

Florida Department of Environmental Regulation

Twin Towers Office Bldg. • 2600 Blair Stone Road • Tallahassee, Florida 32399-2400

Lawton Chiles, Governor

Carol M. Browner, Secretary

April 22, 1991

CERTIFIED MAIL-RETURN RECEIPT REQUESTED


Mr. Henry Hirschman, General Manager
Georgia-Pacific Corporation
P. O. Box 919
Palatka, Florida 32078-0919

Dear Mr. Hirschman:

Attached is one copy of the Technical Evaluation and Preliminary Determination and proposed permits for Georgia-Pacific Corporation to implement modifications/enhancements on the No. 4 recovery Boiler (RB) and No. 4 Lime Kiln, which have the potential to increase their total process input and product rates and potential pollutant emissions. The No. 4 Smelt Dissolving Tanks (North and South units) will also have the potential to increase the total process input rate of smelt and the potential pollutant emissions due to the increase of black liquor solids burned in the No. 4 RB. The proposed modification will result in new source review for Prevention of Significant Deterioration for the pollutants PM (particulate matter), PM₁₀, NO_x (nitrogen oxides), CO (carbon monoxide), and VOC (volatile organic compounds) pursuant to F.A.C. Rule 17-2.500(5).

Please submit any written comments you wish to have considered concerning the Department's proposed action to Mr. Barry Andrews of the Bureau of Air Regulation.

Sincerely,


C. H. Fancy, P.E.
Chief
Bureau of Air Regulation

CHF/BM/plm

Attachments

c: J. Harper, EPA
A. Kutyna, NE District
D. A. Buff, P.E., KBN
V. L. Adams, G-PC

BEFORE THE STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

In the Matter of
Applications for Permits by:

Georgia-Pacific Corporation
P. O. Box 919
Palatka, Florida 32078-0919

DER File Nos. AC 54-192250
AC 54-192251
AC 54-193841 ✓
PSD-FL-171

INTENT TO ISSUE

The Department of Environmental Regulation hereby gives notice of its intent to issue permits (copy attached) for the proposed project as detailed in the applications specified above. The Department is issuing this Intent to Issue for the reasons stated in the attached Technical Evaluation and Preliminary Determination.

The applicant, Georgia-Pacific Corporation, applied on February 13, 1991, to the Department of Environmental Regulation for permits to implement modifications/enhancements on the No. 4 recovery Boiler (RB) and No. 4 Lime Kiln, which have the potential to increase their total process input and product rates and potential pollutant emissions. The No. 4 Smelt Dissolving Tanks (North and South units) will also have the potential to increase the total process input rate of smelt and the potential pollutant emissions due to the increase of black liquor solids burned in the No. 4 RB. The proposed modification will result in new source review for Prevention of Significant Deterioration for the pollutants PM (particulate matter), PM₁₀, NO_x (nitrogen oxides), CO (carbon monoxide), and VOC (volatile organic compounds) pursuant to F.A.C. Rule 17-2.500(5). The proposed project will occur at the applicant's mill/facility located in Palatka, Putnam County, Florida.

The Department has permitting jurisdiction under Chapter 403, Florida Statutes, and Florida Administrative Code Rules 17-2 and 17-4. The project is not exempt from permitting procedures. The Department has determined that air construction permits are required for the proposed work.

Pursuant to Section 403.815, F.S. and DER Rule 17-103.150, F.A.C., you (the applicant) are required to publish at your own expense the enclosed Notice of Intent to Issue Permits. The notice shall be published one time only within 30 days, in the legal ad section of a newspaper of general circulation in the area affected. For the purpose of this rule, "publication in a newspaper of general circulation in the area affected" means publication in a newspaper meeting the requirements of Sections 50.011 and 50.031, F.S., in the

county where the activity is to take place. The applicant shall provide proof of publication to the Department, at the address specified within seven days of publication. Failure to publish the notice and provide proof of publication within the allotted time may result in the denial of the permits.

The Department will issue the permits with the attached conditions unless a petition for an administrative proceeding (hearing) is filed pursuant to the provisions of Section 120.57, F.S.

A person whose substantial interests are affected by the Department's proposed permitting decision may petition for an administrative proceeding (hearing) in accordance with Section 120.57, Florida Statutes. The petition must contain the information set forth below and must be filed (received) in the Office of General Counsel of the Department at 2600 Blair Stone Road, Tallahassee, Florida 32399-2400. Petitions filed by the permit applicant and the parties listed below must be filed within 14 days of receipt of this intent. Petitions filed by other persons must be filed within 14 days of publication of the public notice or within 14 days of receipt of this intent, whichever first occurs. Petitioner shall mail a copy of the petition to the applicant at the address indicated above at the time of filing. Failure to file a petition within this time period shall constitute a waiver of any right such person may have to request an administrative determination (hearing) under Section 120.57, Florida Statutes.

The Petition shall contain the following information;

(a) The name, address, and telephone number of each petitioner, the applicant's name and address, the Department Permit File Number and the county in which the project is proposed;

(b) A statement of how and when each petitioner received notice of the Department's action or proposed action;

(c) A statement of how each petitioner's substantial interests are affected by the Department's action or proposed action;

(d) A statement of the material facts disputed by Petitioner, if any;

(e) A statement of facts which petitioner contends warrant reversal or modification of the Department's action or proposed action;

(f) A statement of which rules or statutes petitioner contends require reversal or modification of the Department's action or proposed action; and,

(g) A statement of the relief sought by petitioner, stating precisely the action petitioner wants the Department to take with respect to the Department's action or proposed action.

If a petition is filed, the administrative hearing process is designed to formulate agency action. Accordingly, the Department's final action may be different from the position taken by it in this notice. Persons whose substantial interests will be affected by any decision of the Department with regard to the applications have the

right to petition to become a party to the proceeding. The petition must conform to the requirements specified above and be filed (received) within 14 days of publication of this notice in the Office in General Counsel at the above address of the Department. Failure to petition within the allowed time frame constitutes a waiver of any right such person has to request a hearing under Section 120.57, F.S., and to participate as a party to this proceeding. Any subsequent intervention will only be at the approval of the presiding officer upon motion filed pursuant to Rule 28-5.207, F.A.C.

Executed in Tallahassee, Florida.

STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL REGULATION



C. H. Fancy, P.E.
Chief,
Bureau of Air Regulation

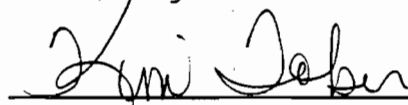
Copies furnished to:

J. Harper, EPA
A. Kutyna, NE District
D. A. Buff, P.E., KBN
V. L. Adams, G-PC

CERTIFICATE OF SERVICE

The undersigned duly designated deputy clerk hereby certifies that this NOTICE OF INTENT TO ISSUE and all copies were mailed before the close of business on 4-23-91.

FILING AND ACKNOWLEDGEMENT
FILED, on this date, pursuant to
§120.52(9), Florida Statutes, with
the designated Department Clerk,
receipt of which is hereby
acknowledged.


Clerk

4-23-91
Date

State of Florida
Department of Environmental Regulation
Notice of Intent to Issue

The Department of Environmental Regulation hereby gives notice of its intent to issue permits to Georgia-Pacific Corporation, P. O. Box 919, Palatka, Florida 32078-0919, to modify/enhance the No. 4 Recovery Boiler (RB) and the No. 4 Lime Kiln, which have the potential to increase the through-put rates of raw materials and the potential pollutant emissions. An increase in black liquor solids burning in the No. 4 RB will, therefore, increase the smelt through-put rate and the potential pollutant emissions of the No. 4 Smelt Dissolving Tanks (North and South units). The proposed modification is subject to new source review for Prevention of Significant Deterioration (PSD) for the pollutants PM (particulate matter), PM₁₀, NO_x (nitrogen oxides), CO (carbon monoxide), and VOC (volatile organic compounds). There is a decrease in overall particulate emissions from the PSD baseline period. Therefore, no Class I or Class II particulate matter PSD increment will be consumed by this project. A determination of Best Available Control Technology (BACT) was required. The Department is issuing this Intent to Issue for the reasons stated in the Technical Evaluation and Preliminary Determination.

A person whose substantial interests are affected by the Department's proposed permitting decision may petition for an administrative proceeding (hearing) in accordance with Section 120.57, Florida Statutes. The petition must contain the information set forth below and must be filed (received) in the Office of General Counsel of the Department at 2600 Blair Stone Road, Tallahassee, Florida 32399-2400, within fourteen (14) days of publication of this notice. Petitioner shall mail a copy of the petition to the applicant at the address indicated above at the time of filing. Failure to file a petition within this time period shall constitute a waiver of any right such person may have to request an administrative determination (hearing) under Section 120.57, Florida Statutes.

The Petition shall contain the following information:

- (a) The name, address, and telephone number of each petitioner, the applicant's name and address, the Department Permit File Number and the county in which the project is proposed;
- (b) A statement of how and when each petitioner received notice of the Department's action or proposed action;
- (c) A statement of how each petitioner's substantial interests are affected by the Department's action or proposed action;
- (d) A statement of the material facts disputed by Petitioner, if any;
- (e) A statement of facts which petitioner contends warrant reversal or modification of the Department's action or proposed action;

(f) A statement of which rules or statutes petitioner contends require reversal or modification of the Department's action or proposed action; and,

(g) A statement of the relief sought by petitioner, stating precisely the action petitioner wants the Department to take with respect to the Department's action or proposed action.

If a petition is filed, the administrative hearing process is designed to formulate agency action. Accordingly, the Department's final action may be different from the position taken by it in this Notice. Persons whose substantial interests will be affected by any decision of the Department with regard to the applications have the right to petition to become a party to the proceeding. The petition must conform to the requirements specified above and be filed (received) within 14 days of publication of this notice in the Office of General Counsel at the above address of the Department. Failure to petition within the allowed time frame constitutes a waiver of any right such person has to request a hearing under Section 120.57, F.S., and to participate as a party to this proceeding. Any subsequent intervention will only be at the approval of the presiding officer upon motion filed pursuant to Rule 28-5.207, F.A.C.

The applications are available for public inspection during business hours, 8:00 a.m. to 5:00 p.m., Monday through Friday, except legal holidays, at:

Department of Environmental Regulation
Bureau of Air Regulation
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

Department of Environmental Regulation
Northeast District Office
7825 Baymeadows Way
Jacksonville, Florida 32256-7577

Any person may send written comments on the proposed action to Mr. Barry Andrews at the Department's Tallahassee address. All comments mailed within 30 days of the publication of this notice will be considered in the Department's final determination. A public hearing can be requested by any person. Such requests must be submitted within 30 days of this notice.

