



Department of Environmental Protection

Lawton Chiles
Governor

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

Virginia B. Wetherell
Secretary

August 1, 1995

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

Mr. Henry Hirschman, General Manager
Georgia - Pacific Corporation
P.O. Box 919
Palatka, FL 32178-0919

Dear Mr. Hirschman:

Enclosed is a copy of the Technical Evaluation and Preliminary Determination, proposed BACT determination, and draft permit to modify your Kraft pulp mill in Palatka, Putnam County, Florida. The modification includes replacing two batch digesters, installing a TRS scrubber, adding screen tubes to the recovery boiler, installing a new chip conditioner system, installing a white liquor heat exchanger, and installing an automatic cleaning system on the lime mud filter.

Submit any written comments you wish to have considered concerning the Department's proposed action to Mr. A. A. Linero of the Bureau of Air Regulation. If you have any questions regarding this matter, please call Willard Hanks at (904)488-1344.

Sincerely,

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

CHF/WH/t

Enclosure

cc: Chris Kirts, NED
Jewell Harper, EPA
John Bunyak, NPS
David Buff, P.E., KBN

Z 392 979 014



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PS Form 3800, March 1993

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| AC 54-366676 PSD-FI-236 | |

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Henry Hirschman, G.M.
SA-Pacific Corp.
PO BOX 919
Palatka, FI 32178-0919

4a. Article Number
Z 392 979 014

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STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL PROTECTION

CERTIFIED MAIL

In the Matter of an
Application for Permit
Amendment by:

DEP File No. AC 54-266676
PSD-FL-226
Putnam County

Mr. Henry Hirschman, General Manager
Georgia - Pacific Corporation
P.O. Box 919
Palatka, FL 32178-0919

INTENT TO ISSUE

The Department of Environmental Protection (Department) hereby gives notice of its intent to issue a construction permit (copy attached) for the proposed project, as detailed in the file specified above, for the reasons stated in the attached Technical Evaluation and Preliminary Determination.

The applicant, Georgia-Pacific Corporation, applied on March 15, 1995, for an air construction permit to modify its Kraft pulp mill located in Palatka, Putnam County, Florida. The modification involves replacing two batch digesters, installing a TRS scrubber, adding additional screen tubes in the recovery boiler, installing a new chip conditioner system, installing a white liquor heating system, and installing an automatic cleaning system on the lime mud filter. The modification has the potential to increase pulp production. Based on the current actual emissions and future potential emissions anticipated for the affected units within the facility, the project constitutes a major modification at a major stationary facility and is subject to a review for Prevention of Significant Deterioration (PSD) and a determination of Best Available Control Technology (BACT).

The Department has permitting jurisdiction under the provisions of Chapter 403, Florida Statutes (F.S.), and Chapters 62-212 and 62-4, Florida Administrative Code (F.A.C.). The project is not exempt from permitting procedures. The Department has determined that a permit amendment is required for the proposed action.

Pursuant to Section 403.815, Florida Statutes 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 Permit. 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. Where there is more than one newspaper of general circulation in the county, the newspaper used must be one with significant circulation in the area that may be affected by the permit. If you are uncertain that a newspaper meets these requirements, please contact the department at the address or telephone number listed below. The applicant shall provide proof of publication to the Department, at [Department address] 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 permit.

The Department will issue the permit 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, F.S. 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 their 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, F.S.

The Petition shall contain the following information;

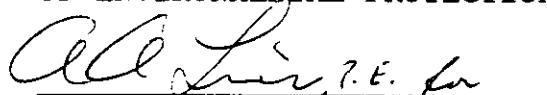
- (a) The name, address, and telephone number of each petitioner, the applicant's name and address, the Department Permit File Number and the county in which the project is proposed;
- (b) A statement of how and when each petitioner received notice of the Department's action or proposed action;
- (c) 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 intent. Persons whose substantial interests will be affected by any decision of the Department with regard to the application 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 receipt of this intent 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.

Executed in Tallahassee, Florida.

STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL PROTECTION



C. H. Fancy, P.E., Chief
Bureau of Air Regulation
2600 Blair Stone Road
Tallahassee, Florida 32399-2400
904-488-1344
Georgia-Pacific Corporation
AC54-266676/PSD-FL-226

Georgia-Pacific Corporation

AC 54-266676/PSD-FL-226

CERTIFICATE OF SERVICE

The undersigned duly designated deputy clerk hereby certifies that this INTENT TO ISSUE and all copies were mailed by certified mail before the close of business on 8-2-95 to the listed persons.

Clerk Stamp

FILING AND ACKNOWLEDGMENT

FILED, on this date, pursuant to §120.52(11), Florida Statutes, with the designated Department Clerk, receipt of which is hereby acknowledged.

