 4: TOTAL AMOUNT OF FUEL USED. IF FUEL IS OIL, SPECIFY WEIGHT, e.g. NO 2, and % sulfur by weight. INCLUDE STANDBY FUELS.

_____ 10^6 cu. ft	<u>922.7</u>	10^3 gal NO. <u>6</u> OIL <u>2.3%</u> SULFUR
_____ 10^3 gal PROPANE	_____	10^3 gal KEROSENE
_____ tons COAL	<u>333.4</u>	10^6 lb BLACK LIQUOR SOLIDS
OTHER, specify type and units _____		

SECTION 5: EMISSION: ESTIMATED/TESTED EMISSIONS(TONS PER YEAR)

a. 3320 tons of particulates NA tons of sulfur dioxide
NA tons of nitrogen dioxide NA tons of carbon monoxide
NA tons of hydrocarbon _____ tons (other)

b. STATE METHOD OF CALULATIONS USED IN DETERMINING EMISSION RATES _____

Test lbs./hr. X 24 hrs./day X 7 days/wk. X 50 wks./yr. + 2000

SECTION 5 (cont'd)

c. STACK TESTED: _____ date _____

STACK TEST CONDITIONS: _____ PROCESS RATE DURING TEST _____

STACK TEST CONDUCTED BY: _____

STACK TEST WITNESSED BY: _____

SECTION 6: OPERATIONAL PROBLEMS, IF ANY: _____

a. IMPROVEMENTS MADE TO PROCESS/POLLUTION CONTROL EQUIPMENT: Replaced

b. TYPE OF MAINTENANCE PERFORMED: _____

c. NUMBER OF UPSETS LASTING MORE THAN FOUR HOURS DURING THE YEAR: _____

d. NUMBER OF UPSETS LASTING MORE THAN ONE HOUR BUT NOT MORE THAN FOUR HOURS: _____

e. NUMBER OF UPSETS LASTING LESS THAN ONE HOUR: _____

CERTIFICATION:

I HEREBY CERTIFY THAT THE INFORMATION GIVEN IN THIS REPORT IS CORRECT TO THE BEST OF MY KNOWLEDGE.

Signature of owner or authorized representative

D. A. Martinez
D. A. Martinez - Vice President - Manufacturing

Typed name and title

Date

BEST AVAILABLE COPY

ANNUAL OPERATING REPORT
Calendar year 1976

Submit a separate report for each permitted source by FEBRUARY 28, 1977

SECTION 1: General

SOURCE NAME:

MAILING ADDRESS: HUDSON PULP & PAPER CORP.
Palatka, Fla. 32077

TELEPHONE NO: 325-2001

OPERATING PERMIT NO: A054-2061

SOURCE DESCRIPTION: Smelt Dissolving Tank #1

SECTION 2: PROCESS OPERATIONS:

a. DURATION OF OPERATION AND FREQUENCY: 24 hrs/day 7 dys/wk 50 wk/yr
e.g. 8 hrs perday, 5 dys per wk and 50 wk/yr.

b. DESIGN CRITERIA: MAXIMUM OUTPUT 101.5 tons/day Smelt
e.g. 850 MW, 750 tons/dy

c. NORMAL(AVERAGE) OUTPUT 143.8 tons/day Smelt
e.g. 424 MW, 670 tons/dy.

d. MAXIMUM PEAK THAT OCCURED DURING ANY ONE DAY _____
e.g. 910 MW, 810 tons/dy.

SECTION 3: TOTAL AMOUNT OF MATERIALS USED/PROCESSED, COMPUTED ON THE SAME BASIS AS PROCESS WEIGHT:

TYPE(MATERIAL)	INPUT	PROCESS WEIGHT- DRY
<u>Smelt</u>	<u>50898</u>	<u>tons/yr</u>
_____	_____	<u>tons/yr</u>
_____	_____	<u>tons/yr</u>
_____	_____	<u>tons/yr</u>

SECTION 4: TOTAL AMOUNT OF FUEL USED. IF FUEL IS OIL, SPECIFY WEIGHT, e.g. NO 2, and % sulfur by weight. INCLUDE STANDBY FUELS.

<u>10⁶ cu ft</u>	<u>10³ gal NO. 2 OIL</u>	<u>%SULFUR</u>
<u>10³ gal PROPANE</u>	<u>10³ gal KEROSENE</u>	
<u>tons COAL</u>	<u>10⁶ lb BLACK LIQUOR SOLIDS</u>	
<u>OTHER, specify type and units</u>		

SECTION 5: EMISSION: ESTIMATED/TESTED EMISSIONS(TONS PER YEAR)

a. 31.2 tons of particulates NA tons of sulfur dioxide
NA tons of nitrogen dioxide NA tons of carbon monoxide
NA tons of hydrocarbon NA tons (other)

b. STATE METHOD OF CALCULATIONS USED IN DETERMINING EMISSION RATES _____
Test lbs./hr. X 24 hrs./day X 7 days/wk X 50 wks./yr. + 2000

SECTION 5 (cont'd)

c. STACK TESTED: _____ date _____

STACK TEST CONDITIONS: _____ PROCESS RATE DURING TEST _____

STACK TEST CONDUCTED BY: _____

STACK TEST WITNESSED BY: _____

SECTION 6: OPERATIONAL PROBLEMS, IF ANY: _____

a. IMPROVEMENTS MADE TO PROCESS/POLLUTION CONTROL EQUIPMENT: Replaced

with new unit equipped with Venturi Scrubber

b. TYPE OF MAINTENANCE PERFORMED: _____

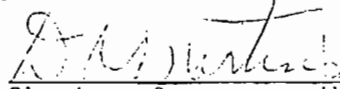
c. NUMBER OF UPSETS LASTING MORE THAN FOUR HOURS DURING THE YEAR: _____

d. NUMBER OF UPSETS LASTING MORE THAN ONE HOUR BUT NOT MORE THAN FOUR HOURS: _____

e. NUMBER OF UPSETS LASTING LESS THAN ONE HOUR: _____

CERTIFICATION:

I HEREBY CERTIFY THAT THE INFORMATION GIVEN IN THIS REPORT IS CORRECT TO THE BEST OF MY KNOWLEDGE.



Signature of owner or authorized representative

D. A. Martinez - Vice President - Mfg.

Typed name and title

Date

SECTION 5 (cont'd)

c. STACK TESTED: _____ date _____

STACK TEST CONDITIONS: _____ PROCESS RATE DURING TEST _____

STACK TEST CONDUCTED BY: _____

STACK TEST WITNESSED BY: _____

SECTION 6: OPERATIONAL PROBLEMS, IF ANY: _____

a. IMPROVEMENTS MADE TO PROCESS/POLLUTION CONTROL EQUIPMENT: Replaced

with new unit equipped with Venturi Scrubber

b. TYPE OF MAINTENANCE PERFORMED: _____

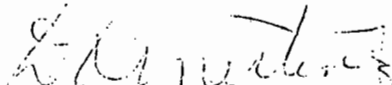
c. NUMBER OF UPSETS LASTING MORE THAN FOUR HOURS DURING THE YEAR: _____

d. NUMBER OF UPSETS LASTING MORE THAN ONE HOUR BUT NOT MORE THAN FOUR HOURS: _____

e. NUMBER OF UPSETS LASTING LESS THAN ONE HOUR: _____

CERTIFICATION:

I HEREBY CERTIFY THAT THE INFORMATION GIVEN IN THIS REPORT IS CORRECT TO THE BEST OF MY KNOWLEDGE.



Signature of owner or authorized representative

D. A. Martinez - Vice President - Mfg.

Typed name and title

Date

BEST AVAILABLE COPY

Calendar year 1976

Submit a separate report for each permitted source by FEBRUARY 28, 1977

SECTION 1: General

SOURCE NAME:

MAILING ADDRESS: HUDSON PULP & PAPER CORP.

Palatka, Fla. 32077

TELEPHONE NO: 325-2001

OPERATING PERMIT NO: A054-2594

SOURCE DESCRIPTION: Smelt Dissolving Tank #3

SECTION 2: PROCESS OPERATIONS:

a. DURATION OF OPERATION AND FREQUENCY: 24 hrs/day 7 dys/wk 50 wk/yr
e.g. 8 hrs perday, 5 dys per wk and 50 wk/yr.

b. DESIGN CRITERIA: MAXIMUM OUTPUT 158.6 tons/day Smelt
e.g. 850 MW, 750 tons/dy

c. NORMAL(AVERAGE) OUTPUT 199.2 tons/day Smelt
e.g. 424 MW, 670 tons/dy.

d. MAXIMUM PEAK THAT OCCURED DURING ANY ONE DAY
e.g. 910 MW, 810 tons/dy.

SECTION 3: TOTAL AMOUNT OF MATERIALS USED/PROCESSED, COMPUTED ON THE SAME BASIS AS PROCESS WEIGHT:

TYPE(MATERIELL)

INPUT PROCESS WEIGHT- DRY

TYPE(MATERIELL)	INPUT PROCESS WEIGHT- DRY
Smelt	70,508 tons/yr
	tons/yr
	tons/yr
	tons/yr

SECTION 4: TOTAL AMOUNT OF FUEL USED. IF FUEL IS OIL, SPECIFY WEIGHT, e.g. NO 2, and % sulfur by weight. INCLUDE STANDBY FUELS.

	10 ³ gal NO. OIL %SULFUR
10 ⁶ cu ft	
10 ³ gal PROPANE	10 ³ gal KEROSENE
tons COAL	10 ⁶ lb BLACK LIQUOR SOLIDS
OTHER,specify type and units	

SECTION 5: EMISSION: ESTIMATED/TESTED EMISSIONS(TONS PER YEAR)

a. 44.0 tons of particulates _____ tons of sulfur dioxide
 _____ tons of nitrogen dioxide _____ tons of carbon monoxide
 _____ tons of hydrocarbon _____ tons (other)

b. STATE METHOD OF CALULATIONS USED IN DETERMINING EMISSION RATES

Test avg. lb./hr. X 24 hrs./day X 7 days/wk. X 50 wk./yr. + 2000

SECTION 5 (cont'd)

c. STACK TESTED: _____ date

STACK TEST CONDITIONS: _____ PROCESS RATE DURING TEST

STACK TEST CONDUCTED BY: _____

STACK TEST WITNESSED BY: _____

SECTION 6: OPERATIONAL PROBLEMS, IF ANY: _____

a. IMPROVEMENTS MADE TO PROCESS/POLLUTION CONTROL EQUIPMENT: Replaced
with new unit equipped with Venturi Scrubber.

b. TYPE OF MAINTENANCE PERFORMED: _____

c. NUMBER OF UPSETS LASTING MORE THAN FOUR HOURS DURING THE YEAR: _____

d. NUMBER OF UPSETS LASTING MORE THAN ONE HOUR BUT NOT MORE THAN FOUR HOURS: _____

e. NUMBER OF UPSETS LASTING LESS THAN ONE HOUR: _____

CERTIFICATION:

I HEREBY CERTIFY THAT THE INFORMATION GIVEN IN THIS REPORT IS CORRECT TO THE BEST OF MY KNOWLEDGE.

D. A. Martinez

Signature of owner or authorized representative

D. A. Martinez - Vice President - Manufacturing

Typed name and title

Date

BEST AVAILABLE COPY



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

DEC 9 1985

REGION IV

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

345 COURTLAND STREET
ATLANTA, GEORGIA 30335

DER
BAQM

REF: 4APT-AP

Mr. Vernon L. Adams
Supervisor of Environmental Affairs
Georgia-Pacific Corporation
Post Office Box 919
Palatka, FL 32077

RE: PSD-FL-079, Georgia-Pacific Corporation

Dear Mr. Adams:

This is to notify you that the effective date of the federal Prevention of Significant Deterioration (PSD) construction permit, PSD-FL-079, issued on December 4, 1984, and the subsequent modifications made to the permit by letter dated October 10, 1985, became effective on November 15, 1985. This effective date was determined in accordance with our letter of modification as 30 days from the date of receipt, provided no petitions were filed. As no petitions were received, a Federal Register notice announcing the permit modifications and effective date was forwarded for publication.