Technical Evaluation
and
Preliminary Determination

Georgia-Pacific Corporation
Putnam County
Palatka, Florida

Construction Permit Numbers:

AC 54-192250
AC 54-192251
AC 54-193841
PSD-FL-171

Florida Department of Environmental Regulation
Division of Air Resources Management
Bureau of Air Regulation

April 22, 1991

I. Application

A. Applicant

Georgia-Pacific Corporation
P. O. Box 919
Palatka, Florida 32078-0919

B. Project and Location

The applicant intends to implement modifications/enhancements on the existing No. 4 Recovery Boiler (RB) and No. 4 Lime Kiln (LK), which have the potential to increase their total process input and product rates and potential pollutant emissions. The No. 4 Smelt Dissolving Tanks (SDTs; North and South units) will also have the potential to increase the total process input rate of smelt and the potential pollutant emissions due to the increase of black liquor solids burned in the No. 4 RB. The proposed modification will take place at its existing facility/kraft paper mill located in Palatka, Putnam County, Florida. These enhancements include:

- o No. 4 RB:
 - 1) replacement of the entire furnace bottom; and,
 - 2) the new furnace bottom will be installed with primary, secondary and tertiary air nozzles and will also have a tertiary forced-draft fan added to complement the existing forced draft fan.
- o No. 4 LK:
 - 1) change out the existing ploughs with new ones; and,
 - 2) installation of a new dam.

The proposed maximum total process input rate for BLS burning in the No. 4 RB is 210,000 lbs/hr, while the current maximum capacity is 189,000 lbs/hr. The potential increased input rate in the No. 4 RB will have a direct affect on the associated No. 4 SDTs. The proposed maximum total process input rate for the smelt in No. 4 SDTs is 85,890 lbs/hr, while the current maximum capacity is 77,280 lbs/hr. The No. 4 SDTs are capable of accommodating the increase in smelt without a physical modification. There will be no change requested in the No. 4 LK's maximum process input rate of CaCO_3 and inerts.

The UTM coordinates are Zone 17, 434.0 km East and 3,283.4 km North.

C. Process and Controls

1. No. 4 RB

Black liquor at approximately 65% solids (BLS) is fired in the No. 4 RB for the Btu value to generate heat for steam production. The resulting product from burning the BLS is smelt. Particulate matter (PM/PM₁₀) emissions and visible emissions are controlled with an electrostatic precipitator (ESP), Model No. 370741 made by Environmental Elements with a minimum collection efficiency of 99% for PM of submicron size.

2. No. 4 SDTs:

The smelt flows out of the bottom of the No. 4 RB into one and/or both of the No. 4 SDTs system, consisting of a North and South unit, where the smelt is mixed with weak liquor to form green liquor. The emissions of PM/PM₁₀ and total reduced sulfur (TRS) and visible emissions are controlled with a venturi scrubber system, having a minimum control efficiency of 95% for PM of submicron size and 99% for TRS.

3. No. 4 LK

Calcium carbonate and inerts are calcined through the lime kiln producing a calcium oxide product of 90% CaO. Sulfur oxide (SO₂-SO₃) emissions are naturally scrubbed out while traveling through the lime mud being calcined. The emissions of PM/PM₁₀ and TRS and visible emissions are controlled with a Zurn wet scrubber system, having a minimum control efficiency of 99.0% for PM of submicron size.

D. The Source Classification Codes are:

- o No. 4 Lime Kiln 3-07-001-06 tons ADUP
 - o No. 4 SDTs 3-07-001-05 tons ADUP
 - o No. 4 Recovery Boiler 3-07-001-04 tons ADUP
- *Note: ADUP stands for air dried unbleached pulp.

II. Rule Applicability

The proposed modification is subject to preconstruction review pursuant to Chapter 403, Florida Statutes, Florida Administrative Code (F.A.C.) Chapters 17-2 and 17-4, and 40 CFR (July, 1990 version).

The application package was deemed complete on March 25, 1991.

The facility/mill is located in an area designated attainment for all of the criteria pollutants pursuant to Part IV, F.A.C. Chapter 17-2.

The mill is a major emitting facility in accordance with F.A.C. Rule 17-2.100, Definitions. The type of facility is located in Table 500-1, F.A.C. Chapter 17-2, Major Facility Categories. Therefore, any significant emissions increase of any pollutant contained in Table 500-2, F.A.C. Chapter 17-2, Significant Emissions Rates, are subject to new source review (NSR) pursuant to F.A.C. 17-2.500(5), Prevention of Significant Deterioration (PSD), which includes the application of BACT (Best Available Control Technology) to the affected pollutants in accordance with F.A.C. Rule 17-2.630.

Based on a comparison of the affected sources "actual" pollutant emissions to their future "potential/allowable emissions", the following pollutants are subject to NSR pursuant to F.A.C. Rule 17-2.500(5): PM (TSP), PM₁₀, NO_x, CO, and VOC. In addition, these pollutant and visible emissions are subject to a determination of BACT (Best Available Control Technology) in accordance with F.A.C. Rule 17-2.630. However, a visible emissions standard will not be imposed on the Nos. 4 SDTs and LK due to moisture interference from their wet scrubber control systems; but, they will be subject to a special PM/PM₁₀ mass performance test in accordance with F.A.C. Rule 17-2.700(2)(b) if an opacity of 20% is observed using DER Method 9 pursuant to F.A.C. Rule 17-2.700.

For the No. 4 RB, the Department will establish an emissions limiting standard/rate for SO₂ and H₂SO₄. For SO₂, the Department will allow a margin of 3.75 times the highest level that has been measured (10 ppmvd) as a margin of safety. For H₂SO₄, the Department will establish an emissions limiting standard/rate that is based on a NCASI Technical Bulletin emission factor of 0.81 ppm in the stack gas (3.24 lbs/hr; 14.2 TPY).

The potential increase in actual emissions and total process input rates is considered a modification pursuant to F.A.C. Rule 17-2.100, Definitions. However, proposed changes to the affected sources will not subject them to the new source performance standards (NSPS) pursuant to F.A.C. Rule 17-2.660 and 40 CFR 60.

For the affected sources, the permittee shall comply with all of the applicable provisions of F.A.C. Rules 17-2.240: Circumvention; 17-2.250: Excess Emissions; and, 17-4.130: Plant Operations-Problems. Also, the permittee shall comply with all applicable provisions of F.A.C. Chapters 17-2 and 17-4 and 40 CFR (July, 1990 version).

Pursuant to F.A.C. Rule 17-2.600(4)(c), the sources are subject to F.A.C. Rule 17-2.710, Continuous Monitoring Requirements, which includes F.A.C. Rule 17-2.710(4), Quarterly Reporting Requirements.

III. Emission Limitations and Air Quality Analysis

A. Emission Limitations

The pollutant emissions regulated by the Department and by the determination of BACT are:

1. No. 4 Recovery Boiler:

For the No. 4 RB, the Department has evaluated the pollutants PM/PM₁₀, NOx, CO, VOC and visible emissions for BACT. Actual test results, ESP maintenance/upgrade, and previous BACT determinations suggest that a lower PM/PM₁₀ emission rate can be achieved. Even though a visible emissions limit was not requested by the applicant, the Department will propose a level that will be equivalent to previous BACT determinations and F.A.C. Chapter 17-2. The Department will establish emission rates for NOx, CO and VOC at the emission rates that were requested by the applicant. Therefore, the Department has determined that BACT should be as follows:

*PM/PM ₁₀	0.033 gr/dscf, corrected to 8% O ₂ (83.2 lbs/hr; 364.4 TPY)
*NOX	100 ppmvd, corrected 8% O ₂ , 24-hr and annual avg. (210.6 lbs/hr; 922.4 TPY)
*CO	400 ppmvd, corrected to 8% O ₂ , annual average (512.7 lbs/hr; 2,245.6 TPY) 800 ppmvd, corrected to 8% O ₂ , 1-hr level (1,025.4 lbs/hr; 4,491.3 TPY)
*VOC	0.52 lb/ton BLS (54.6 lbs/hr; 239.1 TPY)
*VE	less than 20% opacity

2. No. 4 Smelt Dissolving Tanks (North & South units):

For the No. 4 SDTs (North & South units), the Department has evaluated PM/PM₁₀ and visible emissions for BACT. Actual test results and previous BACT determinations suggest that a lower PM/PM₁₀ emissions rate can be achieved. Even though a visible emissions limit was not requested by the applicant, the Department will propose a level that will be equivalent to previous BACT determinations and F.A.C. Chapter 17-2. Therefore, the Department has determined that BACT should be as follows:

*PM/PM ₁₀	0.12 lb/ton BLS input to the No. 4 RB (12.6 lbs/hr; 55.2 TPY)
*VE	less than 20% opacity (deferred due to moisture interference)

3. No. 4 Lime Kiln:

For the No. 4 LK, the Department has evaluated the pollutants PM/PM₁₀, NO_x, CO, VOC and visible emissions for BACT. Actual test results and previous BACT determinations suggest that a lower PM/PM₁₀ emission rate can be achieved. Even though a visible emissions limit was not requested by the applicant, the Department will propose a level that will be equivalent to previous BACT determinations and F.A.C. Chapter 17-2. The Department will establish emission rates for NO_x and CO at the emission rates that were requested by the applicant. The VOC emission rate will be equivalent to previous BACT determinations and slightly less than what had been requested by the applicant. Therefore, the Department has determined that BACT should be as follows:

*PM/PM ₁₀	0.081 gr/dscf, corrected to 10% O ₂ (26.0 lbs/hr; 113.9 TPY) 99.0% efficiency
*NO _x	290 ppmvd, corrected to 10% O ₂ (50.3 lbs/hr; 223.3) kiln design and operation
*CO	69 ppmvd, corrected to 10% O ₂ (7.3 lbs/hr; 32.0) kiln design and operation
*VOC	185 ppmvd, corrected to 10% O ₂ (17.2 lbs/hr; 75.3 TPY) kiln design and operation
*VE	less than 20% opacity (deferred due to moisture interference)

B. Air Quality Analysis

1. Introduction

The proposed modification and resultant pollutant emissions will result in emissions increases which are projected to be greater than the PSD significant emission rates for the following pollutants: CO, NO_x, PM, PM₁₀, and VOCs. Therefore, the project is subject to the PSD review requirements contained in F.A.C. Rule 17-2.500 for these pollutants. Part of these requirements is an air quality impact analysis for these pollutants, which includes:

- o An analysis of existing air quality;
- o A PSD increment analysis (for PM, PM₁₀, and NO_x);
- o An ambient Air Quality Standards analysis (AAQS);

- o An analysis of impacts on soils, vegetation, visibility and growth-related air quality impacts; and,
- o A Good Engineering Practice (GEP) stack height determination.

The analysis of existing air quality generally relies on preconstruction monitoring data collected in accordance with EPA-approved methods. The PSD increment and AAQS analyses are based on air quality dispersion modeling completed in accordance with EPA guidelines.

Based on the analyses submitted by the applicant, the Department has reasonable assurance that the proposed modification, as described in this report 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 brief description of the modeling methods used and results of the required analyses follow. A more complete description is contained in the permit applications on file.