Karin Joken
Clerk

8-2-95
Date

Copies furnished to:

cc: Chris Kirts, NED
Jewell Harper, EPA
John Bunyak, NPS
David Buff, P.E., KBN

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
NOTICE OF INTENT TO ISSUE PERMIT

AC 54-266676
PSD-FL-226

The Department of Environmental Protection (Department) gives notice of its intent to issue a construction permit, No. AC 54-266676/PSD-FL-226, to Georgia-Pacific Corporation for a modification of its Kraft pulp mill located in Palatka, Putnam County, Florida. The project is primarily a continuation of modernization and efficiency improvements at the plant rather than a major expansion of capacity. The modification consists of replacement of the last two of thirteen digesters with modern, larger units; installation of furnace screen tubes in the recovery boiler to cool combustion gases; installation of a new wood chip conditioner system; replacement of the white liquor heater; and installation of an automatic cleaning system on the lime mud filter. Although this permit does not authorize an increase in the allowable production, the mill, if operated at its the permitted production rate, has the potential to increase actual emissions by 300.0 tons per year (TPY) particulate matter (PM/PM10), 36.1 TPY sulfur dioxide (SO₂), 626.0 TPY nitrogen oxides (NO_x), 1022.5 TPY carbon monoxide (CO), 322.2 TPY volatile organic compounds (VOC), 88.5 TPY total reduced sulfur (TRS), 0.04 TPY lead, 0.009 TPY mercury, and 0.0011 TPY beryllium (Be). Sulfuric acid mist (SAM) emissions will decrease by 12.4 TPY. The increase in the allowable emissions of PM/PM10, NO_x, CO, VOC, TRS, and Be are above the significant emission rates and subjects the proposed modification to the Prevention of Significant Deterioration (PSD) new source review regulations. The allowable emissions of these pollutants are set by a Best Available Control Technology (BACT) determination.

The maximum predicted increases in particulate matter less than 10 microns (PM10) concentrations and nitrogen dioxide (NO₂) concentrations due to the project are less than the respective PSD Class I and Class II significant impact levels. Thus,, no PSD PM10 or NO₂ increment consumption was calculated for this project.

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 (F.S.). 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 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, F.S.

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 application 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, Florida Administrative Code.

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

Department of Environmental Protection
Bureau of Air Regulation
111 S. Magnolia Drive, Suite 4
Tallahassee, Florida 32301

Department of Environmental Protection
Northeast District
7825 Baymeadows Way
Suite B200
Jacksonville, Florida 32256-7577

Any person may send written comments on the proposed action to Administrator, New Source Review, at the Department of Environmental Protection, Bureau of Air Regulation, Mail Station 5505, 2600 Blair Stone Road, Tallahassee, Florida 32399-2400. All comments received within 14 days of the publication of this notice will be considered in the Department's final determination.

Further, a public hearing can be requested by any person(s).
Such request must be submitted within 30 days of this notice.

TECHNICAL EVALUATION
AND
PRELIMINARY DETERMINATION

Georgia-Pacific Corporation
Putnam County
Palatka, Florida

Digester Replacement and Pulp Mill Efficiency Improvement Projects

Department File No. AC 54-266676
PSD-FL-226

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

August 1, 1995

I. General Information

A. Applicant

Georgia-Pacific Corporation
P. O. Box 919
Palatka, Florida 32178-0919

B. Request

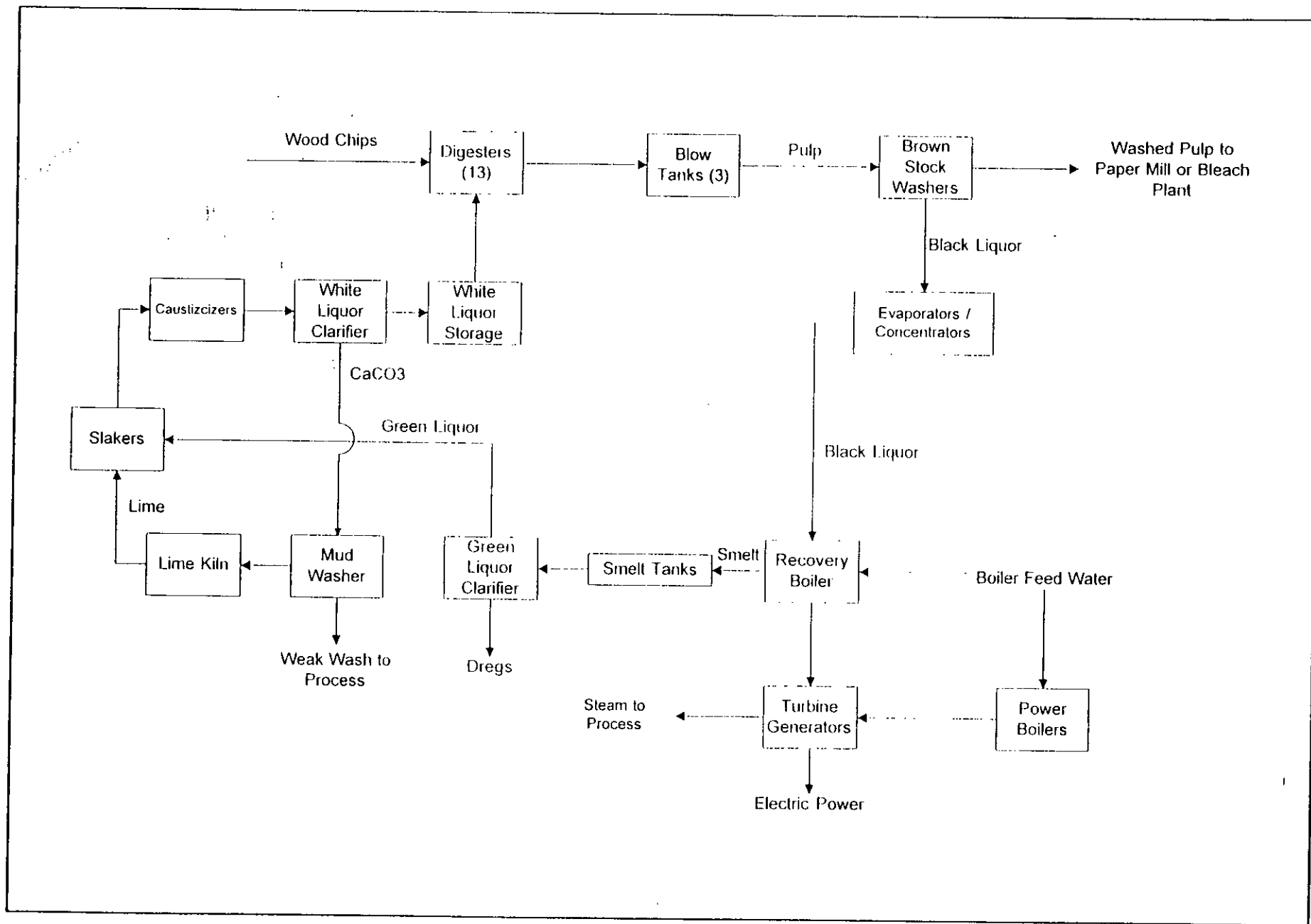
On March 15, 1995, Georgia-Pacific Corporation submitted an application for an air construction permit to modify its pulp and paper mill (SIC 2611) located near the intersection of County Road 216 and U.S. Highway 17, Palatka, Putnam County, Florida. The UTM coordinates of the facility are Zone 17, 434.0 km E and 3283.4 km N. The requested modification is to replace two of the existing thirteen digesters with larger units, add screen tubes to the recovery boiler, install a new TRS scrubber, install a new chip conditioning system, install a white liquor heating system, and install an automatic cleaning system on the lime mud filter. The application was complete on May 17, 1995.