Please be advised if construction does not commence within 18 months after November 15, 1985 (by May 15, 1987), or if construction is discontinued for a period of 18 months or more, or if construction is not completed within a reasonable time, this permit shall expire and authorization to construct shall become invalid.

If you have any questions regarding this letter, please contact Mr. Michael Brandon of my staff at 404/881-4901.

Sincerely yours,

Bruce Miller

Bruce Miller
Acting Chief, Air Programs Branch

cc: Mr. C. H. Fancy, Deputy Chief
Bureau of Air Quality Management
Florida Department of Environmental Regulation



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION IV

345 COURTLAND STREET
ATLANTA, GEORGIA 30365

OCT 10 1985

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

REF: 4APT-AP

Mr. Vernon L. Adams
Supervisor of Environmental Affairs
Georgia-Pacific Corporation
Post Office Box 919
Palatka, FL 32077

RE: PSD-FL-079, Georgia-Pacific Corporation

On December 4, 1984, a federal Prevention of Significant Deterioration permit (PSD-FL-079) was issued to your company to construct Recovery Boiler No. 5 and two smelt dissolving tanks, Combination Boiler No. 5, and Lime Kiln No. 5 at your kraft pulp mill in Palatka, Florida.

By letter dated January 8, 1985, Georgia-Pacific Corporation (G-P) filed a petition for review, pursuant to 40 CFR §124.19(a), with the Administrator of the United States Environmental Protection Agency (EPA) concerning the above referenced permit. Specifically, G-P requested a revision to Specific Condition No. 9 on the proposed No. 5 Recovery Boiler, which provided that "visible emissions (VE) shall not exceed 20% opacity...."

Subsequent to G-P's petition, several discussions between G-P and EPA personnel have transpired. In addition, engineers from both EPA and the Florida Department of Environmental Regulation (FDER) conducted an on-site inspection of the facility at Palatka, Florida, on May 16, 1985. As a result of these discussions and G-P's May 8, 1985, and September 9, 1985, proposals to withdraw the company's January 8, 1985, petition for review with the Administrator, EPA hereby modifies Specific Condition No. 9 for the No. 5 Recovery Boiler. Specific Condition No. 9 shall be as follows:

- 9(a) Visible emissions (VE) shall not exceed 20% opacity, as determined by EPA method No. 9, except as provided in 9(b). A continuous emissions monitor for opacity shall be required (40 CFR 60.284).
- 9(b) If any maintenance or upset of the air pollution control system (APCS) occurs, the permittee shall immediately diagnose the cause of the upset and establish the course of action to repair the APCS. Repair of the APCS shall commence as expeditiously as possible, unless a component has to be ordered from a vendor. However, the permittee shall maintain a stock of components of the APCS that have a history of repetitive failures. The VE shall not exceed 35% opacity, as determined by EPA method No. 9, during maintenance or upset conditions only.

DER

OCT 14 1985

BAQM

The following shall be required, but not limited to, as a source of action to repair the APCS during an upset condition: assessment of the availability of the defective component(s) and the purchase/delivery time involved (in days), assessment of the time required to repair the APCS (in man-hours), and a commitment to the Florida Department of Environmental Regulation on the completion date for repairing the APCS. In addition, records shall be kept of each maintenance and/or upset condition where the opacity limit is exceeded in accordance with General Condition No. 5.

In consideration of modification of Specific Condition No. 9, Specific Condition No. 11 for the No. 5 Recovery Boiler shall be modified as follows:

- 11(a) Immediately after construction has been completed, initial performance tests for PM, SO₂, TRS and VE shall be required. Test procedures shall be EPA reference methods 1, 2, 3, 5 or 17, 6, 9, and 16 as published in 40 CFR 60, Appendix A, dated July 1, 1978. Minimum sampling volume and time shall be as defined in 40 CFR 60, Subpart BB.
- 11(b) As part of the initial performance tests for PM and VE on the No. 5 Recovery Boiler, the company shall also demonstrate compliance with Specific Conditions No. 5 and No. 9(b) by testing the APCS with all exhaust gases from the boiler going into half of the APCS representing maintenance or upset conditions (i.e., half of the system energized). During these tests, a maximum black liquor solids (BLS) feed rate shall be established in which compliance can be achieved with Specific Conditions No. 5 and No. 9(b) for each side of the APCS. This BLS feed rate shall then be the maximum feed rate during periods of APCS maintenance or upset conditions, unless compliance can be demonstrated with Specific Conditions No. 5 and No. 9(b) at a higher BLS feed rate under APCS maintenance or upset conditions.

Furthermore, Specific Conditions No. 11 for the No. 5 Lime Kiln shall be reworded as follows:

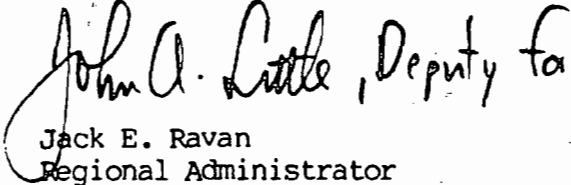
11. Immediately after construction has been completed, initial performance tests for PM, TRS, and VE shall be required. Test procedures shall be EPA reference methods 1, 2, 3, 5 or 17, 9, and 16 as published in 40 CFR 60, Appendix A, dated July 1, 1978. Minimum sampling volume and time shall be as defined in 40 CFR 60, Subpart BB.

The original PSD permit issued on December 4, 1984, and revisions contained herein shall become effective thirty (30) days after receipt hereof unless a petition for administrative review is filed with the Administrator during that time. If a petition is filed, any applicable effective date shall be determined in accordance with 40 CFR §124.19(f)(1). Upon the expiration of the thirty (30) day period, we will confirm the status of the permit's effective date. The above revisions become a binding part of federal PSD permit (PSD-FL-079) issued on December 4, 1984. Notice of the original permit and these revisions will be published in the Federal Register in the near future.

Please be advised if construction does not commence within 18 months after the effective date of this permit, or if construction is discontinued for a period of 18 months or more, or if construction is not completed within a reasonable time, this permit shall expire and authorization to construct shall become invalid.

If you have any questions regarding this matter, please feel free to contact me.

Sincerely yours,


John A. Little, Deputy for

Jack E. Ravan
Regional Administrator

cc: Mr. C. H. Fancy, Deputy Chief
Bureau of Air Quality Management
Florida Department of Environmental Regulation



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION IV

345 COURTLAND STREET
ATLANTA, GEORGIA 30365

DEC 4 1984

REF: 4AW-AM

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

Mr. Vernon L. Adams
Supervisor of Environmental Affairs
Georgia Pacific Corporation
Post Office Box 919
Palatka, Florida 32077

RE: PSD - FL - 079

Dear Mr. Adams:

Review of your February 22, 1982, application to construct Recovery Boiler No. 5 and 2 smelt dissolving tanks, Combination Boiler No. 5, and Lime Kiln No. 5, at your Kraft Pulp Mill in Palatka, Florida, has been completed. The construction is subject to rules for the Prevention of Significant Deterioration (PSD) of air quality contained in 40 CFR §52.21. The Florida Department of Environmental Regulation (FDER) performed the preliminary determination concerning the proposed construction and published a request for public comment on January 21, 1983. In response to a request from the American Association of Retired Persons a hearing was held on February 17, 1984. On May 16, 1984, FDER prepared a final determination recommending issuance of the PSD permit by EPA. The final determination contains responses to issues raised during the hearing and the public comment period. In addition, the FDER satisfactorily responded to additional concerns raised by EPA in a letter dated September 24, 1984.

The Environmental Protection Agency (EPA) has determined that the construction as described in the application meets all the applicable requirements of 40 CFR 52.21. Accordingly, pursuant to 40 CFR 124.15, the Regional Administrator has made a final decision to issue the enclosed Permit to Construct - Part I Specific Conditions and Part II General Conditions. This authority to construct, granted as of the effective date of the permit, is based solely on the requirements of 40 CFR 52.21, air quality. It does not apply to other permits issued by this Agency or by other agencies. Please be advised that a violation of any permit condition, as well as any construction which proceeds in material variance with information submitted in your application, will be subject to enforcement action.

DEC 10 1984

WALSH

This final permit decision is subject to appeal under 40 CFR 124.19 by petitioning the Administrator of the EPA within thirty (30) days after receipt thereof. The petitioner must submit a statement of reasons for the appeal and the Administrator must decide on the petition within a reasonable time period. If the petition is denied, the permit shall become effective upon notice of such action to the parties to the appeal. If the petition is granted, any applicable effective date shall be determined by the results of the appeal proceedings. If no appeal is filed with the Administrator, the permit shall become effective thirty (30) days after receipt of this letter. Upon the expiration of the thirty (30) day period, EPA will notify you of the status of the permit's effective date.

Receipt of this letter does not constitute authority to construct. Approval to construct this facility shall be granted as of the effective date of the permit. The complete analysis which justifies this approval has been fully documented for future reference, if necessary. Any questions concerning this approval may be directed to Mr. Jesse Baskerville, Acting Chief, Air Engineering Section, Air, Pesticides and Toxics Management Division at (404) 881-4253.

Sincerely yours,



for Thomas W. Devine, Acting Director
Air, Pesticides, and Toxics Management Division

Enclosure

cc: Mr. Steve Smallwood, P..E., Chief
Bureau of Air Quality Management
Florida Department of Environmental
Regulation

Revised
Technical Evaluation
and
Preliminary Determination

and

Proposed Final Determination

Georgia-Pacific Corporation
Putnam County
Palatka, Florida

Federal Permit Number:

PSD-FL-079

Florida Department of Environmental Regulation
Bureau of Air Quality Management
Central Air Permitting

PUBLIC NOTICE

PSD-FL-079

Georgia-Pacific Corporation proposes to modify its existing kraft pulp mill located in Palatka, Florida. The modification will double production to 2,400 tons per day of unbleached pulp. The new facilities to be constructed include a recovery boiler and associated smelt tanks (2), a lime kiln, and a combination boiler fired by bark and peat. Each new facility will have associated pollution control equipment installed.

The United States Environmental Protection Agency (EPA) has promulgated regulations concerning the Prevention of Significant Deterioration (PSD), 40 CFR 52.21. The proposed action is subject to federal PSD regulations by virtue of an increase over specified emission levels for particulate matter (PM), sulfur dioxide (SO₂), nitrogen oxides (NO_x), carbon monoxide (CO), volatile organic compounds (VOC), and total reduced sulfur (TRS).

The net projected emission increase of air pollutants from the affected facilities in tons per year will be:

<u>PM</u>	<u>SO₂</u>	<u>NO_x</u>	<u>CO</u>	<u>VOC</u>	<u>TRS</u>
999	4,372	2,208	6,855	591	34

By authority of the EPA, the Florida Department of Environmental Regulation (FDER) has reviewed the proposed

construction project under federal regulation 40 CFR 52.21, PSD. The FDER has made a preliminary determination that the construction can be approved provided certain conditions are met. A summary of the basis for this determination and the application for a PSD permit submitted by Georgia-Pacific Corporation are available for public review at the following places:

FDER
 Northeast District
 3426 Bills Road
 Jacksonville, Florida 32207

FDER
 Northeast District Branch
 Office
 825 N. W. 23rd Ave., Suite G
 Gainesville, Florida 32601

FDER
 Bureau of Air Quality Management
 2600 Blair Stone Road
 Tallahassee, Florida 32301

Palatka Public Library
 216 Reid
 Palatka, Florida 32077

The maximum percentage of allowable PSD increment consumed by the proposed project will be:

Class II Increment

<u>Pollutant</u>	<u>Annual</u>	<u>24-Hour</u>	<u>3-Hour</u>
PM	0	0	--
SO ₂	30	16	19

Any person may submit written comments to FDER regarding the proposed construction/modification. All comments postmarked not later than 30 days from the date of this notice will be considered by FDER in making a final determination regarding approval of this project. These comments will be made available for public review at the above locations. All comments should be addressed to:

Mr. C. H. Fancy
Central Air Permitting Section
Bureau of Air Quality Management
Florida Department of Environmental Regulation
2600 Blair Stone Road
Tallahassee, Florida 32301

Furthermore, a public hearing can be requested by any person. Such requests should be submitted in writing within 14 days of the date of this notice. Letters should be addressed to:

Ms. Nancy E. Wright
Office of General Counsel
Florida Department of Environmental Regulation
2600 Blair Stone Road
Tallahassee, Florida 32301

Technical Evaluation
and
Preliminary Determination
(PSD-FL-079)

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I. APPLICANT AND SITE LOCATION

Georgia-Pacific Corporation

P.O. Box 919

Palatka, Florida 32077

The existing kraft pulp mill to be modified is located on the north-northwest side of S. R. 216 between S. R. 100 and U. S. 17 in Palatka, Putnam County, Florida. The UTM coordinates are Zone 17-434.0 km East and 3283.4 km North.