2. Analysis of the Existing Air Quality

Preconstruction ambient air quality monitoring may be required for pollutants subject to PSD review. However, an exemption to the monitoring requirement can be obtained if the maximum air quality impact resulting from the projected emissions increase, as determined through air quality modeling, is less than a pollutant-specific de minimus concentration. The predicted maximum concentration increase for each pollutant subject to PSD review is given below:

PSD de minimus Concentration (ug/m ³)	CO	TSP & PM ₁₀	NOx
	575	10	14
Avg. Time	8-hr	24-hr	Annual
Max. Predicted Impact (ug/m ³)	8.2	9.9	0.4

As shown above, the predicted impacts are all less than the corresponding de minimus concentrations; therefore, no preconstruction monitoring is required for any pollutant.

However, background concentrations were developed by the applicant and approved by the Department for use in the PM₁₀ ambient air quality analysis. Values of 51 ug/m³, 24-hour average and 21 ug/m³, annual average, were based on 1989 data from the Kay Larkin Airport PM site in Putnam County, which is located 2.1 km South-Southwest of the Georgia-Pacific facility.

3. Modeling Method

The EPA-approved Industrial Source Complex Short-term (ISCST) dispersion model was used by the applicant to predict the impact of the proposed project on the surrounding ambient air. All recommended EPA default options were used. Direction-specific downwash parameters were used because the stacks were less than the good engineering practice (GEP) stack height. Five years of sequential hourly surface and mixing depth data from the Jacksonville, Florida/Waycross, Georgia National Weather Service (NWS) stations collected during 1983 through 1987 were used in the model. Since five years of data were used, the highest-second-high short-term predicted concentrations are compared with the appropriate ambient air quality standards or PSD increments. For the annual averages, the highest predicted yearly average was compared with the standards.

4. Modeling Results

The applicant first evaluated the potential increase in ambient ground-level concentrations associated with the project to determine if these predicted ambient concentration increases would be greater than specified PSD significant impact levels for CO, NO_x, PM and PM₁₀. Dispersion modeling was performed with receptors placed along the 36 standard radial directions (10 degrees apart) and centered on the TRS incinerator at Georgia-Pacific (GP). The first receptor was located at the extent of plant property with subsequent receptors located at 400 meter intervals from 700 to 1500 meters and 500 meter intervals from 1,500 to 6,500 meters. In those directions in which plant property extends more than 700 m from the TRS incinerator, receptors were placed only beyond the extent of the property. The results of this modeling presented below show that the increases in ambient ground-level concentrations for all averaging times are less than the PSD significant impact levels for CO and NO_x.

Averaging Time	CO 1-hr	8-hr	NO ² Annual	PM Annual	and 24-hr	PM ₁₀
PSD Significance Level (ug/m ³)	40,000	10,000	1.0	1.0	5.0	
Ambient Concentra. Increase (ug/m ³)	45	8.2	0.4	1.4	9.9	

Therefore, further dispersion modeling for comparison with AAQS and PSD increment consumption were not required for CO and NO_x. However, the results also show that the increases in ambient ground-level concentrations for both averaging times for PM and PM₁₀ were greater than the PSD significant impact levels, thus requiring the applicant to perform a full impact analysis for PM/PM₁₀.

The significant impact area was determined to be 15 km and all sources within 50 km of GP were evaluated by the applicant. A total of three receptor grids were used in the PM₁₀ AAQS modeling analysis. The first receptor grid which was used in the screening analysis was as described above. An additional screening grid was used with receptors placed every km from 6.0 to 12.0 km from GP along 36 radials spaced at 10 degrees. The third grid used in the AAQS analysis was the refined receptor grid. The grid was centered on the receptor of the highest, second-highest concentration determined from the screening analysis. Receptors in this grid were located at 100 M intervals along radials with 2 degree spacing. The results of the refined analysis for PM₁₀ are as shown below. The maximum predicted concentrations are less than the AAQS for both averaging times.

Averaging Time	PM ₁₀ Annual	AAQS analysis (values in ug/m ³) 24-hr
Max. Predicted Concentration	2.8	103
Includes Background Value	21	51
AAQS	50	150

The applicant compared the PSD "baseline" and "projected" PM (TSP) emission inventories for GP and showed that there would be a significant decrease in emissions from the baseline period. Based on this decrease in overall emissions, there will be PSD increment expansion for PM (TSP); therefore, no Class II PSD modeling analysis for comparison to PM (TSP) increments is required for this project.

5. Additional Impacts Analysis

The maximum predicted concentrations from CO, NOx, PM, and PM₁₀ are predicted to be less than the AAQS, including the national secondary standards designed to protect public welfare-related values. As such, no harmful effects on soils and vegetation are expected. The increased emissions at GP are not expected to affect the visibility in the Okefenokee Class I area of the Wolf Island Class I area located over 100 km away. In addition, the proposed modification will not significantly change employment, population, housing or commercial/industrial development in the area to the extent that a significant air quality impact will result.

IV. Conclusion

Based on the information provided by Georgia-Pacific Corporation, the Department has reasonable assurance that the proposed project, to modify the Nos. 4 RB, SDTs and LK, as described in this evaluation, and subject to the conditions proposed herein, will not cause or contribute to a violation of any air quality standard, PED increment, or any other technical provision of Chapter 17-2 of the Florida Administrative Code.

Barry J. Andrews
36024
4-23-91



Florida Department of Environmental Regulation

Twin Towers Office Bldg. • 2600 Blair Stone Road • Tallahassee, Florida 32399-2400

Lawton Chiles, Governor

Carol M. Browner, Secretary

PERMITTEE:

Georgia-Pacific Corporation
P. O. Box 919
Palatka, Florida 32078-0919

Permit Numbers: AC 54-192250
PSD-FL-171

Expiration Date: May 31, 1992
County: Putnam
Latitude/Longitude: 29°41'00"N
81°40'45"W

Project: No. 4 Recovery Boiler

This permit is issued under the provisions of Chapter 403, Florida Statutes, Florida Administrative Code (F.A.C.) Chapters 17-2 and 17-4, and 40 CFR (July 1, 1990 version). The above named permittee is hereby authorized to perform the work or operate the facility shown on the application and approved drawing(s), plans, and other documents attached hereto or on file with the Department and made a part hereof and specifically described as follows:

For the modification of the No. 4 Recovery Boiler to allow an increase in the total process input rate of black liquor solids (BLS) and the potential pollutant emissions. The maximum total process input rate is 323,077 black liquor @ 65% solids. An electrostatic precipitator (ESP) is used to control PM/PM₁₀ emissions and visible emissions and has a minimum design efficiency of 99% for the control of particulate matter of submicron size. The project will occur at the permittee's existing facility/mill located north of S.R. 216 and west of U.S. 17. The UTM coordinates are Zone 17, 434.0 km East and 3283.4 km North.

The Standard Industrial Codes are: Industry No. 2611-Pulp Mills
The Standard Classification Codes are: Pulp & Paper Industry
Major Group 26: Sulfate (Kraft) Pulping
o Recovery Furnace/Direct 3-07-001-04 tons ADUP (air dried
Contact Evaporator unbleached pulp)

The source shall be constructed in accordance with the permit application, plans, documents, amendments, drawings, and supplementary information, except as otherwise noted in the General and Specific Conditions.

Attachments are listed below:

1. Application to Modify Air Pollution Sources, DER Form 17-1.202(1), received February 13, 1991.
2. Mr. Vernon L. Adam's letter with attachments received March 8, 1991.
3. Ms. Jewell A. Harper's letter received March 12, 1991, via FAX.
4. Mr. Andrew Kutyna's Interoffice Memorandum received March 13, 1991, via FAX.
5. Mr. C. H. Fancy's letter dated March 15, 1991.
6. Mr. Vernon L. Adam's letter with attachments received March 18, 1991.

PERMITTEE:
Georgia-Pacific Corporation

Permit Number: AC 54-192250
Expiration Date: May 31, 1992

Attachments cont.:

7. Mr. Vernon L. Adam's letter received March 25, 1991.
8. Technical Evaluation and Preliminary Determination dated April 22, 1991.

GENERAL CONDITIONS:

1. The terms, conditions, requirements, limitations, and restrictions set forth in this permit are "Permit Conditions" and are binding and enforceable pursuant to Sections 403.161, 403.727, or 403.859 through 403.861, Florida Statutes. The permittee is placed on notice that the Department will review this permit periodically and may initiate enforcement action for any violation of these conditions.

2. This permit is valid only for the specific processes and operations applied for and indicated in the approved drawings or exhibits. Any unauthorized deviation from the approved drawings, exhibits, specifications, or conditions of this permit may constitute grounds for revocation and enforcement action by the Department.

3. As provided in Subsections 403.087(6) and 403.722(5), Florida Statutes, the issuance of this permit does not convey any vested rights or any exclusive privileges. Neither does it authorize any injury to public or private property or any invasion of personal rights, nor any infringement of federal, state or local laws or regulations. This permit is not a waiver of or approval of any other Department permit that may be required for other aspects of the total project which are not addressed in the permit.

4. This permit conveys no title to land or water, does not constitute State recognition or acknowledgement of title, and does not constitute authority for the use of submerged lands unless herein provided and the necessary title or leasehold interests have been obtained from the State. Only the Trustees of the Internal Improvement Trust Fund may express State opinion as to title.

5. This permit does not relieve the permittee from liability for harm or injury to human health or welfare, animal, or plant life, or property caused by the construction or operation of this permitted source, or from penalties therefore; nor does it allow the permittee to cause pollution in contravention of Florida Statutes and Department rules, unless specifically authorized by an order from the Department.

PERMITTEE:
Georgia-Pacific Corporation

Permit Number: AC 54-192250
Expiration Date: May 31, 1992

GENERAL CONDITIONS:

6. The permittee shall properly operate and maintain the facility and systems of treatment and control (and related appurtenances) that are installed or used by the permittee to achieve compliance with the conditions of this permit, as required by Department rules. This provision includes the operation of backup or auxiliary facilities or similar systems when necessary to achieve compliance with the conditions of the permit and when required by Department rules.

7. The permittee, by accepting this permit, specifically agrees to allow authorized Department personnel, upon presentation of credentials or other documents as may be required by law and at a reasonable time, access to the premises, where the permitted activity is located or conducted to:

- a. Have access to and copy any records that must be kept under the conditions of the permit;
- b. Inspect the facility, equipment, practices, or operations regulated or required under this permit; and
- c. Sample or monitor any substances or parameters at any location reasonably necessary to assure compliance with this permit or Department rules.

Reasonable time may depend on the nature of the concern being investigated.

8. If, for any reason, the permittee does not comply with or will be unable to comply with any condition or limitation specified in this permit, the permittee shall immediately provide the Department with the following information:

- a. a description of and cause of non-compliance; and
- b. the period of noncompliance, including dates and times; or, if not corrected, the anticipated time the non-compliance is expected to continue, and steps being taken to reduce, eliminate, and prevent recurrence of the non-compliance.

The permittee shall be responsible for any and all damages which may result and may be subject to enforcement action by the Department for penalties or for revocation of this permit.

PERMITTEE:
Georgia-Pacific Corporation

Permit Number: AC 54-192250
Expiration Date: May 31, 1992

GENERAL CONDITIONS:

9. In accepting this permit, the permittee understands and agrees that all records, notes, monitoring data and other information relating to the construction or operation of this permitted source which are submitted to the Department may be used by the Department as evidence in any enforcement case involving the permitted source arising under the Florida Statutes or Department rules, except where such use is proscribed by Sections 403.73 and 403.111, Florida Statutes. Such evidence shall only be used to the extent it is consistent with the Florida Rules of Civil Procedure and appropriate evidentiary rules.