C. Process

The Flow Diagram on the next page shows the main operations in the process used at this facility. Following is a brief description of how Kraft paper is manufactured. Bark is removed from the logs. The logs are reduced to chips. The chips are sent to the digester system where they are cooked with white liquor chemicals (sodium sulfide and caustic soda) that dissolve the wood lignins and hemicellulose. The digester charge is then sent to the brown stock washer system. The pulp fiber goes to the paper machines. The black liquor is decanted. The soap is sent to the Tall Oil Plant for treatment. The black liquor solution is sent to the multiple effect evaporators. The liquor containing the spent chemicals and lignins is concentrated in the evaporators and then burned in a recovery furnace. The smelt leaving the recovery furnace is discharged to the smelt dissolving tank to form green liquor. Lime, produced from recalcined mud by the lime kiln, is added to causticize the liquor which is then sent back to the digesters as white liquor to repeat the cycle.

D. Emissions

Replacing the two digesters with larger units can theoretically increase production by 40 tons per day (TPD) of air-dried unbleached pulp (ADUP). However, the present federally-enforcable plant production limits of 118 TPH and 1850 TPD ADUP will be maintained.



| | | | |
|---------------------------------|---------|----------------------------------------|--|
| Figure 1. Facility Flow Diagram | | Emission Unit: Overall Plant | |
| | | Process Area: Overall Plant | |
| Georgia-Pacific Corporation | Palatka | Filename: GPPSD.VSD | |
| | | Latest Revision Date: 5/24/95 01:30 PM | |



Adding the screen tubes to the recovery boiler will increase the capacity of the boiler by 4 percent. Because the recovery boiler is presently unable to utilize all of the black liquor produced, its actual production rate will likely increase. Thus emissions from operations related to utilization of black liquor will also likely increase. In any case, the future potential process and emission rates for the digester, boiler and other associated operations will be greater than past recent levels, which is why the plant is subject to this evaluation.

Table 2-1 in the application lists the current actual emissions from the affected units at this facility.

Table 2-2 lists the proposed emissions of the affected sources after the modification of this facility.

Table 3-3 shows the net emission increase of the regulated air pollutants resulting from the proposed modification that was requested by the applicant. The proposed increase in the emissions of the air pollutants --particulate matter (PM and PM₁₀), nitrogen oxides (NO_x), carbon monoxide (CO), volatile organic compounds (VOC), total reduced sulfur (TRS), and beryllium-- is above the significant emissions rates.

II. Rule Applicability

The proposed project, modification of a Kraft pulp and paper mill (SIC 2611), is subject to the preconstruction requirements under the provision of Chapter 403, Florida Statutes (F.S.), and Chapters 62-4 and 62-212, Florida Administrative Code (F.A.C.).

The existing facility is located in Putnam County. This air quality area is designated attainment for all criteria pollutants. (Rule 62-275.400, F.A.C.)

The Kraft pulp mill is a major facility. The proposed modification has the potential to increase actual production and emissions for this mill. The increase in emissions of PM/PM₁₀, NO_x, CO, VOC, TRS, and beryllium are above the significant emissions rates (Table 212.400-2, F.A.C.). The new digesters are subject to 40 CFR 60, Subpart BB, New Source Performance Standards (NSPS) for Kraft pulp mills. The recovery boiler is not subject to the NSPS because the modification is being accomplished without a significant capital expenditure as defined in these regulations.