II. PROJECT AND PROCESS DESCRIPTION

The applicant proposes to modify the existing kraft pulp mill by constructing a recovery boiler (No. 5) and two associated smelt dissolving tanks (No. 5), a combination boiler (No. 5), and a lime kiln (No. 5). Currently, there are two power boilers, a combination boiler, a recovery boiler and two associated smelt dissolving tanks, and a lime kiln operating at the mill. The proposed action will enable the mill to double the unbleached pulp production from the current rate of 1200 tons per day (TPD) to 2400 TPD. The permitted operating time will be 8760 hours per year.

The proposed combination boiler will fire peat and wood for steam production while the recovery boiler will burn black liquor solids. New No. 6 Fuel Oil will be burned in these boilers only for startup, shutdown, emergencies, and system checking. "New" means an oil which has been refined from crude oil and has not been used, and which may or may not contain additives. The lime kiln uses lime mud (CaCO_3) in the process and will also fire new No. 6 Fuel Oil.

Air pollution control equipment will be installed for each proposed new facility.

III. EMISSIONS AND CONTROLS

The five proposed facilities (listed below) will be evaluated for their control(s) of the various pollutant (6) emissions:

- (1) No. 5 Combination Boiler (CB)
- (2) No. 5 Black Liquor Recovery Boiler (RB)
- (3) No. 5 Smelt Dissolving Tanks x 2 (SDTs)
- (4) No. 5 Lime Kiln (LK)

A. Particulate Matter (PM) Emissions Control for the CB, RB, SDTs, and LK

The maximum PM emissions expected from the CB will be from the firing of bark. The projected allowable emissions are 108 lbs/hr and 475 TPY. To maintain the allowable emission limits, the CB flue gas will be controlled with an electrostatic precipitator (ESP), with an expected efficiency of 99%+ and without a mechanical collector precleaner. The BACT limit for visible emissions (VE) for the CB shall be 20% maximum opacity.

The maximum PM emissions expected from the RB are 75.4 lbs/hr and 330 TPY. The projected allowable emission limits will be maintained by the use of an ESP, with an expected efficiency of 99%. The VE limit for the RB, not to exceed 20% opacity, is determined to be BACT and within the range that the majority of the existing RBs in Florida have been exhibiting. The two associated SDTs to the RB will have maximum total projected PM emissions of 15.0 lbs/hr and 65.7 TPY. The projected allowable emission limits will be maintained by the use of a scrubber

(each unit will have its own scrubber) with an expected removal efficiency of 98%.

The maximum PM emissions expected from the LK are 29.3 lbs/hr and 128 TPY. The projected allowable emission limits will be maintained by the use of a scrubber, with an expected efficiency of 99.7%. The VE limit of 20% maximum opacity for the LK is based on BACT for this type of unit.

B. Sulfur Dioxide (SO₂) Emissions Control for the CB and RB

The maximum SO₂ emissions expected from the CB will be from the firing of new No. 6 Fuel Oil in emergency conditions only. The projected emissions are 704 lbs/hr, based on a maximum of 2.5% sulfur content by weight and the permitted maximum allowable BTU heat input from the firing of bark. While firing the permitted fuels, bark and peat, the maximum SO₂ emissions will be emitted from bark. At 100% firing of bark, estimated emissions are 704 lbs/hr and 3085 TPY. Under normal operations, firing 70% peat and 30% bark, the maximum projected SO₂ emissions are 503 lbs/hr and 2205 TPY.

For the CB, there will not be any mechanical controls for SO₂ while firing the permitted fuels, peat and bark. The fuels contain a very low sulfur content by weight.

The maximum SO₂ emissions projected from the RB are 244 lbs/hr and 1287 TPY while firing black liquor (65% solids), based on BACT of 150 ppm by volume on a dry basis. No controls for SO₂ emissions will be imposed on this facility unless there is a failure to meet the BACT and allowable emission limit imposed.

C. Nitrogen Oxides (NO₂), Carbon Monoxide (CO), and Volatile Organic Compounds (VOC) Emissions Control for the CB, RB, and LK

The maximum NO_x emissions from the CB of 0.30 lb/10⁶ Btu heat input can be achieved through good boiler design and proper operation. No emission limits will be imposed for CO and VOC except good boiler design and proper operation.

Since there are no emission limiting standards for the RB and LK in the NSPS for the pollutants NO_x, CO, and VOC, there will be no emission limits imposed, only proper operation.

D. Total Reduced Sulfur (TRS) Emissions Control for the RB, SDTs and LK

The maximum allowable emissions from the RB are 5.2 lbs/hr and 22.8 TPY, and are in accordance with the NSPS, Subpart BB. The same NSPS was imposed on the SDTs and LK with maximum allowable emissions of 1.3 lbs/hr, 5.5 TPY and 1.1 lbs/hr, 4.8 TPY, respectively.

E. Net Emissions of the Proposed Project

Table 1 summarizes the net emissions of all the pollutants regulated under the Clean Air Act which will be emitted by the proposed construction. As shown by the table, the mill will be a major emitter (>100 TPY) of PM, SO₂, NO_x, CO, and VOC as defined in the PSD regulations and a significant emitter (> de minimus) of TRS. Annual permitted hours of operation are 8760.

TABLE 1
Net Emissions of the Proposed Project

	Emissions(TPY)					
	PM	SO ₂	NO _x	CO	VOC	TRS
<u>Proposed Facilities</u>						
No. 5 Combination Boiler	475	3085	1424	981	282	---
No. 5 Recovery Boiler	330	1287	382	3732	206	23
No. 5 Smelt Tanks(2)	66	--	--	--	--	6
No. 5 Lime Kiln	<u>128</u>	<u>--</u>	<u>402</u>	<u>2142</u>	<u>103</u>	<u>5</u>
TOTAL	999	4372	2208	6855	591	34

F. Maximum Allowable Emissions

Based on the BACT determination for the proposed facilities, the pollutant emissions from each unit shall not exceed the allowable emission limits listed in Table 2. Annual permitted hours of operation are 8760.

TABLE 2

Maximum Allowable Emissions

Source	Pollutant	Emission Limitation	Emissions (lbs/hr)	
			Bark	Peat
Combination Boiler No. 5 ¹	PM	0.10 lb/10 ⁶ Btu heat input	108	101
	SO ₂	0.65 lb/10 ⁶ Btu heat input	704	654
	NO _x	0.30 lb/10 ⁶ Btu heat input	325	302
	VE	20% maximum Opacity, except for one 6-minute period per hour of not more than 27% Opacity		
Recovery Boiler No. 5 ²	PM	0.044 gr/DSCF, corrected to 8% oxygen	75.4	
	SO ₂	150 ppm by volume on a dry basis	294	
	TRS	5 ppm by volume on a dry basis, corrected to 8% oxygen		5.2
	VE	20% maximum opacity		
Smelt Tanks No. 5 ³	PM	0.20 lb/ton black liquor solids, dry weight	15.0 (total)	
	TRS	0.0168 lb/ton black liquor solids, dry weight	1.3 (total)	

Maximum Allowable Emissions

Source	Pollutant	Emission Limitation	Emissions (lbs/hr)
Lime Kiln No. 5 ⁴	PM	not to exceed 0.13 gr/DSCF, corrected to 10% oxygen	29.3
	TRS	8 ppm by volume on a dry basis, corrected to 10% oxygen	1.1
	VE	20% maximum opacity	

1. Emissions are based on a maximum heat input of 1083.6×10^6 Btu/hr.
2. Emissions are based on a maximum heat input of 990.0×10^6 Btu/hr, 63,000 lbs/hr of smelt, and 230,769 lbs/hr black liquor solids (BLS, 65%).
3. Emissions are based on 150,000 lbs/hr BLS (dry).
4. Emissions are based on 26,300 dscfm.

The maximum allowable emissions established through BACT are equal to or more stringent than the New Source Performance Standards (NSPS), 40 CFR 60, Subparts D and BB.

IV. RULE APPLICABILITY

The proposed project (new construction) is subject to preconstruction review under federal Prevention of Significant Deterioration (PSD) regulations, Section 52.21 of Title 40 of the Code of Federal Regulations (40 CFR 52.21) as amended in the Federal Register of August 7, 1980 (45 FR 52676). Specifically,

Georgia-Pacific Corporation's kraft pulp mill is a major existing stationary source (40 CFR 52.21(b)) located in an area currently designated as attainment in accordance with 40 CFR 81.310 for all criteria pollutants regulated under the Clean Air Act (CAA).

The proposed project will be a major modification (40 CFR 52.21(b)(2)) for particulate matter (PM), sulfur dioxide (SO₂), nitrogen oxides (NO_x), volatile organic compounds (VOC), carbon monoxide (CO), and total reduced sulfur (TRS). Emissions of PM, SO₂, NO_x, VOC, CO, and TRS will increase above the significant criteria set in the PSD regulations. Therefore, the proposed project is subject to PSD review for these pollutants.

This review consists of a determination of Best Available Control Technology (BACT) and, unless otherwise exempted, an analysis of the air quality impact of the increased emissions. The review also includes an analysis of the project's impacts on soils, vegetation and visibility, along with air quality impacts resulting from associated commercial, residential and industrial growth.

The proposed project is also subject to the provisions of the federal New Source Performance Standards (NSPS) for kraft pulp mills, 40 CFR 60, Subpart BB.

V. CONTROL TECHNOLOGY REVIEW

For each facility and each CAA pollutant subject to PSD review, a Best Available Control Technology (BACT) emission standard (See Table 2) is required as a PSD permit condition.

A. No. 5 Combination Boiler

The pollutant emission limits determined as BACT for the combination steam generator for PM, SO₂, NO_x, and percent opacity are equal to or more stringent than the New Source Performance Standards (NSPS), Subpart D. Even though peat is presently considered an unclassified fuel, being neither a fossil-fuel nor a carbonaceous fuel as defined in FAC Rule 17-2 and 40 CFR 60.41(b), the BACT emission limit for PM will be equal to that of a fossil-fuel fired unit as contained in the referenced subpart. Carbon monoxide does not lend itself to exhaust gas removal techniques. The control of its formation by following the boiler design firing parameters is determined as BACT. The PM emissions will be controlled with an ESP system. The reference methods as provided under subsection 60.46 of the NSPS, Subpart D, shall be used to determine compliance.

B. No. 5 Recovery Boiler

The pollutant emission limits determined as BACT for the recovery boiler for PM and total reduced sulfur (TRS) are equal to the limits of the NSPS, Subpart BB. Since the majority of the existing RBs in Florida have been exhibiting visible emissions of 20% opacity or less, the bureau contends that a new RB with its associated control equipment should be capable of attaining this same limit. Therefore, BACT for visible emissions shall be 20% maximum opacity. The moisture content of the black liquor and the reducing atmosphere above the smelt bed tend to inhibit both flame temperature and oxygen levels in the combustion zone. This normally limits the concentration of NO_x emitted. BACT for the

control of NO_x and CO is to maintain furnace operation within range of the design parameters. The SO₂ emission limit is based on BACT. The PM emissions will be controlled with an ESP system.

C. No. 5 Smelt Tanks (2)

The pollutant emission limits determined as BACT for the smelt tanks for PM and TRS are equal to the NSPS, Subpart BB. The PM and TRS emissions will be controlled with a scrubber system per smelt tank.

D. No. 5 Lime Kiln

The pollutant emission limits determined as BACT for the lime kiln for PM and TRS are equal to the NSPS, Subpart BB. The SO₂ emissions are normally minimized because the CaO can act as an efficient adsorption and reaction medium to convert SO₂ to CaSO₄. Consequently, emission limits for SO₂ were not included in this determination. The percent opacity has been determined to be BACT by the EPA.