10. The permittee agrees to comply with changes in Department rules and Florida Statutes after a reasonable time for compliance, provided, however, the permittee does not waive any other rights granted by Florida Statutes or Department rules.

11. This permit is transferable only upon Department approval in accordance with Florida Administrative Code Rules 17-4.120 and 17-30.300, F.A.C., as applicable. The permittee shall be liable for any non-compliance of the permitted activity until the transfer is approved by the Department.

12. This permit or a copy thereof shall be kept at the work site of the permitted activity.

13. This permit constitutes a Determination of Best Available Control Technology (BACT).

14. The permittee shall comply with the following:

a. Upon request, the permittee shall furnish all records and plans required under Department rules. During enforcement actions, the retention period for all records will be extended automatically unless otherwise stipulated by the Department.

b. The permittee shall hold at the facility or other location designated by this permit records of all monitoring information (including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation) required by the permit, copies of all reports required by this permit, and records of all data used to complete the application for this permit. These materials shall be retained at least three years from the date of the sample, measurement, report, or application unless otherwise specified by Department rule.

PERMITTEE:
Georgia-Pacific Corporation

Permit Number: AC 54-192250
Expiration Date: May 31, 1992

GENERAL CONDITIONS:

c. Records of monitoring information shall include:

- the date, exact place, and time of sampling or measurements;
- the person responsible for performing the sampling or measurements;
- the dates analyses were performed;
- the person responsible for performing the analyses;
- the analytical techniques or methods used; and,
- the results of such analyses.

15. When requested by the Department, the permittee shall within a reasonable time furnish any information required by law which is needed to determine compliance with the permit. If the permittee becomes aware that relevant facts were not submitted or were incorrect in the permit application or in any report to the Department, such facts or information shall be corrected promptly.

SPECIFIC CONDITIONS:

1. The No. 4 Recovery Boiler (RB) may operate continuously (i.e., 8760 hrs/year).

2. The No. 4 RB's maximum process input rate/capacity is 323,077 lbs/hr black liquor @ 65% solids.

3. For the No. 4 RB and pursuant to BACT, the maximum allowable pollutant emission limiting standards/rates are:

*PM/PM ₁₀	0.033 gr/dscf, corrected to 8% O ₂ (83.2 lbs/hr; 364.4 TPY)
*NOx	100 ppmvd, corrected 8% O ₂ , 24-hr and annual avg. (210.6 lbs/hr; 922.4 TPY)
*CO	400 ppmvd, corrected to 8% O ₂ , annual average (512.7 lbs/hr; 2,245.6 TPY) 800 ppmvd, corrected to 8% O ₂ , 1-hr level (1,025.4 lbs/hr; 4,491.3 TPY)
*VOC	0.52 lb/ton BLS (54.6 lbs/hr; 239.1 TPY)
*VE	less than 20% opacity

4. Total reduced sulfur (TRS) emissions as hydrogen sulfide (H₂S) shall not exceed 11.4 ppmvd, corrected to 8% O₂ (17.8 lbs/hr; 78.0 TPY).

PERMITTEE:
Georgia-Pacific Corporation

Permit Number: AC 54-192250
Expiration Date: May 31, 1992

SPECIFIC CONDITIONS:

5. Sulfur dioxide (SO₂) emissions shall not exceed 37.5 ppmvd, corrected to 8% O₂ (109.9 lbs/hr; 481.4 TPY).
6. Sulfuric acid mist emissions shall not exceed 3.24 lbs/hr (14.2 TPY; based on 0.81 ppm in the stack gases (NCASI Technical Bulletin No. 106) and 427,560 acfm).
7. Objectionable odors shall not be allowed off plant property in accordance with F.A.C. Rule 17-2.620(2).
8.
 - a. The initial and annual compliance tests for PM/PM₁₀ shall be conducted using EPA Method 5, Determination of Particulate Emissions from Stationary Sources, which includes EPA Methods 1-4, in accordance with F.A.C. Rule 17-2.700 and 40 CFR 60, Appendix A;
 - b. The initial and annual compliance tests for TRS shall be conducted using EPA Method 16 or 16A, Determination of TRS Emissions from Stationary Sources, in accordance with F.A.C. Rule 17-2.700 and 40 CFR 60, Appendix A;
 - c. The initial and annual compliance tests for SO₂ shall be conducted using EPA Method 8, Determination of Sulfuric Acid Mist and Sulfur Dioxide Emissions from Stationary Sources, in accordance with F.A.C. Rule 17-2.700 and 40 CFR 60, Appendix A;
 - d. The initial and annual compliance tests for NO_x shall be conducted using EPA Method 7, Determination of Nitrogen Oxide Emissions from Stationary Sources, in accordance with F.A.C. Rule 17-2.700 and 40 CFR 60, Appendix A;
 - e. The initial and annual compliance tests for CO shall be conducted using EPA Method 10, Determination of Carbon Monoxide Emissions from Stationary Sources, in accordance with F.A.C. Rule 17-2.700 and 40 CFR 60, Appendix A;
 - f. The initial and annual compliance tests for VOC shall be conducted using EPA Method 25, Determination of Total Gaseous Non-Methane Organic Emissions from Stationary Sources, in accordance with F.A.C. Rule 17-2.700 and 40 CFR 60, Appendix A; and,
 - g. The initial and annual compliance tests for VE shall be conducted using EPA Method 9, Visual Determination of the Opacity Emissions from Stationary Sources, in accordance with F.A.C. Rule 17-2.700 and 40 CFR 60, Appendix A.

PERMITTEE:
Georgia-Pacific Corporation

Permit Number: AC 54-192250
Expiration Date: May 31, 1992

SPECIFIC CONDITIONS:

9. For the No. 4 RB, the permittee shall comply with all of the applicable provisions of F.A.C. Chapters 17-2 and 17-4 and 40 CFR (July, 1990 version).

10. Pursuant to F.A.C. Rule 17-2.600(4)(c)3.c., the No. 4 RB is subject to the applicable provisions of F.A.C. Rule 17-2.710, Continuous Monitoring Requirements, which includes F.A.C. Rule 17-2.710(4), Quarterly Reporting Requirements.

11. For the No. 4 RB, the permittee shall comply with all of the applicable provisions of F.A.C. Rules 17-2.240: Circumvention; 17-2.250: Excess Emissions; and, 17-4.130: Plant Operation-Problems.

12. The Department's Northeast District office shall be notified in writing 15 days prior to source testing pursuant to F.A.C. Rule 17-2.700(2). Written reports of the tests shall be submitted to the Department's Northeast District office within 45 days of completion of the last test run pursuant to F.A.C. Rule 17-2.700(7).

13. The permittee, for good cause, may request that this construction permit be extended. Such a request shall be submitted to the Department's Bureau of Air Regulation prior to 60 days before the expiration date of the permit (F.A.C. Rule 17-4.090).

14. An application for an operation permit must be submitted to the Department's Northeast District office at least 90 days prior to the expiration date of this construction permit. To properly apply for an operation permit, the applicant shall submit the appropriate application form, fee, certification that construction was completed and noting any deviations from the conditions in the construction permit, and compliance test reports as required by this permit (F.A.C. Rules 17-4.055 and 17-4.220).

Issued this _____ day
of _____, 1991

STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL REGULATION

Carol M. Browner, Secretary



Florida Department of Environmental Regulation

Twin Towers Office Bldg. • 2600 Blair Stone Road • Tallahassee, Florida 32399-2400

Lawton Chiles, Governor

Carol M. Browner, Secretary

PERMITTEE:

Georgia-Pacific Corporation
P. O. Box 919
Palatka, Florida 32078-0919

Permit Numbers: AC 54-192251
PSD-FL-171
Expiration Date: May 31, 1992
County: Putnam
Latitude/Longitude: 29°41'00"N
81°40'45"W
Project: No. 4 Lime Kiln

This permit is issued under the provisions of Chapter 403, Florida Statutes, Florida Administrative Code (F.A.C.) Chapters 17-2 and 17-4, and 40 CFR (July 1, 1990 version). The above named permittee is hereby authorized to perform the work or operate the facility shown on the application and approved drawing(s), plans, and other documents attached hereto or on file with the Department and made a part hereof and specifically described as follows:

For the modification of the No. 4 Lime Kiln to allow an increase in the total process input and product rates and the potential pollutant emissions. The maximum total process input rate is 82,986 lbs/hr CaCO₃ and inerts; and, the maximum product rate is 38,889 lbs/hr (dry) @ 90% CaO. A Zurn wet scrubber system is used to control PM/PM₁₀ emissions and visible emissions and has a minimum design efficiency of 99.0% for the control of particulate matter of submicron size. The project will occur at the permittee's existing facility/mill located north of S.R. 216 and west of U.S. 17. The UTM coordinates are Zone 17, 434.0 km East and 3283.4 km North.

The Standard Industrial Codes are: Industry No. 2611-Pulp Mills
The Standard Classification Codes are: Pulp & Paper Industry
Major Group 26: Sulfate (Kraft) Pulping
o Lime Kiln 3-07-001-06 tons ADUP (air dried unbleached pulp)

The source shall be constructed in accordance with the permit application, plans, documents, amendments, drawings, and supplementary information, except as otherwise noted in the General and Specific Conditions.

Attachments are listed below:

1. Application to Modify Air Pollution Sources, DER Form 17-1.202(1), received February 13, 1991.
2. Mr. Vernon L. Adam's letter with attachments received March 8, 1991.
3. Ms. Jewell A. Harper's letter received March 12, 1991, via FAX.
4. Mr. Andrew Kutyna's Interoffice Memorandum received March 13, 1991, via FAX.
5. Mr. C. H. Fancy's letter dated March 15, 1991.
6. Mr. Vernon L. Adam's letter with attachments received March 18, 1991.

PERMITTEE:
Georgia-Pacific Corporation

Permit Number: AC 54-192251
Expiration Date: May 31, 1992

Attachments cont.:

7. Mr. Vernon L. Adam's letter received March 25, 1991.
8. Technical Evaluation and Preliminary Determination dated April 22, 1991.

GENERAL CONDITIONS:

1. The terms, conditions, requirements, limitations, and restrictions set forth in this permit are "Permit Conditions" and are binding and enforceable pursuant to Sections 403.161, 403.727, or 403.859 through 403.861, Florida Statutes. The permittee is placed on notice that the Department will review this permit periodically and may initiate enforcement action for any violation of these conditions.

2. This permit is valid only for the specific processes and operations applied for and indicated in the approved drawings or exhibits. Any unauthorized deviation from the approved drawings, exhibits, specifications, or conditions of this permit may constitute grounds for revocation and enforcement action by the Department.