This modification is subject to the New Source Review (NSR)/Prevention of Significant Deterioration (PSD) requirements pursuant to Rule 62-212.400(5), F.A.C., which require a Best Available Control Technology (BACT) determination for PM, PM₁₀, NO_x,

Table 2-1. Current Actual Emissions From Affected Sources, Georgia--Pacific Palatka Operations

| Regulated Pollutant | Current Actual Emissions (TPY) | | | | | TOTAL |
|----------------------------|--------------------------------|----------|-----------|----------|----------------|---------|
| | No. 4 LK | No. 4 RB | No. 4 SDT | TALL OIL | TRS INCIN. | |
| Particulate matter (TSP) | 80.0 | 125.8 | 28.6 | --- | 23.2 | 257.6 |
| Particulate matter (PM10) | 80.0 | 125.8 | 28.6 | --- | 23.2 | 257.6 |
| Sulfur dioxide | 3.20 | 58.8 | 27.8 | --- | 2,115.2 | 2,205.0 |
| Nitrogen oxides | 125.5 | 410.3 | 55.7 | --- | 1.76 | 593.3 |
| Carbon monoxide | 9.60 | 1,246.2 | --- | --- | 0.30 | 1,256.1 |
| Volatile organic compounds | 3.20 | 11.7 | 71.3 | 23.5 | 0.10 | 109.8 |
| Sulfuric acid mist | 0.16 | 7.66 | 1.36 | --- | 103.6 | 112.8 |
| Total reduced sulfur | 4.40 | 13.3 | 4.84 | 0.32 | 0 ^a | 22.9 |
| Lead | 0.034 | 0.070 | 0.017 | --- | --- | 0.12 |
| Mercury | 0.00037 | 0.031 | 6.68E-05 | --- | --- | 0.031 |
| Beryllium | 0.0015 | 0.0022 | 5.20E-05 | --- | --- | 0.0038 |
| Fluorides | --- | --- | --- | --- | --- | --- |
| Asbestos | --- | --- | --- | --- | --- | --- |
| Vinyl Chloride | --- | --- | --- | --- | --- | --- |

^a Stack tests indicated TRS levels were below detectable limits.

Table 2-2. Future Maximum Annual Emissions From Affected Sources, Georgia-Pacific Palatka Operations

| Regulated Pollutant | Future Maximum Emissions (TPY) | | | | | |
|----------------------------|--------------------------------|----------|-----------|----------|------------|---------|
| | No. 4 LK | No. 4 RB | No. 4 SDT | TALL OIL | TRS INCIN. | TOTAL |
| Particulate matter (TSP) | 113.9 | 364.4 | 55.2 | -- | 24.1 | 557.6 |
| Particulate matter (PM10) | 113.9 | 364.4 | 55.2 | -- | 24.1 | 557.6 |
| Sulfur dioxide | 47.7 | 481.4 | 34.5 | -- | 1,677.5 | 2,241.1 |
| Nitrogen oxides | 220.3 | 922.4 | 69.0 | -- | 7.60 | 1,219.3 |
| Carbon monoxide | 32.0 | 2,245.6 | -- | -- | 1.03 | 2,278.6 |
| Volatile organic compounds | 75.3 | 239.1 | 88.3 | 29.0 | 0.27 | 432.0 |
| Sulfuric acid mist | 2.34 | 14.2 | 1.70 | -- | 82.2 | 100.44 |
| Total reduced sulfur | 17.5 | 78.0 | 14.9 | 0.50 | 0.53 | 111.4 |
| Lead | 0.045 | 0.090 | 0.021 | -- | -- | 0.16 |
| Mercury | 0.00049 | 0.039 | 8.28E-05 | -- | -- | 0.040 |
| Beryllium | 0.0020 | 0.0028 | 6.44E-05 | -- | -- | 0.0049 |
| Fluorides | -- | -- | -- | -- | -- | -- |
| Asbestos | -- | -- | -- | -- | -- | -- |
| Vinyl Chloride | -- | -- | -- | -- | -- | -- |

Table 3-3. Net Emissions Increase Associated With Proposed Project, Georgia-Pacific Palatka Operations

| Regulated Pollutant | Current Actual Emissions (TPY) | Future Maximum Emissions (TPY) | Net Increase In Emissions (TPY) | PSD Significant Emission Rate (TPY) | PSD Review Applies? |
|----------------------------|--------------------------------|--------------------------------|---------------------------------|-------------------------------------|---------------------|
| Particulate matter (TSP) | 257.6 | 557.6 | 300.0 | 25 | Yes |
| Particulate matter (PM10) | 257.6 | 557.6 | 300.0 | 15 | Yes |
| Sulfur dioxide | 2,205.0 | 2,241.1 | 36.1 | 40 | No |
| Nitrogen oxides | 593.3 | 1,219.3 | 626.0 | 40 | Yes |
| Carbon monoxide | 1,256.1 | 2,278.6 | 1,022.5 | 100 | Yes |
| Volatile organic compounds | 109.8 | 432.0 | 322.2 | 40 | Yes |
| Sulfuric acid mist | 112.8 | 100.4 | -12.4 | 7 | No |
| Total reduced sulfur | 22.9 | 111.4 | 88.5 | 10 | Yes |
| Lead | 0.12 | 0.16 | 0.04 | 0.6 | No |
| Mercury | 0.031 | 0.040 | 0.009 | 0.1 | No |
| Beryllium | 0.0038 | 0.0049 | 0.0011 | 0.0004 | Yes |
| Fluorides | --- | -- | -- | 3 | No |
| Asbestos | --- | -- | -- | 0.007 | No |
| Vinyl Chloride | --- | -- | -- | 1 | No |

CO, VOC, TRS, and beryllium pursuant to Rule 62-212.410, F.A.C.