The reference methods as provided under subsection 60.285 of the NSPS, Subpart BB, shall be used to determine compliance for the recovery furnace, smelt tanks, and lime kiln.

The department has reasonable assurance that, at the levels determined as BACT, emissions from the proposed modification would not cause or contribute to a violation of any ambient air quality standard or PSD increment.

VI. AIR QUALITY IMPACT ANALYSIS

The air quality impact analysis required for PM, SO₂, NO_x, VOC, CO, and TRS consists of:

- An analysis of existing air quality;
- A PSD increment analysis (for PM and SO₂ only);
- A National Ambient Air Quality Standards (NAAQS) analysis;
- An analysis of impacts on soils, vegetation and visibility and of growth-related air quality impacts; and
- A "good engineering practice (GEP)" stack height evaluation.

The analysis of existing air quality generally relies on preconstruction ambient air monitoring data collected in accordance with EPA-approved methods. The PSD increment and NAAQS analyses depend on air quality modeling carried out in accordance with EPA guidelines.

Based on these analyses, FDER has reasonable assurance that the proposed Georgia-Pacific kraft pulp mill expansion, as described in this permit and subject to the conditions of approval proposed herein, will not cause or contribute to a violation of any PSD increment or ambient air quality standard. A discussion of the modeling methodology and required analyses follows.

A. Modeling Methodology

Two EPA-approved dispersion models were used to predict ground-level pollutant concentrations. The Industrial Source Complex Long Term (ISCLT) model was used to predict annual concentrations, and the Industrial Source Complex Short Term (ISCST) model was used to predict concentration values for shorter averaging periods.

In the ISCLT, sources within a 50 km radius of the mill were modeled. The receptors were placed at 0.3 km intervals along 10-degree radials beginning at 0.6 km for SO₂ and 0.3 km for PM to identify the periods of worst-case meteorological conditions. The receptor interval was reduced to 0.1 km to refine the predictions of ground-level concentrations for the worst-case periods.

The surface meteorological data used in the models were National Weather Service (NWS) data collected at the Jacksonville International Airport during the period 1970-74. Upper-air meteorological data used in the ISCST were collected during the same time period by the NWS at Waycross, Georgia.

Stack parameters and emission rates used in evaluating the proposed Georgia-Pacific plant expansion are given in Tables 3 and 4 for the baseline and proposed cases, respectively.

B. Analysis of Existing Air Quality

Four months (from June 12, 1981, through December 12, 1981) of preconstruction ambient air monitoring data were collected by Georgia-Pacific in the vicinity of the existing mill. Three PM monitoring sites, each operated every third day, and one SO₂ continuous monitor, located at the same site as one of the PM samplers, were used. The instruments, all EPA-reference or the equivalent, were sited in accordance with the recommendations given in Ambient Monitoring Guidelines for Prevention of Significant Deterioration (EPA 450/2-78-019) and operated in accordance with the quality assurance procedures of 40 CFR 58, Appendix B. The results of the monitoring program are summarized in the following table (p. 15).

Table 3: Stack Parameters for Georgia-Pacific - Baseline Case

Emissions Unit	Stack Height (m)	Stack Diameter (m)	Exit Velocity (m/s)	Exit Temp. (K)	PM Emission Rate		SO ₂ Emission Rate	
					Annual (g/s)	Short-Term (g/s)	Annual (g/s)	Short-Term (g/s)
Rcvry. Blr. 1	76.20	3.66	3.41	360.0	9.93	9.93	6.21	6.21
Rcvry. Blr. 2	76.20	3.66	5.40	372.0	12.69	12.69	8.88	8.88
Rcvry. Blr. 3	40.53	3.41	7.28	372.0	13.73	13.73	8.58	8.58
Rcvry. Blr. 4	70.10	3.66	16.86	474.0	20.98	20.98	34.97	34.97
Smelt Tank 1	30.48	0.76	7.53	366.0	0.30	0.30	0.13	0.13
Smelt Tank 2	30.48	0.91	9.51	375.0	0.45	0.45	0.18	0.18
Smelt Tank 3	33.22	0.76	3.57	369.0	0.42	0.42	0.18	0.18
Smelt Tank 4	67.70	1.52	8.26	346.0	3.81	3.81	0.71	0.71
Lime Kiln 1	15.24	1.28	5.24	401.0	22.68	22.68	0.24	0.24
Lime Kiln 2	15.85	1.71	10.67	341.0	11.97	11.97	0.24	0.24
Lime Kiln 3	15.85	1.71	8.47	342.0	11.72	11.72	0.48	0.48
Lime Kiln 4	45.42	1.31	16.46	351.0	1.57	3.98	1.40	1.40
Power Blr. 4	37.19	1.22	14.54	477.0	1.69	1.69	34.29	45.22
Power Blr. 5	76.20	2.74	15.97	520.0	5.35	5.85	134.00	161.15
Combo. Blr. 4	76.20	3.05	10.52	477.0	73.67	89.69	29.00	121.28

Table 4: Stack Parameters for Georgia-Pacific - Proposed Case

Emissions Unit	Stack Height (m)	Stack Diameter (m)	Exit Velocity (m/s)	Exit Temp. (K)	PM Emission Rate (g/s)	SO ₂ Emission Rate (g/s)
Rcvry. Blr. 4	70.10	3.66	16.86	474.0	20.98	34.97
Rcvry. Blr. 5	76.20	4.02	13.93	474.0	9.50	37.03
Smelt Tank 4	67.70	1.52	8.26	346.0	3.81	0.71
Smelt Tank 5	76.20	1.52	8.26	346.0	1.89	0.66
Lime Kiln 4	45.42	1.31	16.46	351.0	3.98	1.40
Lime Kiln 5	45.42	1.31	16.46	351.0	3.69	1.32
Power Blr. 4	37.19	1.22	14.54	477.0	1.69	45.22
Power Blr. 5	76.20	2.74	15.97	520.0	5.85	161.15
Combo. Blr. 4	76.20	3.05	10.52	477.0	14.74	121.28
Combo. Blr. 5	76.20	3.66	15.39	450.0	13.65	88.75

<u>Pollutant and</u> <u>Time Average</u>	<u>Maximum Concentration (ug/m³)</u>		
	<u>Site 1</u>	<u>Site 2</u>	<u>Site 3*</u>
SO ₂			
Three-hour	332	---	---
24-hour	188	---	---
Four-month**	10	---	---
PM			
24-hour	105	92	70
Four-month***	33	29	29

* Background site

** Arithmetic mean

*** Geometric mean

C. PSD Increment Analysis

The Georgia-Pacific mill is located in an area where the Class II PSD increments apply. The nearest Class I area is more than 100 km from the site; therefore, no analysis of Class I area impacts was performed.

Increment availability in the area is affected by increased SO₂ emissions at Florida Power and Light (FPL) Company's Putnam plant, increased PM emissions at FPL's Palatka plant, increased SO₂ and PM emissions projected to result from construction of the Seminole Electric Cooperative coal-fired plant, and decreased SO₂ and PM emissions resulting from the post-1974 shutdown of

lime kilns 1-3 and recovery boilers 1-3 at the Georgia-Pacific mill. As shown in the following table, modeling results predict no violation of any applicable PSD increment in the vicinity of the mill as a result of the proposed plant expansion in combination with the other increment-affecting emission changes in the area.

<u>Pollutant and Time Average</u>	<u>Class II Increment (ug/m³)</u>	<u>Predicted Increase (ug/m³)</u>	<u>Percent Increment Consumed</u>
SO ₂			
Three-hour*	512	104	20
24-hour*	91	16	18
Annual	20	6	30
PM			
24-hour*	37	<0	0
Annual	19	<0	0

* Not to be exceeded more than once per year.

In addition, modeling results predict no violation of any increment in the vicinities of the Seminole Electric Cooperative and FPL plants as a result of the proposed plant expansion at Georgia-Pacific.

D. NAAQS Analysis

Given background pollutant concentrations in the area due to distant and natural sources, modeling results predict that the Georgia-Pacific mill, as proposed to be modified, will not cause or contribute to a violation of any ambient air quality standard. Background concentrations considered typical of remote areas were

used in the NAAQS analysis. The PM background values used in the analysis were slightly higher than those observed at the background site during the four-month ambient monitoring program conducted by Georgia-Pacific.

Results of the NAAQS analysis are summarized in the following table.

<u>Pollutant, Units, and Time Average</u>	<u>Estimated Background Concentration</u>	<u>Predicted Impact of Modified Mill</u>	<u>Total Impact</u>	<u>NAAQS</u>
SO ₂ (ug/m ³)				
Three-hour*	20	409	429	1300**
24-hour*	20	113	133	365
Annual	20	22	42	80
PM (ug/m ³)				
24-hour*	80	28	108	150***
Annual	40	4	44	75
NO ₂ (ug/m ³)				
Annual	20	19	39	100
CO (mg/m ³)				
One-hour*	1	<1	1	40
Eight-hour*	1	<1	1	10

* Not to be exceeded more than once per year.

** Secondary standard.

*** Secondary standard; primary standard is 260 ug/m³.

Modeling techniques are not available to predict the impact of the increased VOC emissions on ground-level concentrations of ozone; however, VOC emissions from the modified mill are estimated to account for less than two percent of the total VOC emission burden in Putnam County and, therefore, are not expected to cause a violation of the ozone ambient standard.

No NAAQS exist for TRS since it is not considered harmful to human health. Therefore, an impact analysis for TRS was not performed.

E. Analysis of Impacts on Soils, Vegetation and Visibility and Growth-Related Air Quality Impacts

The maximum ground-level concentrations predicted to occur as a result of the proposed plant expansion at Georgia-Pacific are below all applicable NAAQS, including the secondary standards designed to protect public welfare-related values, and well below levels generally reported for damages to sensitive plant species. Therefore, no adverse impacts on soils and vegetation are expected. Since there are no Class I areas within 100 km of the mill, no adverse impacts on visibility in any such area are expected. Air quality impacts resulting from general commercial, residential, industrial and other growth associated with the plant expansion are expected to be minor since the existing mill is already an important element in the local economy and has been for many years.

F. GEP Stack Height Evaluation

Regulations published by EPA in the Federal Register of February 8, 1982, define GEP stack height as the highest of:

1. 65 meters; or
2. The maximum nearby building height plus 1.5 times the building height or width, whichever is less.

Emissions Unit	<u>Building of Influence*</u>		<u>Stack Height</u>	
	Height (m)	Width (m)	GEP (m)	Modeled (m)
No. 5 Recovery Boiler	65	27	105	76
No. 5 Smelt Tanks(2)	65	31	111	72
No. 5 Lime Kiln	25	14	65	45
No. 5 Combination Boiler	65	27	105	76

* All stacks except the lime kiln stack will be most influenced by the recovery boiler building; the lime kiln stack will be influenced by the lime kiln structure.

VII. CONCLUSIONS

FDER proposes approval of the preliminary determination, with conditions, for the construction of the No. 5 Combination Boiler, No. 5 Recovery Boiler, No. 5 Smelt Tanks (2), No. 5 Lime Kiln and associated pollution control equipment at Georgia-Pacific's existing mill in Palatka, Florida. The determination is made on the basis of information contained in the applications dated June 2, 1981, responses to technical discrepancies dated June 30, 1981, July 31, 1981, August 25, 1981, October 1, 1981, October 9, 1981, October 19, 1981, October 20, 1981, October 27, 1981, and February 22, 1982, the federal public hearing of February 17, 1984, and comments received through March 18, 1984. The determination of approval is contingent upon the specific and general conditions in the following next two sections.

VIII. SPECIFIC CONDITIONS

A. General

1. The applicant shall comply with the provisions and the requirements of the attached General Conditions.
2. As a requirement of this Specific Condition, the applicant shall comply with all emission limits and enforceable restrictions required by the State of Florida's Department of Environmental Regulation (FDER) which may equal or have more restrictive emissions limits and operating requirements than the following Specific Conditions.
3. An operation and maintenance plan of all control systems shall be submitted for approval prior to compliance testing and should address each facility start-up, continuous operation, malfunction, shut-down, soot-blowing, load changing, and emergency.