3. As provided in Subsections 403.087(6) and 403.722(5), Florida Statutes, the issuance of this permit does not convey any vested rights or any exclusive privileges. Neither does it authorize any injury to public or private property or any invasion of personal rights, nor any infringement of federal, state or local laws or regulations. This permit is not a waiver of or approval of any other Department permit that may be required for other aspects of the total project which are not addressed in the permit.

4. This permit conveys no title to land or water, does not constitute State recognition or acknowledgement of title, and does not constitute authority for the use of submerged lands unless herein provided and the necessary title or leasehold interests have been obtained from the State. Only the Trustees of the Internal Improvement Trust Fund may express State opinion as to title.

5. This permit does not relieve the permittee from liability for harm or injury to human health or welfare, animal, or plant life, or property caused by the construction or operation of this permitted source, or from penalties therefore; nor does it allow the permittee to cause pollution in contravention of Florida Statutes and Department rules, unless specifically authorized by an order from the Department.

PERMITTEE:
Georgia-Pacific Corporation

Permit Number: AC 54-192251
Expiration Date: May 31, 1992

GENERAL CONDITIONS:

6. The permittee shall properly operate and maintain the facility and systems of treatment and control (and related appurtenances) that are installed or used by the permittee to achieve compliance with the conditions of this permit, as required by Department rules. This provision includes the operation of backup or auxiliary facilities or similar systems when necessary to achieve compliance with the conditions of the permit and when required by Department rules.

7. The permittee, by accepting this permit, specifically agrees to allow authorized Department personnel, upon presentation of credentials or other documents as may be required by law and at a reasonable time, access to the premises, where the permitted activity is located or conducted to:

- a. Have access to and copy any records that must be kept under the conditions of the permit;
- b. Inspect the facility, equipment, practices, or operations regulated or required under this permit; and
- c. Sample or monitor any substances or parameters at any location reasonably necessary to assure compliance with this permit or Department rules.

Reasonable time may depend on the nature of the concern being investigated.

8. If, for any reason, the permittee does not comply with or will be unable to comply with any condition or limitation specified in this permit, the permittee shall immediately provide the Department with the following information:

- a. a description of and cause of non-compliance; and
- b. the period of noncompliance, including dates and times; or, if not corrected, the anticipated time the non-compliance is expected to continue, and steps being taken to reduce, eliminate, and prevent recurrence of the non-compliance.

The permittee shall be responsible for any and all damages which may result and may be subject to enforcement action by the Department for penalties or for revocation of this permit.

PERMITTEE:
Georgia-Pacific Corporation

Permit Number: AC 54-192251
Expiration Date: May 31, 1992

GENERAL CONDITIONS:

9. In accepting this permit, the permittee understands and agrees that all records, notes, monitoring data and other information relating to the construction or operation of this permitted source which are submitted to the Department may be used by the Department as evidence in any enforcement case involving the permitted source arising under the Florida Statutes or Department rules, except where such use is proscribed by Sections 403.73 and 403.111, Florida Statutes. Such evidence shall only be used to the extent it is consistent with the Florida Rules of Civil Procedure and appropriate evidentiary rules.

10. The permittee agrees to comply with changes in Department rules and Florida Statutes after a reasonable time for compliance, provided, however, the permittee does not waive any other rights granted by Florida Statutes or Department rules.

11. This permit is transferable only upon Department approval in accordance with Florida Administrative Code Rules 17-4.120 and 17-30.300, F.A.C., as applicable. The permittee shall be liable for any non-compliance of the permitted activity until the transfer is approved by the Department.

12. This permit or a copy thereof shall be kept at the work site of the permitted activity.

13. This permit constitutes a Determination of Best Available Control Technology (BACT).

14. The permittee shall comply with the following:

a. Upon request, the permittee shall furnish all records and plans required under Department rules. During enforcement actions, the retention period for all records will be extended automatically unless otherwise stipulated by the Department.

b. The permittee shall hold at the facility or other location designated by this permit records of all monitoring information (including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation) required by the permit, copies of all reports required by this permit, and records of all data used to complete the application for this permit. These materials shall be retained at least three years from the date of the sample, measurement, report, or application unless otherwise specified by Department rule.

PERMITTEE:
Georgia-Pacific Corporation

Permit Number: AC 54-192251
Expiration Date: May 31, 1992

GENERAL CONDITIONS:

c. Records of monitoring information shall include:

- the date, exact place, and time of sampling or measurements;
- the person responsible for performing the sampling or measurements;
- the dates analyses were performed;
- the person responsible for performing the analyses;
- the analytical techniques or methods used; and,
- the results of such analyses.

15. When requested by the Department, the permittee shall within a reasonable time furnish any information required by law which is needed to determine compliance with the permit. If the permittee becomes aware that relevant facts were not submitted or were incorrect in the permit application or in any report to the Department, such facts or information shall be corrected promptly.

SPECIFIC CONDITIONS:

1. The No. 4 Lime Kiln (LK) may operate continuously (i.e., 8760 hrs/year).

2. The No. 4 LK's maximum total process input rate/capacity is 82,986 lbs/hr CaCO₃ and inerts; and, the maximum product rate is 38,889 lbs/hr (dry) @ 90% CaO.

3. For the No. 4 LK and pursuant to BACT, the maximum allowable pollutant emission limiting standards/rates are:

- *PM/PM₁₀ 0.081 gr/dscf, corrected to 10% O₂
(26.0 lbs/hr; 113.9 TPY)
99.0% efficiency
- *NOx 290 ppmvd, corrected to 10% O₂
(50.3 lbs/hr; 223.3)
kiln design and operation
- *CO 69 ppmvd, corrected to 10% O₂
(7.3 lbs/hr; 32.0)
kiln design and operation
- *VOC 185 ppmvd, corrected to 10% O₂
(17.2 lbs/hr; 75.3 TPY)
kiln design and operation
- *VE less than 20% opacity
(deferred due to moisture interference)

PERMITTEE:
Georgia-Pacific Corporation

Permit Number: AC 54-192251
Expiration Date: May 31, 1992

SPECIFIC CONDITIONS:

4. Total reduced sulfur (TRS) emissions as hydrogen sulfide (H₂S) shall not exceed 20 ppmvd, corrected to 10% O₂ (4.0 lbs/hr; 17.5 TPY).

5. Sulfur dioxide (SO₂) emissions shall not exceed 10.9 lbs/hr (47.7 TPY; based on AP-42 factor of 0.3 lb/ton ADUP, 72.9 TPH ADUP, 638,604 TPY ADUP, and 50% efficiency on the control of SO₂).

6. Objectionable odors shall not be allowed off plant property in accordance with F.A.C. Rule 17-2.620(2).

7. Due to moisture interference, the visible emission limiting standard of "less than 20% opacity", in accordance with BACT, is not applicable. However, if the Department observes visible emissions of 20% opacity pursuant to F.A.C. Rule 17-2.700(6)(b)9, DER Method 9, it shall be considered good reason to believe that the applicable PM/PM₁₀ mass emission standard is in danger of being violated and the permittee shall be required to conduct a special PM/PM₁₀ mass emissions compliance test in accordance with F.A.C. Rule 17-2.700(2)(b). Such a test shall be conducted within 14 days after the Department has notified the permittee in writing of the applicability of this permit condition.

8. a. The initial and annual compliance tests for PM/PM₁₀ shall be conducted using EPA Method 5, Determination of Particulate Emissions from Stationary Sources, which includes EPA Methods 1-4, in accordance with F.A.C. Rule 17-2.700 and 40 CFR 60, Appendix A;

b. The initial and annual compliance tests for TRS shall be conducted using EPA Method 16 or 16A, Determination of TRS Emissions from Stationary Sources, in accordance with F.A.C. Rule 17-2.700 and 40 CFR 60, Appendix A;

c. The initial and annual compliance tests for H₂SO₄ and SO₂ shall be conducted using EPA Method 8, Determination of Sulfuric Acid Mist and Sulfur Dioxide Emissions from Stationary Sources, in accordance with F.A.C. Rule 17-2.700 and 40 CFR 60, Appendix A;

d. The initial and annual compliance tests for NO_x shall be conducted using EPA Method 7, Determination of Nitrogen Oxide Emissions from Stationary Sources, in accordance with F.A.C. Rule 17-2.700 and 40 CFR 60, Appendix A;

PERMITTEE:
Georgia-Pacific Corporation

Permit Number: AC 54-192251
Expiration Date: May 31, 1992

SPECIFIC CONDITIONS:

- e. The initial and annual compliance tests for CO shall be conducted using EPA Method 10, Determination of Carbon Monoxide Emissions from Stationary Sources, in accordance with F.A.C. Rule 17-2.700 and 40 CFR 60, Appendix A; and,
 - f. The initial and annual compliance tests for VOC shall be conducted using EPA Method 25, Determination of Total Gaseous Non-Methane Organic Emissions from Stationary Sources, in accordance with F.A.C. Rule 17-2.700 and 40 CFR 60, Appendix A.
9. For the No. 4 LK, the permittee shall comply with all of the applicable provisions of F.A.C. Chapters 17-2 and 17-4 and 40 CFR (July, 1990 version).
10. Pursuant to F.A.C. Rule 17-2.600(4)(c)5.b., the No. 4 LK is subject to the applicable provisions of F.A.C. Rule 17-2.710, Continuous Monitoring Requirements, which includes F.A.C. Rule 17-2.710(4), Quarterly Reporting Requirements.
11. For the No. 4 LK, the permittee shall comply with all of the applicable provisions of F.A.C. Rules 17-2.240: Circumvention; 17-2.250: Excess Emissions; and, 17-4.130: Plant Operation-Problems.
12. The Department's Northeast District office shall be notified in writing 15 days prior to source testing pursuant to F.A.C. Rule 17-2.700(2). Written reports of the tests shall be submitted to the Department's Northeast District office within 45 days of completion of the last test run pursuant to F.A.C. Rule 17-2.700(7).
13. The permittee, for good cause, may request that this construction permit be extended. Such a request shall be submitted to the Department's Bureau of Air Regulation prior to 60 days before the expiration date of the permit (F.A.C. Rule 17-4.090).
14. An application for an operation permit must be submitted to the Department's Northeast District office at least 90 days prior to the expiration date of this construction permit. To properly apply for an operation permit, the applicant shall submit the appropriate application form, fee, certification that construction was completed and noting any deviations from the conditions in the construction permit, and compliance test reports as required by this permit (F.A.C. Rules 17-4.055 and 17-4.220).