III. Technical Evaluation

Two of the existing 13 digesters will be replaced with larger units. Existing digesters Nos. 11 and 12, which have a volume of 4,000 ft³ each, will be replaced with new digesters that are 4,900 ft³ each. The larger digesters will allow a 40 TPD increase in pulp production. However, the higher production rate is below the current permitted capacity of 118 TPH and 1,850 TPD ADUP.

Currently, the emissions from the digester system are controlled by the TRS incinerator which exposes the gases to 1,200 °F for a minimum of 0.5 seconds and converts the TRS to sulfur dioxide (SO₂). This complies with the NSPS for digesters. As part of this project, a TRS packed tower scrubber will be installed prior to the incinerator. The scrubber will be designed to remove 50 percent of the TRS. The potential SO₂ emissions from the incinerator will be reduced by the scrubber from 2,115.2 TPY to 1,677.5 TPY. The incinerator will also be allowed to emit 5 ppmvd @ 10 percent O₂ and 0.12 lbs/hr (12-hour average) TRS, 5.5 lbs/hr and 24.1 TPY PM/PM₁₀ (total particulate matter), 1.74 lbs/hr and 7.60 TPY NO_x, 0.24 lbs/hr and 1.03 TPY CO, and 0.06 lbs/hr and 0.27 TPY VOC. NO_x and CO emissions are lower when natural gas is burned. Sulfuric acid mist (SAM) emissions (estimated to be 4 percent of the SO₂) are 18.8 lbs/hr (24-hr), and 82.2 TPY.

The additional screen tubes for the No. 4 Recovery Boiler will improve the boiler's performance and increase black liquor throughput by 4 percent. The higher production rate will still be below the previously permitted rate of 210,000 lbs/hr of black liquor solids (BLS) or 5.04E+6 lbs/day BLS. The electrostatic precipitator (ESP) used to control PM/PM₁₀ (including beryllium) will meet an emission limit of 0.030 gr/dscf @ 8 percent O₂ and 75.6 lbs/hr.

Recovery furnaces inherently produce less NO_x emissions than fossil fuel furnaces. Good Combustion Practice will be used to further control NO_x emissions. An emission standard of 80 ppmvd @ 8 percent O₂ and 168.5 lbs/hr is set for NO_x by the Department.

Good Combustion Practice will be used to control CO and VOC emissions from the recovery boiler. The CO emission standard is set at 800 ppmvd @ 8 percent O₂ and 1,025.4 lbs/hr (3-hour average) and 400 ppmvd @ 8 percent O₂ and 512.7 lbs/hr (24-hour average). The VOC emission standard will be 0.30 lbs/ton BLS and 31.5 lbs/hr.

The TRS emission limit is set at 11.2 ppmvd @ 8 percent oxygen

and 17.5 lbs/hr, 12-hour maximum, and 7.0 ppmvd @ 8 percent O₂ and 10.9 lbs/hr, 12-month rolling average.

Several other changes that have the potential to increase efficiency or production are installing a new chip conditioner system, installing a white liquor heating system, and adding an automatic cleaning system to the lime mud filter. Unaffected by the proposed modifications are the No. 4 and No. 5 Power Boilers and the No. 4 Bark/Oil-fired Combination Boiler. Although there are no modifications being made to the other process equipment (multiple-effect evaporator system, condensate stripper system, No. 4 Smelt Dissolving Tanks, No. 4 Lime Kiln, and the Tall Oil Plant (TOP)), the production and actual emissions may increase because of the higher throughput of the rest of the plant. The allowable emissions from the current permits for these units are retained.

The Department accepts the existing air pollution control systems at this existing facility as meeting the BACT. However, the emissions limits need to reflect what this equipment is capable of achieving. The Department has reviewed the recent emission test data and has determined that lower allowable emission standards for some air pollutants can be met. See the BACT determination for additional information on the emission standards selected as BACT for this modification.

A summary of the Department's proposed emission limits for the affected sources is shown in the following table.

Summary of the Department's Proposed Emissions from the
Affected Sources

| Pollutant | Units ^a | No. 4 Recovery Boiler | No. 4 Smelt Tank ^b | No. 4 Lime Kiln | Tall Oil Plant | TRS Incinerator |
|---------------------|--------------------|-----------------------------|-------------------------------------|-----------------------|----------------------|----------------------|
| PM/PM ₁₀ | lbs/hr | 75.6 | 12.6 | 26.0 | | 5.5 |
| | TPY | 331.1 | 55.2 | 113.9 | | 24.1 |
| SO ₂ | lbs/hr | 109.9 | 7.9 | 10.9 | | 383.0 (24 hour) |
| | TPY | 481.4 | 34.5 | 47.7 | | 1,677.5 ^c |
| NO _x | lbs/hr | 168.5 | 15.8 | 50.3 | | 1.74 |
| | TPY | 738.1 | 69.0 | 220.3 | | 7.60 |
| CO | lbs/hr | 1025.4 ^d | | 7.3 | | 0.24 |
| | TPY | 2245.6 | | 32.0 | | 1.03 |
| VOC | lbs/hr | 31.5 | 20.2 | 17.2 | 13.3 (12-hr) | 0.06 |
| | TPY | 138.0 | 88.3 | 75.3 | 29.0 | 0.27 |
| TRS | lbs/hr (12-hr) | 17.5 | 3.4 | 4.0 | 0.23 | 0.12 |
| | TPY | 47.7 | 14.9 | 17.5 | 0.50 | 0.53 |
| SAM | lbs/hr | 3.2 | 0.39 | 0.5 | | 18.8 |
| | TPY | 14.2 | 1.7 | 2.34 | | 82.3 |
| Beryllium | lbs/hr | 6.4E-4 | 1.5E-5 | 4.5E-4 | | |
| | TPY | 2.8E-3 | 6.4E-5 | 2.0E-3 | | |

Notes:

- a Unless otherwise stated
- b BLS = Black Liquor Solids
- c Average 383 lbs/hr SO₂ emissions from TRS incinerator.
- d 3-hour standard. 24-hour CO standard is 400 ppmvd @ 8% O₂, 512.7 lbs/hr, and 2,245.6 TPY.