B. No. 5 Combination Boiler

1. Annual hours of operation are 8760.
2. Maximum steam generation shall not exceed 700,000 pounds per hour (lbs/hr) at 900°F.
3. Maximum bark consumption shall not exceed 254,965 lbs/hr and the a maximum heat input shall not exceed 1083.6×10^6 Btu per hour.
4. Maximum peat consumption shall not exceed 217,869 lbs/hr and the maximum heat input shall not exceed 1005.9×10^6 Btu per hour.

5. New No. 6 Fuel Oil is to be fired only as an auxiliary fuel for startup, shutdown, system checking and emergency. "New" means an oil which has been refined from crude oil and has not been used, and which may or may not contain additives. Maximum sulfur content shall not exceed 2.5 percent (%) by weight. Maximum consumption shall not exceed 40.0 barrels per hour and the maximum heat input shall not exceed 250×10^6 Btu per hour. Fuel sulfur analysis shall be required and submitted to the regulating agency(ies).
6. Maximum allowable particulate matter (PM) emissions shall not exceed $0.10 \text{ lb}/10^6$ Btu heat input, not to exceed 108 lbs/hr for bark and 101 lbs/hr for peat.
7. Maximum allowable sulfur dioxide (SO_2) emissions shall not exceed $0.65 \text{ lb}/10^6$ Btu heat input, not to exceed 704 lbs/hr for bark and 654 lbs/hr for peat. Fuel sulfur analysis shall be required in lieu of installing a SO_2 continuous emissions monitor (40 CFR 60.45) and the analysis shall be submitted to the regulating agency(ies).
8. Maximum allowable nitrogen oxide (NO_x) emissions shall not exceed $0.30 \text{ lb}/10^6$ Btu heat input, not to exceed 325 lbs/hr for bark and 302 lbs/hr for peat. If, after the initial performance test, the NO_x emissions are less than 70% of the applicable standard, a NO_x continuous monitor will not be

required. If the NO_x continuous emissions are greater than 70% of the applicable standard, a NO_x continuous emissions monitor shall be installed within one year after the initial performance test (40 CFR 60.45).

9. Visible emissions (VE) shall not exceed 20% opacity, except for one 6-minute period per hour of not more than 27% opacity. A continuous emissions monitor for opacity shall be required (40 CFR 60.45).
10. PM, SO₂ and NO_x emissions shall be tested in accordance with the provisions of Paragraph 60.46 of 40 CFR 60, Subpart D.
11. Immediately after construction has been completed, initial performance tests for PM, SO₂, and NO_x shall be required. Test procedures shall be EPA reference methods 1, 3, 5, 6, and 7 as published in 40 CFR 60, Appendix A, dated July 1, 1978. Minimum sampling volume and time per run shall be as defined in 40 CFR 60, Subpart D.
12. State construction permit, No. AC 54-43773, expires December 31, 1985.

C. No. 5 Recovery Boiler

1. Annual hours of operation are 8760.
2. Maximum steam generation shall not exceed 607,500 lbs/hr of steam at 900°F.
3. Maximum black liquor, at 65% solids, consumption shall not exceed 230,679 lbs/hr (150,000 lbs/hr black

liquor solids (BLS) dry, 50 tons air dried unbleached pulp (ADUP)) with a maximum heat input not to exceed 990×10^6 Btu per hour, yielding a total of 63,000 lbs/hr of smelt.

4. New No. 6 Fuel Oil is to be fired only as an auxiliary fuel for startup, shutdown, system checking and emergency. "New" means an oil which has been refined from crude oil and has not been used, and which may or may not contain additives. Maximum sulfur content shall not exceed 2.5% by weight. Maximum new No. 6 fuel oil consumption shall not exceed 23.80 barrels per hour and the maximum heat shall not exceed 146×10^6 Btu per hour. Fuel sulfur analysis shall be required and submitted to the regulating agency(ies).
5. Maximum allowable PM emissions shall not exceed 0.044 grain per dry standard cubic foot (gr/DSCF), corrected to 8% oxygen, and not to exceed 75.40 lbs/hr.
6. Maximum allowable total reduced sulfur (TRS) emissions shall not exceed 5 parts per million (ppm) by volume on a dry basis, corrected to 8% oxygen, and not to exceed 5.2 lbs/hr. A continuous emissions monitor for TRS shall be required (40 CFR 60.284).
7. A continuous oxygen monitor shall be required (40 CFR 60.284).

8. Maximum allowable SO₂ emissions shall not exceed 150 ppm by volume on a dry basis, corrected to 8% oxygen, and not to exceed 294 lbs/hr.
9. VE shall not exceed 20% opacity. A continuous emissions monitor for opacity shall be required (40 CFR 60.284).
10. PM, SO₂, TRS, and visible emissions shall be tested in accordance with the provisions of Paragraph 60.285 of 40 CFR 60, Subpart BB.
11. Immediately after construction has been completed, initial performance tests for PM, SO₂, TRS and VE shall be required. Test procedures shall be EPA reference methods 1, 2, 3, 5 or 17, 6, 9, and 16 as published in 40 CFR 60, Appendix A, dated July 1, 1978. Minimum sampling volume and time shall be as defined in 40 CFR 60, Subpart BB.
12. State construction permit, No. AC 54-43791, expires December 31, 1985.

No. 5 Smelt Tanks (2)

1. Annual hours of operation are 8760.
2. Maximum total smelt utilization in the smelt dissolving tanks is 63,000 lbs/hr.
3. Maximum allowable PM emissions shall not exceed 0.20 lb/ton BLS, dry weight, and shall not exceed 15.0 lbs/hr (total).
4. Maximum allowable TRS emissions shall not exceed 0.0168 lb/ton BLS, dry weight, and shall not exceed 1.3 lbs/hr (total).

- oil which has not been used, and which may or may not contain additives. Maximum sulfur content shall not exceed 2.5% by weight. Fuel sulfur analysis shall be required and submitted to the regulating agency(ies).
4. Maximum allowable PM emissions shall not exceed 0.13 gr/DSCF, corrected to 10% oxygen, and not to exceed 29.3 lbs/hr.
 5. Maximum allowable TRS emissions shall not exceed 8 ppm by volume on a dry basis, corrected to 10% oxygen, and not to exceed 1.1 lbs/hr. A continuous emissions monitor for TRS shall be required (40 CFR 60.284).
 6. A continuous oxygen monitor shall be required (40 CFR 60.284).
 7. VE shall not exceed 20% opacity.
 8. A monitor shall be required for the continuous measurement of the pressure loss of the gas stream through the control equipment (40 CFR 60.284).
 9. A monitor shall be required for the continuous measurement of the scrubbing liquid supply pressure to the control equipment (40 CFR 60.284).
 10. PM, TRS, and visible emissions shall be tested in accordance with the provisions of Paragraph 60.285 of 40 CFR 60, Subpart BB.
 11. Immediately after construction has been completed, initial performance tests for PM, TRS, and VE shall be required. Test procedures shall be EPA reference

methods 1, 2, 3, 5 or 17, 9, and 16 as published in 40 CFR 60, Appendix A, dated July 1, 1978. Minimum sampling volume and time shall be as defined in 40 CFR 60, Subpart BB.

12. State construction permit, No. AC 54-43795, expires December 31, 1985.

IX. GENERAL CONDITIONS

1. The permittee shall notify the permitting authority in writing of the beginning of construction of the permitted source within 30 days of such action and the estimated date of start-up of operation.
2. The permittee shall notify the permitting authority in writing of the actual start-up of the permitted source within 30 days of such action and the estimated date of demonstration of compliance as required in the specific conditions.
3. Each emission point for which an emission test method is established in this permit shall be tested in order to determine compliance with the emission limitations contained herein within sixty (60) days of achieving the maximum production rate, but in no event later than 180 days after initial start-up of the permitted source. The permittee shall notify the permitting authority of the scheduled date of compliance testing at least thirty (30) days in advance of such test. Compliance test results shall be submitted to the permitting authority within forty-five (45) days after the complete testing. The permittee shall provide (1) sampling ports adequate for test methods applicable to such facility, (2) safe sampling platforms, (3) safe access to sampling platforms, and (4) utilities for sampling and testing equipment.
4. The permittee shall retain records of all information resulting from monitoring activities and information indicating operating parameters as specified in the specific conditions of this permit for a minimum of two (2) years from the date of recording.
5. If, for any reason, the permittee does not comply with or will not be able to comply with the emission limitations specified in this permit, the permittee shall immediately notify the State District Manager by telephone and provide the District Office and the permitting authority with the following information in writing within four (4) days of such conditions:
 - (a) description for noncomplying emission(s),
 - (b) cause of noncompliance,
 - (c) anticipated time the noncompliance is expected to continue or, if corrected, the duration of the period of noncompliance,

(d) steps taken by the permittee to reduce and eliminate the noncomplying emission,

and

(e) steps taken by the permittee to prevent recurrence of the noncomplying emission.

Failure to provide the above information when appropriate shall constitute a violation of the terms and conditions of this permit. Submittal of this report does not constitute a waiver of the emission limitations contained within this permit.

6. Any change in the information submitted in the application regarding facility emissions or changes in the quantity or quality of materials processed that will result in new or increased emissions must be reported to the permitting authority. If appropriate, modifications to the permit may then be made by the permitting authority to reflect any necessary changes in the permit conditions. In no case are any new or increased emissions allowed that will cause violation of the emission limitations specified herein.
7. In the event of any change in control or ownership of the source described in the permit, the permittee shall notify the succeeding owner of the existence of this permit by letter and forward a copy of such letter to the permitting authority.
8. The permittee shall allow representatives of the State environmental control agency or representatives of the Environmental Protection Agency, upon the presentation of credentials:
 - (a) to enter upon the permittee's premises, or other premises under the control of the permittee, where an air pollutant source is located or in which any records are required to be kept under the terms and conditions of the permit;
 - (b) to have access to any copy at reasonable times any records required to be kept under the terms and conditions of this permit, or the Act;
 - (c) to inspect at reasonable times any monitoring equipment or monitoring method required in this permit;

(d) to sample at reasonable times any emission of pollutants;

and

(e) to perform at reasonable times an operation and maintenance inspection of the permitted source.

9. All correspondence required to be submitted to this permit to the permitting agency shall be mailed to:

Mr. James T. Wilburn
Chief, Air Management Branch
Air & Waste Management Division
U.S. EPA, Region IV
345 Courtland Street, NE
Atlanta, GA 30365

10. The conditions of this permit are severable, and if any provision of this permit, or the application of any provision of this permit to any circumstance, is held invalid, the application of such provision to other circumstances, and the remainder of this permit, shall not be affected thereby.

The emission of any pollutant more frequently or at a level in excess of that authorized by this permit shall constitute a violation of the terms and conditions of this permit.

Technical Evaluation
and
Preliminary Determination

Georgia-Pacific Corporation
Putnam County
Palatka, Florida

Federal Permit Number:

PSD-FL-079

Florida Department of Environmental Regulation
Bureau of Air Quality Management
Central Air Permitting

PUBLIC NOTICE

PSD-FL-079

Georgia-Pacific Corporation proposes to modify its existing kraft pulp mill located in Palatka, Florida. The modification will double production to 2,400 tons per day of unbleached pulp. The new facilities to be constructed include a recovery boiler and associated smelt tanks (2), a lime kiln, and a combination boiler fired by bark and peat. Each new facility will have associated pollution control equipment installed.

The United States Environmental Protection Agency (EPA) has promulgated regulations concerning the Prevention of Significant Deterioration (PSD), 40 CFR 52.21. The proposed action is subject to federal PSD regulations by virtue of an increase over specified emission levels for sulfur dioxide (SO₂), nitrogen oxides (NO_x), carbon monoxide (CO), and volatile organic compounds (VOC).