PERMITTEE:
Georgia-Pacific Corporation

Permit Number: AC 54-192251
Expiration Date: May 31, 1992

SPECIFIC CONDITIONS:

Issued this _____ day
of _____, 1991

STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL REGULATION

Carol M. Browner, Secretary



Florida Department of Environmental Regulation

Twin Towers Office Bldg. • 2600 Blair Stone Road • Tallahassee, Florida 32399-2400

Lawton Chiles, Governor

Carol M. Browner, Secretary

PERMITTEE:

Georgia-Pacific Corporation
P. O. Box 919
Palatka, Florida 32078-0919

Permit Numbers: AC 54-193841

PSD-FL-171

Expiration Date: May 31, 1992

County: Putnam

Latitude/Longitude: 29°41'00"N
81°40'45"W

Project: No. 4 Smelt Dissolving
Tanks (North & South units)

This permit is issued under the provisions of Chapter 403, Florida Statutes, Florida Administrative Code (F.A.C.) Chapters 17-2 and 17-4, and 40 CFR (July 1, 1990 version). The above named permittee is hereby authorized to perform the work or operate the facility shown on the application and approved drawing(s), plans, and other documents attached hereto or on file with the Department and made a part hereof and specifically described as follows:

For the permitting of the No. 4 Smelt Dissolving Tanks (North and South units), and associated wet venturi scrubber control system, to allow an increase in the total process input rate of smelt. The maximum total process input rate is 85,890 lbs/hr smelt. The wet venturi scrubber system is used to control the emissions of PM/PM₁₀ and TRS (total reduced sulfur) and visible emissions and has a minimum design efficiency of 95% for the control of particulate matter of submicron size. The project will occur at the permittee's existing facility/mill located north of S.R. 216 and west of U.S. 17. The UTM coordinates are Zone 17, 434.0 km East and 3283.4 km North.

The Standard Industrial Codes are: Industry No. 2611-Pulp Mills
The Standard Classification Codes are: Pulp & Paper Industry
Major Group 26: Sulfate (Kraft) Pulping
o Smelt Dissolving Tank 3-07-001-05 tons ADUP (air dried unbleached pulp)

The sources shall be constructed/modified in accordance with the permit application, plans, documents, amendments, drawings, and supplementary information, except as otherwise noted in the General and Specific Conditions.

Attachments are listed below:

1. Application to Modify Air Pollution Sources, DER Form 17-1.202(1), received February 13, 1991.
2. Mr. Vernon L. Adam's letter with attachments received March 8, 1991.
3. Ms. Jewell A. Harper's letter received March 12, 1991, via FAX.
4. Mr. Andrew Kutyna's Interoffice Memorandum received March 13, 1991, via FAX.

PERMITTEE: Georgia-Pacific Corporation Permit Number: AC 54-193841
Expiration Date: May 31, 1992

Attachments cont.:

5. Mr. C. H. Fancy's letter dated March 15, 1991.
6. Mr. Vernon L. Adam's letter with attachments received March 18, 1991.
7. Mr. Vernon L. Adam's letter received March 25, 1991.
8. Technical Evaluation and Preliminary Determination dated April 22, 1991.

GENERAL CONDITIONS:

1. The terms, conditions, requirements, limitations, and restrictions set forth in this permit are "Permit Conditions" and are binding and enforceable pursuant to Sections 403.161, 403.727, or 403.859 through 403.861, Florida Statutes. The permittee is placed on notice that the Department will review this permit periodically and may initiate enforcement action for any violation of these conditions.
2. This permit is valid only for the specific processes and operations applied for and indicated in the approved drawings or exhibits. Any unauthorized deviation from the approved drawings, exhibits, specifications, or conditions of this permit may constitute grounds for revocation and enforcement action by the Department.
3. As provided in Subsections 403.087(6) and 403.722(5), Florida Statutes, the issuance of this permit does not convey any vested rights or any exclusive privileges. Neither does it authorize any injury to public or private property or any invasion of personal rights, nor any infringement of federal, state or local laws or regulations. This permit is not a waiver of or approval of any other Department permit that may be required for other aspects of the total project which are not addressed in the permit.
4. This permit conveys no title to land or water, does not constitute State recognition or acknowledgement of title, and does not constitute authority for the use of submerged lands unless herein provided and the necessary title or leasehold interests have been obtained from the State. Only the Trustees of the Internal Improvement Trust Fund may express State opinion as to title.
5. This permit does not relieve the permittee from liability for harm or injury to human health or welfare, animal, or plant life, or property caused by the construction or operation of this permitted source, or from penalties therefore; nor does it allow the permittee to cause pollution in contravention of Florida Statutes and Department rules, unless specifically authorized by an order from the Department.

PERMITTEE:
Georgia-Pacific Corporation

Permit Number: AC 54-193841
Expiration Date: May 31, 1992

GENERAL CONDITIONS:

6. The permittee shall properly operate and maintain the facility and systems of treatment and control (and related appurtenances) that are installed or used by the permittee to achieve compliance with the conditions of this permit, as required by Department rules. This provision includes the operation of backup or auxiliary facilities or similar systems when necessary to achieve compliance with the conditions of the permit and when required by Department rules.

7. The permittee, by accepting this permit, specifically agrees to allow authorized Department personnel, upon presentation of credentials or other documents as may be required by law and at a reasonable time, access to the premises, where the permitted activity is located or conducted to:

- a. Have access to and copy any records that must be kept under the conditions of the permit;
- b. Inspect the facility, equipment, practices, or operations regulated or required under this permit; and
- c. Sample or monitor any substances or parameters at any location reasonably necessary to assure compliance with this permit or Department rules.

Reasonable time may depend on the nature of the concern being investigated.

8. If, for any reason, the permittee does not comply with or will be unable to comply with any condition or limitation specified in this permit, the permittee shall immediately provide the Department with the following information:

- a. a description of and cause of non-compliance; and
- b. the period of noncompliance, including dates and times; or, if not corrected, the anticipated time the non-compliance is expected to continue, and steps being taken to reduce, eliminate, and prevent recurrence of the non-compliance.

The permittee shall be responsible for any and all damages which may result and may be subject to enforcement action by the Department for penalties or for revocation of this permit.

PERMITTEE:
Georgia-Pacific Corporation

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Expiration Date: May 31, 1992

GENERAL CONDITIONS:

9. In accepting this permit, the permittee understands and agrees that all records, notes, monitoring data and other information relating to the construction or operation of this permitted source which are submitted to the Department may be used by the Department as evidence in any enforcement case involving the permitted source arising under the Florida Statutes or Department rules, except where such use is proscribed by Sections 403.73 and 403.111, Florida Statutes. Such evidence shall only be used to the extent it is consistent with the Florida Rules of Civil Procedure and appropriate evidentiary rules.

10. The permittee agrees to comply with changes in Department rules and Florida Statutes after a reasonable time for compliance, provided, however, the permittee does not waive any other rights granted by Florida Statutes or Department rules.

11. This permit is transferable only upon Department approval in accordance with Florida Administrative Code Rules 17-4.120 and 17-30.300, F.A.C., as applicable. The permittee shall be liable for any non-compliance of the permitted activity until the transfer is approved by the Department.

12. This permit or a copy thereof shall be kept at the work site of the permitted activity.

13. This permit constitutes a Determination of Best Available Control Technology (BACT).

14. The permittee shall comply with the following:

a. Upon request, the permittee shall furnish all records and plans required under Department rules. During enforcement actions, the retention period for all records will be extended automatically unless otherwise stipulated by the Department.

b. The permittee shall hold at the facility or other location designated by this permit records of all monitoring information (including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation) required by the permit, copies of all reports required by this permit, and records of all data used to complete the application for this permit. These materials shall be retained at least three years from the date of the sample, measurement, report, or application unless otherwise specified by Department rule.

PERMITTEE:
Georgia-Pacific Corporation

Permit Number: AC 54-193841
Expiration Date: May 31, 1992

GENERAL CONDITIONS:

c. Records of monitoring information shall include:

- the date, exact place, and time of sampling or measurements;
- the person responsible for performing the sampling or measurements;
- the dates analyses were performed;
- the person responsible for performing the analyses;
- the analytical techniques or methods used; and,
- the results of such analyses.

15. When requested by the Department, the permittee shall within a reasonable time furnish any information required by law which is needed to determine compliance with the permit. If the permittee becomes aware that relevant facts were not submitted or were incorrect in the permit application or in any report to the Department, such facts or information shall be corrected promptly.

SPECIFIC CONDITIONS:

1. The No. 4 Smelt Dissolving Tanks (SDTs; North and South units) may operate continuously (i.e., 8760 hrs/year).

2. The No. 4 SDTs total maximum processing rate/capacity is 85,890 lbs/hr smelt (green liquor solids) and based on the No. 4 Recovery Boiler burning 323,077 lbs/hr black liquor @ 65% solids, which is equivalent to 210,000 lbs/hr black liquor solids (BLS @ 100%).

3. Total reduced sulfur (TRS) emissions as hydrogen sulfide (H₂S) shall not exceed 0.048 lb/3000 pounds BLS (3.4 lbs/hr, 14.9 TPY; based on a maximum total process input rate/capacity of 210,000 lbs/hr BLS in the No. 4 Recovery Boiler (RB) - equivalent to 85,890 lbs/hr smelt (green liquor solids)).

4. PM/PM₁₀ mass emissions shall not exceed 0.12 lb/ton BLS to the No. 4 RB (12.6 lbs/hr; 55.2 TPY), which is based on BACT.

5. Due to moisture interference, the visible emission limiting standard of "less than 20% opacity", in accordance with BACT, is not applicable. However, if the Department observes visible emissions of 20% opacity pursuant to F.A.C. Rule 17-2.700(6)(b)9, DER Method 9, it shall be considered good reason to believe that the applicable PM/PM₁₀ mass emission standard is in danger of being violated and the permittee shall be required to conduct a special PM/PM₁₀ mass emissions compliance test in accordance with F.A.C. Rule 17-2.700(2)(b). Such a test shall be conducted within 14 days after the Department has notified the permittee in writing of the applicability of this permit condition.

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SPECIFIC CONDITIONS:

6. Objectionable odors shall not be allowed off plant property in accordance with F.A.C. Rule 17-2.620(2).
7.
 - a. Initial and annual compliance tests for PM/PM₁₀ shall be conducted using EPA Method 5, Determination of Particulate Emissions from Stationary Sources, in accordance with F.A.C. Rule 17-2.700 and 40 CFR 60, Appendix A;
 - b. Initial and annual compliance tests for TRS shall be conducted using EPA Method 16 or 16A, Determination of TRS Emissions from Stationary Sources, in accordance with F.A.C. Rule 17-2.700 and 40 CFR 60, Appendix A.
8. For the No. 4 SDTs, the permittee shall comply with all of the applicable provisions of F.A.C. Chapters 17-2 and 17-4 and 40 CFR (July, 1990 version).
9. Pursuant to F.A.C. Rule 17-2.600(4)(c)4.b., the No. 4 SDTs are subject to the applicable provisions of F.A.C. Rule 17-2.710, Continuous Monitoring Requirements, which includes F.A.C. Rule 17-2.710(4), Quarterly Reporting Requirements.
10. For the No. 4 SDTs, the permittee shall comply with all of the applicable provisions of F.A.C. Rules 17-2.240: Circumvention; 17-2.250: Excess Emissions; and, 17-4.130: Plant Operation-Problems.
11. The Department's Northeast District office shall be notified in writing 15 days prior to source testing pursuant to F.A.C. Rule 17-2.700(2). Written reports of the tests shall be submitted to the Department's Northeast District office within 45 days of completion of the last test run pursuant to F.A.C. Rule 17-2.700(7).
12. The permittee, for good cause, may request that this construction permit be extended. Such a request shall be submitted to the Department Bureau of Air Regulation prior to 60 days before the expiration date of the permit (F.A.C. Rule 17-4.090).
13. An application for an operation permit must be submitted to the Department's Northeast District office at least 90 days prior to the expiration date of this construction permit. To properly apply for an operation permit, the applicant shall submit the appropriate application form, fee, certification that construction was completed and noting any deviations from the conditions in the construction permit, and compliance test reports as required by this permit (F.A.C. Rules 17-4.055 and 17-4.220).