IV. Air Quality Impact Analysis

A. Introduction

The proposed Georgia-Pacific Corporation project will emit seven pollutants in PSD significant amounts. These are the criteria pollutants: particulate matter (PM), particulate matter with an aerodynamic diameter of 10 microns or less (PM₁₀), nitrogen oxides (NO_x), carbon monoxide (CO), volatile organic compounds (VOCs), and the non-criteria pollutants are: total reduced sulfur (TRS), and Beryllium(Be). Values for all pollutants emitted by the project are shown in Table 1.

The air quality impact analyses required by the PSD regulations for these pollutants includes:

- An analysis of existing air quality;
- A PSD increment analysis;
- An Ambient Air Quality Standards (AAQS) analysis;
- An analysis of impacts on soils, vegetation, and visibility and of growth-related air quality modeling impacts; and
- A "Good Engineering Practice" (GEP) stack height determination.

The analysis of existing air quality generally relies on pre-construction monitoring data collected with EPA-approved methods. The PSD and AAQS analyses depend on the air quality dispersion modeling carried out in accordance with EPA guidelines.

On the basis of the required analyses, the Department has reasonable assurance that the proposed project, as described in this report and subject to the approval proposed herein, will not cause or contribute to a violation of any AAQS or PSD increment. However, the following EPA-directed stack height language is included: "In approving this permit, the Florida Department of Environmental Protection has determined that the application complies with the applicable provisions of the stack height regulations as reviewed by EPA on July 8, 1985 (50 FR 27895). Portions of the regulations have been remanded by a panel of the U.S. Court of Appeals for the D.C. Circuit in NRDC v. Thomas, 838 F.2d 1224 (D.C. Cir.1988). Consequently, this permit may be subject to modification if and when EPA revises the regulation in response to the court decision. This may result in revised emission limitations or may affect other actions taken by the source owners or operators." A discussion of the modeling procedure and required analyses follow.

B. Analysis of Existing Air Quality

Pre-construction ambient air quality monitoring is required for all pollutants subject to PSD review. However, an exemption to the monitoring requirement can be obtained if the maximum air quality impact, as determined by air quality modeling, is less than a pollutant-specific "de minimis" concentration. Pollutants which do not have a specified de minimis level may also be exempt from pre-construction monitoring requirements. In addition, if an acceptable ambient monitoring method for the pollutant has not been established by EPA, monitoring is not required.

The maximum concentrations predicted for the proposed project compared to the PSD de minimis monitoring concentrations are presented in Table 2.

Table1. Significant and Net Emission Rates (Tons Per Year)

| Pollutant | Existing Emissions (Actual) | Proposed Maximum Emissions | Net Emission Increases | Significant Emission Rate | Applicable Pollutant (Yes/No) |
|--------------------------------|-----------------------------|----------------------------|------------------------|---------------------------|-------------------------------|
| CO | 1256.1 | 2278.6 | 1022.5 | 100 | Yes |
| NO _x | 593.3 | 1219.3 | 626.0 | 40 | Yes |
| SO ₂ | 2205.0 | 2241.1 | 36.1 | 40 | No |
| PM | 257.6 | 557.6 | 300 | 25 | Yes |
| PM10 | 257.6 | 557.6 | 300 | 15 | Yes |
| O ₃ (VOC) | 109.8 | 432.0 | 322.2 | 40 | Yes |
| Lead | 0.12 | 0.16 | 0.04 | 0.6 | No |
| Beryllium | 0.0038 | 0.0049 | 0.0011 | 0.0004 | Yes |
| Mercury | 0.031 | 0.040 | 0.009 | 0.1 | No |
| H ₂ SO ₄ | 112.8 | 100.4 | -12.4 | 7 | No |
| TRS | 22.9 | 111.4 | 88.5 | 10 | Yes |

Table 2. Maximum Air Quality Impacts for Comparison to the De Minimus Ambient Levels.

| Pollutant | Avg. Time | Maximum Predicted Impact (ug/m3) | De Minimus Level (ug/m3) |
|------------------|-----------|----------------------------------|--------------------------|
| CO | 8-hour | 27 | 575.0 |
| NO ₂ | Annual | 0.6 | 14.0 |
| PM10 | 24-hour | 4.6 | 10.0 |
| VOC | Annual | 322.2 TPY | 100 TPY |
| Beryllium | 24-hour | 0.00012 | 0.001 |
| H ₂ S | 1-hour | 9.3 | 0.2 |

Table 2 shows that CO, NO₂, PM₁₀ and Be impacts from the project are predicted to be less than the de minimis levels. Therefore, pre-construction ambient air quality monitoring is not required for these pollutants. Table 2 also shows that VOC and TRS (as H₂S) impacts from the project are predicted to be greater than de minimis levels.