The net projected emission increase of air pollutants from the affected facilities in tons per year will be:

<u>SO₂</u>	<u>NO_x</u>	<u>CO</u>	<u>VOC</u>
3,567	1,728	1,975	511

By authority of the EPA, the Florida Department of Environmental Regulation (FDER) has reviewed the proposed

construction project under federal regulation 40 CFR 52.21, PSD. The FDER has made a preliminary determination that the construction can be approved provided certain conditions are met. A summary of the basis for this determination and the application for a PSD permit submitted by Georgia-Pacific Corporation are available for public review at the following places:

FDER
 Northeast District
 3426 Bills Road
 Jacksonville, Florida 32207

FDER
 Northeast District Branch
 Office
 825 N. W. 23rd Ave., Suite G
 Gainesville, Florida 32601

FDER
 Bureau of Air Quality Management
 2600 Blair Stone Road
 Tallahassee, Florida 32301

Palatka Public Library
 216 Reid
 Palatka, Florida 32077

The maximum percentage of allowable PSD increment consumed by the proposed project will be:

Class II Increment

<u>Pollutant</u>	<u>Annual</u>	<u>24-Hour</u>	<u>3-Hour</u>
PM	0	0	--
SO ₂	30	16	19

Any person may submit written comments to FDER regarding the proposed construction/modification. All comments postmarked not later than 30 days from the date of this notice will be considered by FDER in making a final determination regarding approval of this project. These comments will be made available for public review at the above locations. All comments should be addressed to:

Mr. C. H. Fancy
Central Air Permitting Section
Bureau of Air Quality Management
Florida Department of Environmental Regulation
2600 Blair Stone Road
Tallahassee, Florida 32301

Furthermore, a public hearing can be requested by any person. Such requests should be submitted in writing within 14 days of the date of this notice. Letters should be addressed to:

Ms. Martha Harrell Hall
Office of General Counsel
Florida Department of Environmental Regulation
2600 Blair Stone Road
Tallahassee, Florida 32301

Technical Evaluation
and
Preliminary Determination
(PSD-FL-079)

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I. APPLICANT AND SITE LOCATION

Georgia-Pacific Corporation
P.O. Box 919
Palatka, Florida 32077

The existing kraft pulp mill to be modified is located on the north-northwest side of S. R. 216 between S. R. 100 and U. S. 17 in Palatka, Putnam County, Florida. The UTM coordinates are Zone 17-434.0 km East and 3283.4 km North.

II. PROJECT AND PROCESS DESCRIPTION

The applicant proposes to modify the existing kraft pulp mill by constructing a recovery boiler (No. 5) and two associated smelt dissolving tanks (No. 5), a combination boiler (No. 5), and a lime kiln (No. 5). Currently, there are two power boilers, a combination boiler, a recovery boiler and two associated smelt dissolving tanks, and a lime kiln operating at the mill. The proposed action will enable the mill to double the unbleached pulp production from the current rate of 1200 tons per day (TPD) to 2,400 TPD. The permitted operating time will be 8760 hours per year.

The proposed combination boiler will fire peat and wood for steam production while the recovery boiler will burn black liquor solids. No. 6 Fuel Oil will be burned in these boilers only for startup, shutdown, emergencies, and system checking. The lime kiln uses lime mud (CaCO_3) in the process and also fires No. 6 Fuel Oil.

Air pollution control equipment will be installed for each proposed new facility.

III. EMISSIONS AND CONTROLS

The five proposed facilities (listed below) will be evaluated for their control(s) of the various pollutant (6) emissions:

- (1) No. 5 Combination Boiler (CB)
- (2) No. 5 Black Liquor Recovery Boiler (RB)
- (3) No. 5 Smelt Dissolving Tanks x 2 (SDTs)
- (4) No. 5 Lime Kiln (LK)

A. Particulate Matter (PM) Emissions Control for the CB, RB, SDTs, and LK

The maximum PM emissions expected from the CB will be from the firing of bark. The projected allowable emissions are 108.36 lbs/hr and 474.62 TPY. To maintain the allowable emission limits, the CB flue gas will be controlled with an electrostatic precipitator (ESP), with an expected efficiency of 99%⁺ and without a mechanical collector precleaner. The visible emissions (VE) of 20% maximum opacity from the CB is in accordance with the NSPS, Subpart D.

The maximum PM emissions expected from the RB are 75.40 lbs/hr and 330.25 TPY. The projected allowable emission limits will be maintained by the use of an ESP, with an expected efficiency of 99%. The VE limit from the RB, not to exhibit 35% opacity or greater, is in accordance with the NSPS, Subpart BB.

The two associated SDTs to the RB will have maximum total projected PM emissions of 15.00 lbs/hr and 65.70 TPY. The projected allowable emission limits will be maintained by the use of a scrubber (each unit will have its own scrubber), with an expected removal efficiency of 98%.

The maximum PM emissions expected from the LK are 29.31 lbs/hr and 128.38 TPY. The projected allowable emission limits will be maintained by the use of a scrubber, with an expected efficiency of 99.7%. The VE of 20% maximum opacity from the LK is in accordance with the EPA declared BACT for this type of unit.

B. Sulfur Dioxide (SO₂) Emissions Control for the CB and RB

The maximum SO₂ emissions expected from the CB will be from the firing of No. 6 Fuel Oil in emergency conditions only. The projected emissions are 704.34 lbs/hr, based on a maximum of 2.5% sulfur content by weight and the permitted maximum allowable BTU heat input from the firing of bark. While firing the permitted fuels, bark and peat, the maximum SO₂ emissions will be emitted from bark. At 100% firing of bark, estimated emissions are 704.34 lbs/hr and 3085.01 TPY. Under normal operations, firing 70% peat and 30% bark, the maximum projected SO₂ emissions are 503.56 lbs/hr and 2205.60 TPY.

For the CB, there will not be any mechanical controls for SO₂ while firing the permitted fuels, peat and bark. The fuels contain a very low sulfur content by weight.

The maximum SO₂ emissions projected from the RB are 243.88 lbs/hr and 1287.19 TPY while firing black liquor (65% solids), based on EPA declared BACT of 150 ppm by volume on a dry basis of SO₂. No controls for SO₂ emissions will be imposed on this facility unless there is a failure to meet the BACT and allowable emission limit imposed.

C. Nitrogen Oxides (NO₂), Carbon Monoxide (CO), and Volatile Organic Compounds (VOC) Emissions Control for the CB, RB, and LK

The maximum NO_x emissions from the CB of 0.30 lb/10⁶ Btu heat input (NSPS) can be achieved through good boiler design and proper operation. No emission limits will be imposed for CO and VOC except good boiler design and proper operation.

Since there are no emission limiting standards for the RB and LK in the NSPS for the pollutants NO_x, CO and VOC, there will be no emission limits imposed, only proper operation.

D. Total Reduced Sulfur (TRS) Emissions Control for the RB, SDT's and LK

The maximum allowable emissions from the RB are 5.20 lbs/hr and 22.78 TPY, and are in accordance with the NSPS, Subpart BB. The same NSPS was imposed on the SDTs and LK with maximum allowable emissions of 1.26 lbs/hr, 5.52 TPY and 1.09 lbs/hr, 4.77 TPY, respectively.

E. Net Emissions of the Proposed Project

Table 1 summarizes the net emissions of all the pollutants regulated under the CAA which will be emitted by the proposed construction. The post-1974 shut-down of lime kilns 1-3 and recovery boilers 1-3 at the existing mill will provide sufficient contemporaneous emission reductions for PM and TRS such that the effect on emissions is a net decrease for both of the pollutants.

As shown by the table, the mill will be a major emitter (>100 TPY) of SO₂, NO_x, CO, and VOC as defined in the PSD regulations. The net emissions of PM and TRS will be below the significant levels and, therefore, these pollutants are not subject to PSD review. Annual permitted hours of operation are 8760.

Table 1

Net Emissions of the Proposed Project

	Emissions (TPY)					
	PM	SO ₂	NO _x	CO	VOC	TRS
<u>Proposed Facilities</u>						
No. 5 Combination Boiler	475	3085	1424	981	282	---
No. 5 Recovery Boiler	330	1287	382	3732	206	23
No. 5 Smelt Tanks(2)	66	--	--	--	--	6
No. 5 Lime Kiln	128	--	402	2142	103	5
Total	999	4372	2208	6855	591	34
<u>Contemporaneous Reduction Facilities</u>						
No. 1 Recovery Boiler	331	207	126	1282	21	537
No. 2 Recovery Boiler	423	296	180	1832	30	768
No. 3 Recovery Boiler	458	286	174	1766	29	745
No. 1 Smelt Tanks	10	4	---	---	--	19
No. 2 Smelt Tanks	15	6	---	---	--	26
No. 3 Smelt Tanks	14	6	---	---	--	25
Total	1251	805	480	4880	80	2120
Difference*	-252	+3567	+1728	+1975	+511	-2086

* Positive sign (+) indicates a net increase; negative sign (-) indicates a net decrease.

F. Maximum Allowable Emissions

Based on the BACT determination for the proposed facilities, the pollutant emissions from each unit shall not exceed the allowable emission limits listed in Table 2. Annual permitted hours of operation are 8760.

Table 2

Maximum Allowable Emissions

Source	Pollutant	Emission Limitation	Emissions (lbs/hr)	
			<u>Bark</u>	<u>Peat</u>
Combination Boiler No. 51	SO ₂	0.65 lb/10 ⁶ Btu heat input (BACT)	704.34	653.84
	NO _x	0.30 lb/10 ⁶ Btu heat input (NSPS)	325.08	301.77
	VE	20% maximum Opacity, except for one 6-minute period per hour of not more than 27% Opacity (NSPS)		
Recovery Boiler No. 52	SO ₂	150 ppm by volume on a dry basis (BACT)	293.88	
	TRS	5 ppm by volume on a dry basis, corrected to 8% oxygen (NSPS)	5.20	
	VE	Not to exhibit 35% Opacity or greater (NSPS)		
Smelt Tanks No. 53	TRS	0.0168 lb/ton black liquor solids, dry weight (NSPS)	1.26(Total)	

Maximum Allowable Emissions

Source	Pollutant	Emission Limitation	Emissions (lbs/hr)
Lime Kiln No. 5 ⁴	TRS	8 ppm by volume on a dry basis, corrected to 10% oxygen (NSPS)	1.09
	VE	20% maximum Opacity (BACT)	

1. Emissions are based on a maximum heat input of 1083.6×10^6 Btu/hr.
2. Emissions are based on a maximum heat input of 990.0×10^6 Btu/hr, 63,000 lbs/hr of smelt, and 230,769 lbs/hr black liquor solids (BLS, 65%).
3. Emissions are based on 150,000 lbs/hr BLS (dry).
4. Emissions are based on 26,300 dscfm.

The maximum allowable emissions are in compliance with all applicable requirements of the New Source Performance Standards (NSPS), Subparts D and BB, and what has been determined to be BACT.

IV. RULE APPLICABILITY

The proposed project (new construction) is subject to preconstruction review under federal Prevention of Significant Deterioration (PSD) regulations, Section 52.21 of Title 40 of the Code of Federal Regulations (40 CFR 52.21) as amended in the Federal Register of August 7, 1980 (45 FR 52676). Specifically,

Georgia-Pacific Corporation's kraft pulp mill is a major existing stationary source (40 CFR 52.21(b)) located in an area currently designated as attainment in accordance with 40 CFR 81.310 for all criteria pollutants regulated under the Clean Air Act (CAA).

The proposed source will be a major modification (40 CFR 52.21(b)(2)) for sulfur dioxide (SO₂), nitrogen oxides (NO_x), volatile organic compounds (VOC), and carbon monoxide (CO). Emissions of SO₂, NO_x, VOC, and CO will increase above the significant criteria set in the PSD regulations. Therefore, the proposed project is subject to PSD review for these pollutants.

This review consists of a determination of Best Available Control Technology (BACT) and, unless otherwise exempted, an analysis of the air quality impact of the increased emissions. The review also includes an analysis of the project's impacts on soils, vegetation and visibility, along with air quality impacts resulting from associated commercial, residential and industrial growth.

The proposed project is also subject to the provisions of the federal New Source Performance Standards (NSPS) for kraft pulp mills and fossil-fuel fired steam generators, 40 CFR 60, Subpart BB and Subpart D, respectively.

V. CONTROL TECHNOLOGY REVIEW

For each facility and each CAA pollutant subject to PSD review, a Best Available Control Technology (BACT) emission standard (See Table 2) is required as a PSD permit condition.

A. No. 5 Combination Boiler

The pollutant emission limits determined as BACT for the combination steam generator for SO₂, NO_x and percent opacity are equal to, or more stringent than the New Source Performance Standards (NSPS), Subpart D. Carbon monoxide does not lend itself to exhaust gas removal techniques. The control of its formation by following the boiler design firing parameters is determined as BACT. The reference methods as provided under subsection 60.46 of the NSPS, Subpart D, shall be used to determine compliance.