PERMITTEE:
Georgia-Pacific Corporation

Permit Number: AC 54-193841
Expiration Date: May 31, 1992

SPECIFIC CONDITIONS:

Issued this _____ day
of _____, 1991

STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL REGULATION

Carol M. Browner, Secretary

Best Available Control Technology (BACT) Determination
Georgia-Pacific Corporation
Putnam County

The applicant proposes to implement modifications/enhancements to the No. 4 Recovery Boiler (RB) and Lime Kiln (LK), which has the potential to increase their total process input and product rates and potential pollutant emissions. The No. 4 Smelt Dissolving Tanks (SDTs; North and South units) will also have an increase in the total process input rate of smelt and the potential pollutant emissions due to the increase of black liquor solids (BLS) burned in the No. 4 RB. The mill is located in an area designated attainment for all of the criteria pollutants.

The applicant has indicated the maximum net total annual tonnage of regulated air pollutants emitted from the project based on 8,760 hours per year operation to be as follows:

Pollutant	Max. Net Increase in Emissions (TPY)	PSD Significant Emission Rate (TPY)
TSP (PM)	464.7	25
PM ₁₀	495.4	15
SO ₂	8.8	40
NO _x	516.4	40
CO	167.5	100
VOC	70.1	40
TRS	9.90	10
Pb	0.02	0.6
Be	0.0002	0.004
H ₂ SO ₄	1.4	7

Rule 17-2.500(2)(f)(3) of the Florida Administrative Code (F.A.C.) requires a BACT review of all regulated pollutants emitted in an amount equal to or greater than the significant rates listed in Table 500-2, F.A.C. Chapter 17-2.

BACT Determination Requested by the Applicant:

No. 4 RB

PM/PM ₁₀	0.044 gr/dscf, corrected to 8% oxygen
NO _x	100 ppmvd, corrected to 8% oxygen
CO	400 ppmvd, corrected to 8% oxygen (annual avg.)
	800 ppmvd, corrected to 8% oxygen (1 hr. avg.)
VOC	0.52 lb/ton BLS

No. 4 SDT

PM	31.6 lbs/hr (138.4 TPY; Process Weight; 0.30 lb/ton BLS input to the RB)
PM ₁₀	28.3 lbs/hr (124.0 TPY; 89.5% of PM)

No. 4 LK

PM	31.42 lbs/hr (137.6 TPY; @4% O ₂ , 0.098 gr/dscf, corrected to 10% O ₂ ; fossil fuel)
PM ₁₀	30.9 lbs/hr (135.3 TPY; 98.3% of PM)
NOx	0.37 lb/MMBtu (50.3 lbs/hr)
CO	@4% O ₂ , 45 ppmvd, corrected to 10% O ₂ (7.3 lbs/hr)
VOC	@4% O ₂ , 190 ppmvd, corrected to 10% O ₂ (17.7 lbs/hr)

Date of Receipt of a BACT Application:

February 13, 1991

Review Group Members:

This determination was based on comments received from the applicant and the Permitting and Standards Section.

BACT Determination Procedure

In accordance with Florida Administrative Code Chapter 17-2, Air Pollution, this BACT determination is based on the maximum degree of reduction of each pollutant emitted which the Department, on a case by case basis, taking into account energy, environmental and economic impacts, and other costs, determines is achievable through application of production processes and available methods, systems, and techniques. In addition, the regulations state that in making the BACT determination the Department shall give consideration to:

- (a) Any Environmental Protection Agency determination of Best Available Control Technology pursuant to Section 169, and any emission limitation contained in 40 CFR Part 60 (Standards of Performance for New Stationary Sources) or 40 CFR Part 61 (National Emission Standards for Hazardous Air Pollutants).
- (b) All scientific, engineering, and technical material and other information available to the Department.
- (c) The emission limiting standards or BACT determinations of any other state.
- (d) The social and economic impact of the application of such technology.

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

BACT Analysis:

A. No. 4 RB:

1. PM/PM₁₀

A review of recent BACT determinations for PM/PM₁₀ from kraft recovery boilers indicates that the emission rate proposed by the applicant does not represent BACT. The rationale for establishing BACT at a lower than proposed level is presented as follows:

The applicant indicated that an emission rate of 0.044 gr/dscf, corrected to 8% oxygen, is representative of BACT taking into consideration previously issued BACTs having emission rates of 0.021 - 0.044 gr/dscf, corrected to 8% O₂ (avg. of 0.033 gr/dscf). The summary of these determinations have been based on ESP control, which is the control technology employed by the No. 4 RB.

The No. 4 RB has achieved emission rates of 0.009 - 0.037 gr/dscf, corrected to 8% O₂, in previous PM compliance tests (average of 0.022 gr/dscf, corrected to 8% O₂).

During the next proposed mill outage, the applicant has proposed an upgrade of the ESP, but was not specific on the details. However, certain modifications can be made (i.e., addition of additional transformer-rectifier sets, change defective wires and warped plates, etc.) to improve collection efficiency. The applicant did not indicate that the ESPs wires, plates, transformer-rectifier sets, etc., would be inspected and, where necessary, be replaced.

A review of the proposed PM/PM₁₀ increases in potential emissions have shown that there will not be an adverse affect to the environment.

Based on previous BACT determinations, actual test results, and ESP maintenance/upgrade, the Department feels that an emission rate of 0.033 gr/dscf, corrected to 8% O₂, is more realistic as a BACT requirement.

2. NOx

A review of recent BACT determinations for nitrogen oxides from kraft recovery boilers indicate that emission rates that are below 100 ppmvd, corrected to 8% O₂, have been justified for new recovery boilers. For some modified recovery boilers, the emission rates have been justified as high as 200 ppmvd, corrected to 8% O₂.

Combustion control is the control technique employed to minimize NOx emissions from the No. 4 RB. It is not yet known what affect that the changes in the combustion air (addition of the tertiary air) will cause in NOx emissions.

In addition to combustion controls, NOx emissions potentially can be controlled by post-combustion reduction systems (i.e., selective catalytic reduction (SCR) and selective non-catalytic reduction (SNCR)). SCR and SNCR have not been applied to recovery boilers and are considered technically unproven and infeasible at this time.

A review of the proposed NOx increases in potential emissions have shown that there will not be an adverse affect to the environment.

Therefore, the Department does not feel that a more stringent emission rate is justified and believes the emission rate that was requested by the applicant is representative of BACT.

3. CO and VOC

Previous BACT determinations for CO and VOC have been justified with emissions rates of 169 - 1,000 ppmvd, corrected to 8% O₂, and 0.044 - 0.61 lb/ton BLS, respectively. All previous BACT determinations for control of CO and VOC have been based on good combustion practices.

A review of the proposed CO and VOC increases in potential emissions have shown that there will not be an adverse affect to the environment.

The Department does not feel that more stringent emission rates are justified and believes the emission rates that were requested by the applicant are representative of BACT.

4. Visible Emissions

Since PM/PM₁₀ emissions are subject to BACT, then a standard for visible emissions (VE) is warranted. Pursuant to F.A.C. Rule 17-2.610(2), General Visible Emissions Standard, the VE standard is less than 20% opacity. Previous BACT determinations have justified a VE limit of 20% opacity. Therefore, a more stringent emission limit is not justified.

B. No. 4 SDTs (North & South units):

1. PM/PM₁₀

A review of recent BACT determinations for PM/PM₁₀ from smelt dissolving tanks indicate that the emission rate proposed by the applicant does not represent BACT. The rationale for establishing BACT at a lower than proposed level is presented as follows:

Previous BACT determinations for PM emissions have been justified with emissions rates of 0.12 - 0.20 lb/ton BLS input to the RB; and, the sources were controlled with wet scrubbers, as are the No. 4 SDTs. It has been demonstrated that the No. 4 SDTs wet scrubber control system can control emissions to less than 10 lbs/hr total (0.095 lb/ton BLS input). The venturi scrubber control system has a design minimum efficiency of 95% for submicron size particles.

The process weight table, which was requested by the applicant, is not at all justified because it is not technology nor control based.

A review of the proposed PM/PM₁₀ increases in potential emissions have shown that there will not be an adverse affect to the environment.

Therefore, based on previous BACT determinations and actual test results, the Department feels that an emission rate of 0.12 lb/ton BLS is more representative of BACT.

2. Visible Emissions

Since PM/PM₁₀ emissions are subject to BACT, then a standard for visible emissions (VE) is warranted. Pursuant to F.A.C. Rule 17-2.610(2), General Visible Emissions Standard, the VE standard is less than 20% opacity. Previous BACT determinations have justified a VE limit of 20% opacity. Therefore, a more stringent limit is not justified. However, the imposition of a VE standard will not be applied due to moisture interference from the associated wet venturi scrubber control system; but, it will be used as an indicator of a potential non-compliance with the mass emission limiting standard and will initiate a special PM/PM₁₀ mass compliance test requirement pursuant to F.A.C. Rule 17-2.700(2)(b) when the Department observes an opacity of 20% using DER Method 9.

C. No. 4 LK:

1. PM/PM₁₀

A review of recent BACT determinations for PM/PM₁₀ from lime kilns at kraft pulp mills indicate that the emission rate proposed by the applicant does not represent BACT. The rationale for establishing BACT at a lower than proposed level is presented as follows:

Previous BACT determinations have justified emissions rates of 0.054 - 0.130 gr/dscf, corrected to 10% O₂. Two of the previous BACT determinations set the emissions rate at 0.067 gr/dscf, corrected to 10% O₂, while firing liquid fossil fuel; also, each source was equipped with a wet venturi scrubber control system. The No. 4 LK will be firing No. 6 fuel oil and is also equipped with a wet venturi scrubber control system.

The NSPS emission rate for lime kilns (new/modified sources) firing liquid fossil fuel is 0.13 gr/dscf, corrected to 10% O₂. Section 111 of the Clean Air Act requires that each NSPS be revisited every 5 years for review and evaluation. Since the lowest BACT determination is 0.054 gr/dscf, corrected to 10% O₂, it seems likely that the allowable emission rate will be reduced. The NSPS, 40 CFR 60, Subpart BB is to be revisited this year.

The previous stack test results for the No. 4 LK exhibit emissions rates of 0.06 - 0.079 gr/dscf, corrected to 10% O₂. The Zurn scrubber's design control efficiency is 99.0% for PM at submicron size.

A review of the proposed PM/PM₁₀ increases in potential emissions have shown that there will not be an adverse affect to the environment.

Therefore, based on previous BACT determinations and actual test results, the Department believes that an emission rate of 0.081 gr/dscf, corrected to 10% O₂, is more representative of BACT.