Four previously existing ambient ozone monitoring stations are near Palatka. Two of these stations are located in Jacksonville, about 40 miles north of Palatka, and two are located in Daytona Beach, about 40 miles southeast of Palatka. The ozone data from these stations were used to fulfill the monitoring requirement for ozone.

For non-criteria pollutants, such as TRS, EPA's general position is to not require monitoring data, but to base impacts on the modeling analysis. Even though the maximum predicted impact of TRS is greater than the significant monitoring concentration, the Department is not requiring pre-construction monitoring for this project because there are no EPA-approved monitoring methods for TRS.

C. Modeling Method

1. Model Selection

The EPA-approved Industrial Source Complex (ISC2) dispersion model was used to evaluate pollutant emissions from the proposed project. The model determines ground-level concentrations of inert gases or small particles emitted into the atmosphere by point, area and volume sources. The model incorporates elements for plume rise, transport by the mean wind, Gaussian dispersion, and pollutant removal mechanisms such as deposition. This model allows for the separation of sources, building wake downwash, and various other input and output features. A series of specific model features, recommended by the EPA, are referred to as the regulatory options. The applicant has used the EPA recommended regulatory options in each modeling scenario. Direction-specific downwash parameters were used because the stacks were less than the good engineering practice (GEP) stack height.

2. Meteorological Data

Detailed meteorological data are needed for modeling with the ISCST2 models. ISCST2 (short-term) requires a preprocessed data file compiled from hourly surface observations and concurrent twice-daily rawinsonde soundings.

Meteorological data used in the modeling consisted of five years (1983-1987) of hourly surface observations and twice-daily upper

air soundings from the National Weather Service (NWS) station at Jacksonville, Florida, and Waycross, GA. These NWS stations were selected for use in the study because they are the closest primary weather stations and are most representative of the plant site. The surface observations included wind direction, wind speed, temperature, cloud cover and cloud ceiling. The wind speed, cloud cover, and cloud ceiling values were used in the ISCST2 meteorological preprocessor program, RAMMET, to determine atmospheric stability using the Turner stability scheme. On the basis of the temperature measurements at morning and afternoon, mixing heights were calculated with the radiosonde data using the Holzworth approach. Hourly mixing heights were derived from the morning and afternoon mixing heights using the interpolation method developed by EPA. These hourly surface observations and mixing heights were used to develop a sequential series of hourly meteorological data which were then input into the ISCST2 model.

3. Receptors

Receptors were placed at locations considered to be ambient air; the nearest locations among them were at the property boundary. A total of 380 receptors were used in the significant impact analysis. These receptors were placed along 36 polar radials spaced 10 degrees apart and centered on the TRS incinerator at G-P. The first receptor was located at the plant property boundary with subsequent receptors located at off-site distances of 700, 1000, 1500, 2500, 3000, 3500, 4000, 4500, 5000, 10000, 15000, 20000, and 25000 meters.

The Okefenokee National Wilderness Area (ONWA) is approximately 111 km from the site and The Wolf Island National Wilderness Area (WINWA) is approximately 150 km from the site. Eleven receptors were used to predict maximum impacts in these Class I areas. These eleven receptors include ten receptors around the southern and eastern edges of the ONWA and 1 receptor the WINWA.

D. Significant Impact Analysis

1. Class II Area -

A summary of impacts from the significant impact modeling analysis is presented in Table 3 and compared to the significant impact levels. This summary shows that the impacts for these pollutants do not exceed the significant impact levels; therefore, further AAQS and PSD Class II increment consumption analyses are not required.

2. Class I Area

Maximum NO₂ and PM₁₀ impacts predicted at the OWNA and the WINWA for comparison to the National Park Service (NPS)-recommended Class I significance levels are presented in Table 4. As shown in the table, the maximum predicted impacts are less than the respective significant impact levels. Therefore, no further Class I modeling analysis was conducted.

E. Air Toxics Analysis

Be and TRS will be emitted at levels exceeding PSD significant amounts as shown in Table 1. Since neither national AAQS nor PSD increments have been defined for these pollutants, their control is determined by the BACT analysis.

The maximum impacts of toxic air pollutants that will be emitted by the proposed project, including Be and TRS, are presented in Table 5. Each pollutant's maximum 8-hour, 24-hour, and annual impact is compared to the Department's draft Ambient Reference Concentrations (ARC). As shown in the table, all predicted impacts are less than their respective ARC.

V. Additional Impacts Analysis

A. Impacts on Soils and Vegetation

Because the predicted impacts for all pollutants considered in the analysis are less than the significant impacts, the facility is not expected to have a significant adverse effect on regional vegetation or soils.

B. Impact on Visibility

Visual Impact Screening and Analysis, known as VISCREEN, the EPA-approved Level I visibility computer model was used to estimate the impact of proposed project's stack emissions upon visibility in the OWNA area. The emissions of PM and NO₂ were input to the model. Results of the Level I visibility impairment analysis demonstrate that all contract parameters have values less than the threshold values. Thus, emissions from the proposed facility will not have a significant impact on visibility in this area.

C. Growth-Related Air Quality Impacts

The proposed project will not require an increase in personnel to operate the plant. Therefore, no significant effect on the residential, commercial, and industrial growth in Putnam County is expected.

D. GEP stack height determination

Good Engineering Practice (GEP) stack height means the greater of: (1) 65 meters or (2) the maximum nearby building height plus the 1.5 times the building height or width, whichever is less. The stacks for this project are 25.9 meters, 33.5 meters, and 59.7 meters, respectively. They do not exceed the GEP stack height and will comply with GEP stack height regulations.