B. No. 5 Recovery Boiler

The pollutant emission limits determined as BACT for the recovery boiler for total reduced sulfur (TRS) and percent opacity are equal to NSPS, Subpart BB. The moisture content of the black liquor and the reducing atmosphere above the smelt bed tend to inhibit both flame temperature and oxygen levels in the combustion zone. This normally limits the concentration of NO_x emitted. BACT for the control of NO_x and CO is to maintain furnace operation within range of the design parameters. The SO₂ emission limit has been determined to be BACT by EPA.

C. No. 5 Smelt Tanks (2)

The pollutant emission limit determined as BACT for the Smelt Tanks for TRS is equal to NSPS, Subpart BB.

D. No. 5 Lime Kiln

The pollutant emission limits determined as BACT for the Lime Kiln for the pollutant TRS is equal to NSPS, Subpart BB.

The SO₂ emissions are normally minimized because the CaO can act as an efficient adsorption and reaction medium to convert SO₂ to CaSO₄. Consequently, emission limits for SO₂ were not included in this determination. The percent opacity has been determined to be BACT by the EPA.

The reference methods as provided under subsection 60.285 of the NSPS, Subpart BB, shall be used to determine compliance for the recovery furnace, smelt tanks, and lime kiln.

The Department has reasonable assurance that, at the levels determined as BACT, emissions from the proposed modification would not cause or contribute to a violation of any ambient air quality standard or PSD increment.

VI. Air Quality Impact Analysis

The air quality impact analysis required for SO₂, NO_x, VOC and CO consists of:

- ° An analysis of existing air quality;
- ° A PSD increment analysis (for SO₂ only);
- ° A National Ambient Air Quality Standards (NAAQS) analysis;
- ° An analysis of impacts on soils, vegetation and visibility and of growth-related air quality impacts; and
- ° A "good engineering practice (GEP)" stack height evaluation.

The analysis of existing air quality generally relies on preconstruction ambient air monitoring data collected in accordance with EPA-approved methods. The PSD increment and NAAQS analyses depend on air quality modeling carried out in

accordance with EPA guidelines. Though not required, a particulate matter (PM) air quality impact analysis was performed and has been evaluated by FDER.

Based on these analyses, FDER has reasonable assurance that the proposed Georgia-Pacific kraft pulp mill expansion, as described in this permit and subject to the conditions of approval proposed herein, will not cause or contribute to a violation of any PSD increment or ambient air quality standard. A discussion of the modeling methodology and required analyses follows.

A. Modeling Methodology

Two EPA-approved dispersion models were used to predict ground-level pollutant concentrations. The Industrial Source Complex Long Term (ISCLT) model was used to predict annual concentrations, and the Industrial Source Complex Short Term (ISCST) model was used to predict concentration values for shorter averaging periods.

In the ISCLT, sources within a 50 km radius of the mill were modeled. The receptors were placed at 0.3 km intervals along 10-degree radials beginning at 0.6 km for SO₂ and 0.3 km for PM to identify the periods of worst-case meteorological conditions. The receptor interval was reduced to 0.1 km to refine the predictions of ground-level concentrations for the worst-case periods.

The surface meteorological data used in the models were National Weather Service (NWS) data collected at the Jacksonville International Airport during the period 1970-74. Upper-air

meteorological data used in the ISCST were collected during the same time period by the NWS at Waycross, Georgia.

Stack parameters and emission rates used in evaluating the proposed Georgia-Pacific plant expansion are given in Tables 3 and 4 for the baseline and proposed cases, respectively.

B. Analysis of Existing Air Quality

Four months (from June 12, 1981, through December 12, 1981) of preconstruction ambient air monitoring data were collected by Georgia-Pacific in the vicinity of the existing mill. Three PM monitoring sites, each operated every third day, and one SO₂ continuous monitor, located at the same site as one of the PM samplers, were used. The instruments, all EPA-reference or the equivalent, were sited in accordance with the recommendations given in Ambient Monitoring Guidelines for Prevention of Significant Deterioration (EPA 450/2-78-019) and operated in accordance with the quality assurance procedures of 40 CFR 58, Appendix B. The results of the monitoring program are summarized in the following table.

<u>Pollutant and Time Average</u>	<u>Maximum Concentration (ug/m³)</u>		
	<u>Site 1</u>	<u>Site 2</u>	<u>Site 3*</u>
SO ₂			
Three-hour	332	---	---
24-hour	188	---	---
Four-month**	10	---	---
PM			
24-hour	105	92	70
Four-month***	33	29	29

* Background site

** Arithmetic mean

*** Geometric mean

Table 3: Stack Parameters for Georgia-Pacific - Baseline Case

Emissions Unit	Stack Height (m)	Stack Diameter (m)	Exit Velocity (m/s)	Exit Temp. (K)	PM Emission Rate		SO ₂ Emission Rate	
					Annual (g/s)	Short-Term (g/s)	Annual (g/s)	Short-Term (g/s)
Rcvry. Blr. 1	76.20	3.66	3.41	360.0	9.93	9.93	6.21	6.21
Rcvry. Blr. 2	76.20	3.66	5.40	372.0	12.69	12.69	8.88	8.88
Rcvry. Blr. 3	40.53	3.41	7.28	372.0	13.73	13.73	8.58	8.58
Rcvry. Blr. 4	70.10	3.66	16.86	474.0	20.98	20.98	34.97	34.97
Smelt Tank 1	30.48	0.76	7.53	366.0	0.30	0.30	0.13	0.13
Smelt Tank 2	30.48	0.91	9.51	375.0	0.45	0.45	0.18	0.18
Smelt Tank 3	33.22	0.76	3.57	369.0	0.42	0.42	0.18	0.18
Smelt Tank 4	67.70	1.52	8.26	346.0	3.81	3.81	0.71	0.71
Lime Kiln 1	15.24	1.28	5.24	401.0	22.68	22.68	0.24	0.24
Lime Kiln 2	15.85	1.71	10.67	341.0	11.97	11.97	0.24	0.24
Lime Kiln 3	15.85	1.71	8.47	342.0	11.72	11.72	0.48	0.48
Lime Kiln 4	45.42	1.31	16.46	351.0	1.57	3.98	1.40	1.40
Power Blr. 4	37.19	1.22	14.54	477.0	1.69	1.69	34.29	45.22
Power Blr. 5	76.20	2.74	15.97	520.0	5.35	5.85	134.00	161.15
Combo. Blr. 4	76.20	3.05	10.52	477.0	73.67	89.69	29.00	121.28

Table 4: Stack Parameters for Georgia-Pacific - Proposed Case

Emissions Unit	Stack Height (m)	Stack Diameter (m)	Exit Velocity (m/s)	Exit Temp. (K)	PM Emission Rate (g/s)	SO ₂ Emission Rate (g/s)
Rcvry. Blr. 4	70.10	3.66	16.86	474.0	20.98	34.97
Rcvry. Blr. 5	76.20	4.02	13.93	474.0	9.50	37.03
Smelt Tank 4	67.70	1.52	8.26	346.0	3.81	0.71
Smelt Tank 5	76.20	1.52	8.26	346.0	1.89	0.66
Lime Kiln 4	45.42	1.31	16.46	351.0	3.98	1.40
Lime Kiln 5	45.42	1.31	16.46	351.0	3.69	1.32
Power Blr. 4	37.19	1.22	14.54	477.0	1.69	45.22
Power Blr. 5	76.20	2.74	15.97	520.0	5.85	161.15
Combo. Blr. 4	76.20	3.05	10.52	477.0	14.74	121.28
Combo. Blr. 5	76.20	3.66	15.39	450.0	13.65	88.75

C. PSD Increment Analysis

The Georgia-Pacific mill is located in an area where the Class II PSD increments apply. The nearest Class I area is more than 100 km from the site; therefore, no analysis of Class I area impacts was performed.

Increment availability in the area is affected by increased SO₂ emissions at Florida Power and Light (FPL) Company's Putnam plant, increased PM emissions at FPL's Palatka plant, increased SO₂ and PM emissions projected to result from construction of the Seminole Electric Cooperative coal-fired plant, and decreased SO₂ and PM emissions resulting from the post-1974 shutdown of lime kilns 1-3 and recovery boilers 1-3 at the Georgia-Pacific mill. As shown in the following table, modeling results predict no violation of any applicable PSD increment in the vicinity of the mill as a result of the proposed plant expansion in combination with the other increment-affecting emission changes in the area.

<u>Pollutant and Time Average</u>	<u>Class II Increment (ug/m³)</u>	<u>Predicted Increase (ug/m³)</u>	<u>Percent Increment Consumed</u>
SO ₂			
Three-hour*	512	104	20
24-hour*	91	16	18
Annual	20	6	30
PM			
24-hour*	37	<0	0
Annual	19	<0	0

* Not to be exceeded more than once per year.

In addition, modeling results predict no violation of any increment in the vicinities of the Seminole Electric Cooperative and FPL plants as a result of the proposed plant expansion at Georgia-Pacific.

D. NAAQS Analysis

Given background pollutant concentrations in the area due to distant and natural sources, modeling results predict that the Georgia-Pacific mill, as proposed to be modified, will not cause or contribute to a violation of any ambient air quality standard. Background concentrations considered typical of remote areas were used in the NAAQS analysis. The PM background values used in the analysis were slightly higher than those observed at the background site during the four-month ambient monitoring program conducted by Georgia-Pacific.

Results of the NAAQS analysis are summarized in the following table.

<u>Pollutant, Units, and Time Average</u>	<u>Estimated Background Concentration</u>	<u>Predicted Impact of Modified Mill</u>	<u>Total Impact</u>	<u>NAAQS</u>
SO ₂ (ug/m ³)				
Three-hour*	20	409	429	1300**
24-hour*	20	113	133	365
Annual	20	22	42	80
PM (ug/m ³)				
24-hour*	80	28	108	150***
Annual	40	4	44	75
NO ₂ (ug/m ³)				
Annual	20	19	39	100
CO (mg/m ³)				
One-hour*	1	<1	1	40
Eight-hour*	1	<1	1	10

- * Not to be exceeded more than once per year.
- ** Secondary standard.
- *** Secondary standard; primary standard is 260 ug/m³.

Modeling techniques are not available to predict the impact of the increased VOC emissions on ground-level concentrations of ozone; however, VOC emissions from the modified mill are estimated to account for less than two percent of the total VOC emission burden in Putnam County and, therefore, are not expected to cause a violation of the ozone ambient standard.

E. Analysis of Impacts on Soils, Vegetation and Visibility and Growth-Related Air Quality Impacts

The maximum ground-level concentrations predicted to occur as a result of the proposed plant expansion at Georgia-Pacific are below all applicable NAAQS, including the secondary standards designed to protect public welfare-related values, and well below levels generally reported for damages to sensitive plant species. Therefore, no adverse impacts on soils and vegetation are expected. Since there are no Class I areas within 100 km of the mill, no adverse impacts on visibility in any such area are expected. Air quality impacts resulting from general commercial, residential, industrial and other growth associated with the plant expansion are expected to be minor since the existing mill is already an important element in the local economy and has been for many years.

F. GEP Stack Height Evaluation

Regulations published by EPA in the Federal Register of February 8, 1982, define GEP stack height as the highest of:

1. 65 meters; or
2. The maximum nearby building height plus 1.5 times the building height or width, whichever is less.

While the actual stack height employed can exceed this height, the stack height used in modeling to determine compliance with the NAAQS and PSD increments cannot. As shown in the following table, the stack heights used in modeling the proposed new emission units at the Georgia-Pacific mill do not exceed the GEP limits.

Emissions Unit	Building of Influence*		Stack Height	
	Height (m)	Width (m)	GEP (m)	Modeled (m)
No. 5 Recovery Boiler	65	27	105	76
No. 5 Smelt Tanks(2)	65	31	111	72
No. 5 Lime Kiln	25	14	65	45
No. 5 Combination Boiler	65	27	105	76

* All stacks except the lime kiln stacks will be most influenced by the recovery boiler building; the lime kiln stacks will be influenced by the lime kiln structure.