2. NOx

Previous BACT determinations have justified emissions rates of 100 - 336 ppmv, corrected to 10% O₂. In terms of lime produced, the range was 1.55 - 4.32 lbs/ton CaO produced. The proposed No. 4 LK BACT determination by the applicant is within the range of the previously issued BACT determinations.

A review of the proposed NOx increases in potential emissions have shown that there will not be an adverse affect to the environment.

The Department does not feel that a more stringent emission rate is justified and believes the emission rate that was requested by the applicant is representative of BACT.

3. CO

Previous BACT determinations have a CO emission rate range of 52 - 240 ppmvd, corrected to 10% O₂, and, in terms of lime produced, 0.48 - 26.16 lbs/ton CaO produced. For the No. 4 LK, the applicant used an AP-42 emission factor to propose a BACT of 45 ppmvd @ 4% O₂, corrected to 10% O₂ (0.38 lbs/ton CaO produced), which is at the lower end of previous BACT determinations.

A review of the proposed CO increases in potential emissions have shown that there will not be an adverse affect to the environment. The Department does not feel that a more stringent emission rate is justified and believes the emission rate that was requested by the applicant is representative of BACT:

4. VOC

Previous BACT determinations have a VOC emissions rate range of 31 - 185 ppmvd, corrected to 10% O₂, and, in terms of lime produced, 0.24 - 1.2 lbs/ton CaO produced. The applicant used a NACSI emission factor to propose a BACT of 190 ppmvd @4% O₂, corrected to 10% O₂ (0.91 lbs/ton CaO produced), which is slightly higher than previous BACT determinations.

A review of the proposed VOC increases in potential emissions have shown that there will not be an adverse affect to the environment.

The Department feels that the source can achieve the emission rate that has been justified in previous BACT determinations (185 ppmvd), which is slightly less than what was requested (190 ppmvd) by the applicant.

5. VE

Since PM/PM₁₀ emissions are subject to BACT, then a standard for visible emissions (VE) is warranted. Pursuant to F.A.C. Rule 17-2.610(2), General Visible Emissions Standard, the VE standard is less than 20% opacity. Previous BACT determinations have justified a VE limit of 20% opacity. Therefore, a more stringent limit is not justified. However, the imposition of a VE standard will not be applied due to moisture interference from the associated Zurn wet scrubber control system; but, it will be used as an indicator of a potential non-compliance with the mass emission limiting standard (BACT) and will initiate a special PM/PM₁₀ mass compliance test requirement pursuant to F.A.C. Rule 17-2.700(2)(b) when the Department observes an opacity of 20% using DER Method 9.

BACT Determination Summary and Results:

A. No. 4 Recovery Boiler:

For the No. 4 RB, the Department has evaluated the pollutants PM/PM₁₀, NOx, CO, VOC and visible emissions for BACT. Actual test results, ESP maintenance/upgrade, and previous BACT determinations suggest that a lower PM/PM₁₀ emission rate can be achieved. Even though a visible emissions limit was not requested by the applicant, the Department will propose a level that will be equivalent to previous BACT determinations and F.A.C. Chapter 17-2. The Department will establish emission rates for NOx, CO and VOC at the

emission rates that were requested by the applicant. Therefore, the Department has determined that BACT should be as follows:

- *PM/PM₁₀ 0.033 gr/dscf, corrected to 8% O₂
(83.2 lbs/hr; 364.4 TPY)
- *NOx 100 ppmvd, corrected 8% O₂, 24-hr
and annual avg. (210.6 lbs/hr; 922.4 TPY)
- *CO 400 ppmvd, corrected to 8% O₂, annual
average (512.7 lbs/hr; 2,245.6 TPY)
800 ppmvd, corrected to 8% O₂, 1-hr
level (1,025.4 lbs/hr; 4,491.3 TPY)
- *VOC 0.52 lb/ton BLS (54.6 lbs/hr; 239.1 TPY)
- *VE less than 20% opacity

B. No. 4 Smelt Dissolving Tanks (North & South units):

For the No. 4 SDTs (North & South units), the Department has evaluated PM/PM₁₀ and visible emissions for BACT. Actual test results and previous BACT determinations suggest that a lower PM/PM₁₀ emissions rate can be achieved. Even though a visible emissions limit was not requested by the applicant, the Department will propose a level that will be equivalent to previous BACT determinations and F.A.C. Chapter 17-2. Therefore, the Department has determined that BACT should be as follows:

- *PM/PM₁₀ 0.12 lb/ton BLS input to the No. 4 RB
(12.6 lbs/hr; 55.2 TPY)
- *VE less than 20% opacity
(deferred due to moisture interference)

C. No. 4 Lime Kiln:

For the No. 4 LK, the Department has evaluated the pollutants PM/PM₁₀, NOx, CO, VOC and visible emissions for BACT. Actual test results and previous BACT determinations suggest that a lower PM/PM₁₀ emission rate can be achieved. Even though a visible emissions limit was not requested by the applicant, the Department will propose a level that will be equivalent to previous BACT determinations and F.A.C. Chapter 17-2. The Department will establish emission rates for NOx and CO at the emission rates that were requested by the applicant. The VOC emission rate will be equivalent to previous BACT determinations and slightly less than what had been requested by the applicant. Therefore, the Department has determined that BACT should be as follows:

*PM/PM₁₀ 0.081 gr/dscf, corrected to 10% O₂
(26.0 lbs/hr; 113.9 TPY)
99.0% efficiency

*NOx 290 ppmvd, corrected to 10% O₂
(50.3 lbs/hr; 223.3)
kiln design and operation

*CO 69 ppmvd, corrected to 10% O₂
(7.3 lbs/hr; 32.0)
kiln design and operation

*VOC 185 ppmvd, corrected to 10% O₂
(17.2 lbs/hr; 75.3 TPY)
kiln design and operation

*VE less than 20% opacity
(deferred due to moisture interference)

Details of the Analysis May be Obtained by Contacting:

Barry Andrews, P.E., BACT Coordinator
Department of Environmental Regulation
Bureau of Air Regulation
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

Recommended by:

Approved by:

C. H. Fancy, P.E., Chief
Bureau of Air Regulation

Carol M. Browner, Secretary
Dept. of Environmental Regulation

_____, 1991
Date

_____, 1991
Date

Attachments Available Upon Request

as determined by the methods specified in paragraph (f), except for periods not to exceed a total of 5 minutes during any 2 consecutive hours.

(2) Flares shall be operated with a flame present at all times, as determined by the methods specified in paragraph (f).

(3) Flares shall be used only with the net heating value of the gas being combusted being 11.2 MJ/scm (300 Btu/scf) or greater if the flare is steam-assisted or air-assisted; or with the net heating value of the gas being combusted being 7.45 MJ/scm (200 Btu/scf) or greater if the flare is non-assisted. The net heating value of the gas being combusted shall be determined by the methods specified in paragraph (f).

(4)(i) Steam-assisted and nonassisted flares shall be designed for and operated with an exit velocity, as determined by the methods specified in paragraph (f)(4), less than 18.3 m/sec (60 ft/sec), except as provided in paragraphs (b)(4) (ii) and (iii).

(ii) Steam-assisted and nonassisted flares designed for and operated with an exit velocity, as determined by the methods specified in paragraph (f)(4), equal to or greater than 18.3 m/sec (60 ft/sec) but less than 122 m/sec (400 ft/sec) are allowed if the net heating value of the gas being combusted is greater than 37.3 MJ/scm (1,000 Btu/scf).

(iii) Steam-assisted and nonassisted flares designed for and operated with an exit velocity, as determined by the methods specified in paragraph (f)(4), less than the velocity, V_{max} , as determined by the method specified in paragraph (f)(5), and less than 122 m/sec (400 ft/sec) are allowed.

(5) Air-assisted flares shall be designed and operated with an exit velocity less than the velocity, V_{max} , as determined by the method specified in paragraph (f)(6).

(6) Flares used to comply with this section shall be steam-assisted, air-assisted, or nonassisted.

(d) Owners or operators of flares used to comply with the provisions of this subpart shall monitor these control devices to ensure that they are operated and maintained in conformance with their designs. Applicable subparts

will provide provisions stating how owners or operators of flares shall monitor these control devices.

(c) Flares used to comply with provisions of this subpart shall be operated at all times when emissions may be vented to them.

(f)(1) Reference Method 22 shall be used to determine the compliance of flares with the visible emission provisions of this subpart. The observation period is 2 hours and shall be used according to Method 22.

(2) The presence of a flare pilot flame shall be monitored using a thermocouple or any other equivalent device to detect the presence of a flame.

(3) The net heating value of the gas being combusted in a flare shall be calculated using the following equation:

$$H_T = K \sum_{i=1}^n C_i H_i$$

where:

H_T = Net heating value of the sample, MJ/scm; where the net enthalpy per mole of offgas is based on combustion at 25 °C and 760 mm Hg, but the standard temperature for determining the volume corresponding to one mole is 20 °C;

$$K = \text{Constant}, \quad 1.740 \times 10^{-7} \quad \left(\frac{1}{\text{ppm}}\right) \quad \left(\frac{\text{g mole}}{\text{scm}}\right) \quad \left(\frac{\text{MJ}}{\text{kcal}}\right)$$

where the standard temperature for $\left(\frac{\text{g mole}}{\text{scm}}\right)$ is 20°C;

C_i = Concentration of sample component i in ppm on a wet basis, as measured for organics by Reference Method 18 and measured for hydrogen and carbon monoxide by ASTM D1946-77 (Incorporated by reference as specified in § 60.17); and
 H_i = Net heat of combustion of sample component i , kcal/g mole at 25 °C and 760 mm Hg. The heats of combustion may be determined using ASTM D2382-76 (incorporated by reference as specified in § 60.17) if published values are not available or cannot be calculated.

(4) The actual exist velocity of a flare shall be determined by dividing the volumetric flowrate (in units of standard temperature and pressure), as determined by Reference Methods 2, 2A, 2C, or 2D as appropriate; by the unobstructed (free) cross sectional area of the flare tip.

(5) The maximum permitted velocity, V_{max} , for flares complying with paragraph (c)(4)(iii) shall be determined by the following equation.

$$\text{Log}_{10} (V_{max}) = (H_T + 28.8) / 31.7$$

V_{max} = Maximum permitted velocity, M/sec
 28.8 = Constant

31.7 = Constant

H_T = The net heating value as determined in paragraph (f)(3).

(6) The maximum permitted velocity, V_{max} , for air-assisted flares shall be determined by the following equation.

$$V_{max} = 8.706 + 0.7084 (H_T)$$

V_{max} = Maximum permitted velocity, m/sec

8.706 = Constant

0.7084 = Constant

H_T = The net heating value as determined in paragraph (f)(3).

[51 FR 2701, Jan. 21, 1986]

§ 60.18 General control device requirements.

(a) *Introduction.* This section contains requirements for control devices used to comply with applicable subparts of Part 60 and Part 61. The requirements are placed here for administrative convenience and only apply to facilities covered by subparts referring to this section.

(b) *Flares.* Paragraphs (c) through (f) apply to flares.

(c)(1) Flares shall be designed for and operated with no visible emissions