VII. CONCLUSIONS

FDER proposes approval of the preliminary determination, with conditions for the construction of the No. 5 Combination Boiler, No. 5 Recovery Boiler, No. 5 Smelt Tanks (2), No. 5 Lime Kiln and associated pollution control equipment at Georgia-Pacific's existing mill in Palatka, Florida. The determination is made on the basis of information contained in the applications dated June 2, 1981, responses to technical discrepancies dated June 30, 1981 July 31, 1981, August 25, 1981, October 1, 1981, October 9, 1981, October 19, 1981, October 20, 1981, October 27, 1981, and February 22, 1982. The determination of approval is contingent upon the specific and general conditions in the following next two sections.

VIII. SPECIFIC CONDITIONS

A. General

1. The applicant must comply with the provisions and the requirements of the attached General Conditions.
2. As a requirement of this Specific Condition, the applicant will comply with all emission limits and enforceable restrictions required by the State of Florida's Department of Environmental Regulation (FDER) which may equal or have more restrictive emissions limits and operating requirements than the following Specific Conditions.

B. No. 5 Combination Boiler

1. Annual hours of operation are 8760.
2. Maximum steam generation shall not exceed 700,000 pounds per hour (lbs/hr) at 900°F.
3. Maximum bark consumption will be 254,965 lbs/hr with a maximum heat input not to exceed 1083.6×10^6 Btu per hour.
4. Maximum peat consumption will be 217,869 lbs/hr with a maximum heat input not to exceed 1005.9×10^6 Btu per hour.
5. No. 6 Fuel Oil is to be fired only as an auxiliary fuel for startup, shutdown, system checking and emergency. Maximum sulfur content shall not exceed 2.5 percent (%) by weight. Maximum consumption will be 40.0 barrels per hour with a maximum heat input not to exceed 250×10^6 Btu per hour. Fuel sulfur analysis shall be required.

6. Maximum allowable particulate matter (PM) emissions shall be 0.10 lb/10⁶ Btu heat input, not to exceed 108.36 lbs/hr for bark and 100.59 lbs/hr for peat.
7. Maximum allowable sulfur dioxide (SO₂) emissions shall be 0.65 lb/10⁶ Btu heat input, not to exceed 704.34 lbs/hr for bark and 653.84 lbs/hr for peat. Fuel sulfur analysis shall be required in lieu of installing a SO₂ continuous monitor (40 CFR 60.45).
8. Maximum allowable nitrogen oxide (NO_x) emissions shall be 0.30 lb/10⁶ Btu heat input, not to exceed 325.08 lbs/hr for bark and 301.77 lbs/hr for peat. If, after the initial performance test, the NO_x emissions are less than 70% of the applicable standard, a NO_x continuous monitor will not be required. If the NO_x emissions are greater than 70% of the applicable standard, a NO_x continuous monitor shall be installed within one year after the initial performance test (40 CFR 60.45).
9. Visible emissions (VE) shall not exceed 20% opacity, except for one 6-minute period per hour of not more than 27% opacity. A continuous monitor shall be required (40 CFR 60.45).
10. PM, SO₂ and NO_x emissions shall be tested in accordance with the provisions of Paragraph 60.46 of 40 CFR 60, Subpart D.
11. Immediately after construction has been completed, initial performance tests for PM, SO₂, and NO_x shall be required. Test procedures will be EPA

reference methods 1, 3, 5, 6, and 7 as published in 40 CFR 60, Appendix A, dated July 1, 1978. Minimum sampling volume and time per run shall be as defined in 40CFR 60, Subpart D.

12. State construction permit No. AC 54-43773, expires December 31, 1983.

C. No. 5 Recovery Boiler

1. Annual hours of operation are 8760.
2. Maximum steam generation shall not exceed 607,500 lbs/hr of steam at 900°F.
3. Maximum black liquor, at 65% solids, consumption will be 230,679 lbs/hr (150,000 lbs/hr black liquor solids (BLS) dry, 50 tons air dried unbleached pulp (ADUP)) with a maximum heat input not to exceed 990×10^6 Btu per hour, yielding a total of 63,000 lbs/hr of smelt.
4. No. 6 Fuel Oil is to be fired only as an auxiliary fuel for startup, shutdown, system checking and emergency. Maximum sulfur content shall not exceed 2.5% by weight. Maximum consumption will be 23.80 barrels per hour with a maximum heat input not to exceed 146×10^6 Btu per hour. Fuel sulfur analysis shall be required.
5. Maximum allowable PM emissions shall be 0.044 grain per dry standard cubic foot (gr/DSCF), corrected to 8% oxygen, and not to exceed 75.40 lbs/hr.

6. Maximum allowable total reduced sulfur (TRS) emissions will be 5 parts per million (ppm) by volume on a dry basis, corrected to 8% oxygen, and not to exceed 5.20 lbs/hr. A continuous monitor shall be required (40 CFR 60.284).
7. A continuous oxygen monitor shall be required (40 CFR 60.284).
8. Maximum allowable SO₂ emissions will be 150 ppm by volume on a dry basis, corrected to 8% oxygen, and not to exceed 293.88 lbs/hr.
9. VE shall not exhibit 35% opacity or greater. A continuous monitor shall be required (40 CFR 60.284).
10. PM, SO₂, TRS, and visible emissions shall be tested in accordance with the provisions of Paragraph 60.285 of 40 CFR 60, Subpart BB.
11. Immediately after construction has been completed, initial performance tests for PM, SO₂, TRS and VE shall be required. Test procedures will be EPA reference methods 1, 2, 3, 5 or 17, 6, 9, and 16 as published in 40 CFR 60, Appendix A, dated July 1, 1978. Minimum sampling volume and time shall be as defined in 40 CFR 60, Subpart BB.
12. State construction permit, No. AC 54-43791, expires December 31, 1985.

D. No. 5 Smelt Tanks(2)

1. Annual hours of operation are 8760.
2. Maximum total smelt utilization in the smelt dissolving tanks is 63,000 lbs/hr.
3. Maximum allowable PM emissions will be 0.20 lb/ton BLS, dry weight; and shall not exceed 15.0 lbs/hr (total).
4. Maximum allowable TRS emissions will be 0.0168 lb/ton BLS, dry weight, and shall not exceed 1.26 lbs/hr (total).
5. A monitor shall be required for the continuous measurement of the pressure loss of the gas stream through the control equipment (40 CFR 60.284).
6. A monitor shall be required for the continuous measurement of the scrubbing liquid supply pressure to the control equipment (40 CFR 60.284).
7. PM and TRS emissions shall be tested in accordance with the provisions of Paragraph 60.285 of 40 CFR 60, Subpart BB.
8. Immediately after construction has been completed, initial performance tests for PM and TRS shall be required. Test procedures will be EPA reference methods 1, 2, 3, 5 or 17, and 16 as published in 40 CFR 60, Appendix A, dated July 1, 1978. Minimum sampling volume and time shall be as defined in 40 CFR 60, Subpart BB.

9. State construction permit, No. AC 54-43791, expires December 31, 1985.

E. No. 5 Lime Kiln

1. Annual hours of operation are 8760.
2. Maximum total process input rate shall not exceed 63,229 lbs/hr. Maximum product rate of 90% CaO shall not exceed 26,667 lbs/hr.
3. Maximum No. 6 Fuel Oil consumption will be 16.60 barrels per hour with a maximum heat input not to exceed 102×10^6 Btu per hour. Maximum sulfur content shall not exceed 2.5% by weight. Fuel sulfur analysis shall be required.
4. Maximum allowable PM emissions shall be 0.13 gr/DSCF, corrected to 10% oxygen, and not to exceed 29.31 lbs/hr.
5. Maximum allowable TRS emissions shall be 8 ppm by volume on a dry basis, corrected to 10% oxygen, and not to exceed 1.09 lbs/hr. A continuous monitor shall be required (40 CFR 60.284).
6. A continuous oxygen monitor shall be required (40 CFR 60.284).
7. VE shall not exceed 20% opacity.
8. A monitor shall be required for the continuous measurement of the pressure loss of the gas stream through the control equipment (40 CFR 60.284).

9. A monitor shall be required for the continuous measurement of the scrubbing liquid supply pressure to the control equipment (40 CFR 60.284).
10. PM, TRS, and visible emissions shall be tested in accordance with the provisions of Paragraph 60.285 of 40 CFR 60, Subpart BB.
11. Immediately after construction has been completed, initial performance tests for PM, TRS, and VE shall be required. Test procedures will be EPA reference methods 1, 2, 3, 5 or 17, 9, and 16 as published in 40 CFR 60, Appendix A, dated July 1, 1978. Minimum sampling volume and time shall be as defined in 40 CFR 60, subpart BB.
12. State construction permit, No. AC 54-43795, expires December 31, 1985.

IX. GENERAL CONDITIONS

1. The permittee shall notify the permitting authority in writing of the beginning of construction of the permitted source within 30 days of such action and the estimated date of start-up of operation.
2. The permittee shall notify the permitting authority in writing of the actual start-up of the permitted source within 30 days of such action and the estimated date of demonstration of compliance as required in the specific conditions.
3. Each emission point for which an emission test method is established in this permit shall be tested in order to determine compliance with the emission limitations contained herein within sixty (60) days of achieving the maximum production rate, but in no event later than 180 days after initial start-up of the permitted source. The permittee shall notify the permitting authority of the scheduled date of compliance testing at least thirty (30) days in advance of such test. Compliance test results shall be submitted to the permitting authority within forty-five (45) days after the complete testing. The permittee shall provide (1) sampling ports adequate for test methods applicable to such facility, (2) safe sampling platforms, (3) safe access to sampling platforms, and (4) utilities for sampling and testing equipment.
4. The permittee shall retain records of all information resulting from monitoring activities and information indicating operating parameters as specified in the specific conditions of this permit for a minimum of two (2) years from the date of recording.
5. If, for any reason, the permittee does not comply with or will not be able to comply with the emission limitations specified in this permit, the permittee shall immediately notify the State District Manager by telephone and provide the District Office and the permitting authority with the following information in writing within four (4) days of such conditions:
 - (a) description for noncomplying emission(s),
 - (b) cause of noncompliance,
 - (c) anticipated time the noncompliance is expected to continue or, if corrected, the duration of the period of noncompliance,

(d) steps taken by the permittee to reduce and eliminate the noncomplying emission,

and

(e) steps taken by the permittee to prevent recurrence of the noncomplying emission.

Failure to provide the above information when appropriate shall constitute a violation of the terms and conditions of this permit. Submittal of this report does not constitute a waiver of the emission limitations contained within this permit.

6. Any change in the information submitted in the application regarding facility emissions or changes in the quantity or quality of materials processed that will result in new or increased emissions must be reported to the permitting authority. If appropriate, modifications to the permit may then be made by the permitting authority to reflect any necessary changes in the permit conditions. In no case are any new or increased emissions allowed that will cause violation of the emission limitations specified herein.
7. In the event of any change in control or ownership of the source described in the permit, the permittee shall notify the succeeding owner of the existence of this permit by letter and forward a copy of such letter to the permitting authority.
8. The permittee shall allow representatives of the State environmental control agency or representatives of the Environmental Protection Agency, upon the presentation of credentials:
 - (a) to enter upon the permittee's premises, or other premises under the control of the permittee, where an air pollutant source is located or in which any records are required to be kept under the terms and conditions of the permit;
 - (b) to have access to any copy at reasonable times any records required to be kept under the terms and conditions of this permit, or the Act;
 - (c) to inspect at reasonable times any monitoring equipment or monitoring method required in this permit;

(d) to sample at reasonable times any emission of pollutants;

and

(e) to perform at reasonable times an operation and maintenance inspection of the permitted source.

9. All correspondence required to be submitted to this permit to the permitting agency shall be mailed to:

Mr. James T. Wilburn
Chief, Air Management Branch
Air & Waste Management Division
U.S. EPA, Region IV
345 Courtland Street, NE
Atlanta, GA 30365

10. The conditions of this permit are severable, and if any provision of this permit, or the application of any provision of this permit to any circumstance, is held invalid, the application of such provision to other circumstances, and the remainder of this permit, shall not be affected thereby.

The emission of any pollutant more frequently or at a level in excess of that authorized by this permit shall constitute a violation of the terms and conditions of this permit.