The potential for building downwash to occur was considered in the modeling analysis since the stacks are less than GEP height.

VI. Conclusion

The proposed project undertaken by Georgia-Pacific is primarily part of a modernization and efficiency improvement plan rather than new source construction or a significant plant capacity expansion.

On the basis of the information provided by Georgia-Pacific Corporation, the Department has reasonable assurance that the proposed modification of the Kraft pulp mill, as described in this evaluation and subject to the conditions proposed within, will not cause a violation of any air quality standard, PSD increment, or other technical provision of Chapter 62-212 of the Florida Administrative Code.

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Table 3. Significant Impact Analysis for Class II Area

| Pollutant | Avg. Time | Maximum Predicted Impact (ug/m3) | Significant Impact Level (ug/m3) |
|-----------------|-----------|----------------------------------|----------------------------------|
| CO | 1-hour | 101 | 2000.0 |
| | 8-hour | 27 | 500.0 |
| NO ₂ | Annual | 0.61 | 1.0 |
| PM10 | 24-hour | 4.61 | 5.0 |
| | Annual | 0.51 | 1.0 |

Table 4. Maximum Air Quality Impacts Analysis for Class I Area(s)

| Pollutant | Avg. Time | Maximum Predicted Impact (ug/m3) | National Park Service (NPS) Significant Impact Levels (ug/m3) |
|-----------------|-----------|----------------------------------|---------------------------------------------------------------|
| NO ₂ | Annual | 0.00031 | 0.025 |
| PM10 | 24-hour | 0.00444 | 0.27 |
| | Annual | 0.00015 | 0.08 |

Table 5. Air Toxic Reference Level Analysis

| Pollutant | Avg. Time | Maximum Predicted Impact (ug/m3) | Ambient Reference Concentration (ug/m3) |
|------------------------|-----------|----------------------------------|-----------------------------------------|
| beryllium | 8-hour | 0.00027 | 0.02 |
| | 24-hour | 0.00012 | 0.0048 |
| | Annual | 0.00001 | 4.2e-04 |
| TRS | 8-hour | 4.6 | 140 |
| | 24-hour | 3.4 | 33.6 |
| | Annual | 0.34 | 0.9 |
| 1,1,1-trichloroethane | 8-hour | 0.025 | 38200 |
| | 24-hour | 0.019 | 9168 |
| | Annual | 0.0018 | - |
| 1,1,2-trichloroethane | 8-hour | 0.39 | 550 |
| | 24-hour | 0.25 | 132 |
| | Annual | 0.019 | 0.063 |
| 1,2-dichloroethane | 8-hour | 0.025 | 400 |
| | 24-hour | 0.019 | 96 |
| | Annual | 0.0018 | 0.038 |
| 1,2,4-trichlorobenzene | 8-hour | 0.11 | 370 |
| | 24-hour | 0.048 | 88.8 |
| | Annual | 0.0045 | 20 |
| acetaldehyde | 8-hour | 0.36 | 1800 |
| | 24-hour | 0.25 | 432 |
| | Annual | 0.022 | 4.5e-01 |
| acrolein | 8-hour | 0.0098 | 2.3 |
| | 24-hour | 0.0044 | 0.552 |
| | Annual | 0.00043 | 2.0e-02 |
| arsenic | 8-hour | 0.0060 | 2 |
| | 24-hour | 0.0025 | 0.48 |
| | Annual | 0.00023 | 2.3e-04 |
| benzene | 8-hour | 0.089 | 30 |
| | 24-hour | 0.060 | 7.2 |
| | Annual | 0.0049 | 1.2e-01 |
| cadmium | 8-hour | 0.00077 | 0.5 |
| | 24-hour | 0.00032 | 0.12 |
| | Annual | 0.00003 | 5.6e-04 |
| carbon disulfide | 8-hour | 0.073 | 310 |
| | 24-hour | 0.046 | 74.4 |
| | Annual | 0.00458 | 200 |

| | | | |
|------------------------|---------|---------|---------|
| carbon tetrachloride | 8-hour | 0.12 | 310 |
| | 24-hour | 0.087 | 74.4 |
| | Annual | 0.0083 | 6.7e-02 |
| chlorobenzene | 8-hour | 0.075 | 3450 |
| | 24-hour | 0.049 | 828 |
| | Annual | 0.0039 | - |
| chloroform | 8-hour | 0.090 | 490 |
| | 24-hour | 0.067 | 117.6 |
| | Annual | 0.0061 | 4.3e-02 |
| chromium | 8-hour | 0.0072 | 5 |
| | 24-hour | 0.0031 | 1.2 |
| | Annual | 0.0003 | - |
| chromium VI | 8-hour | 0.0009 | 0.5 |
| | 24-hour | 0.00042 | 0.12 |
| | Annual | 0.00004 | 8.3e-05 |
| cumene | 8-hour | 1.96 | 2460 |
| | 24-hour | 1.30 | 590.4 |
| | Annual | 0.10 | 1.00 |
| ethyl benzene | 8-hour | 0.024 | 4340 |
| | 24-hour | 0.015 | 1041.6 |
| | Annual | 0.0014 | 1000 |
| formaldehyde | 8-hour | 0.43 | 12 |
| | 24-hour | 0.27 | 2.88 |
| | Annual | 0.026 | 7.7e-02 |
| lead | 8-hour | 0.0072 | 0.5 |
| | 24-hour | 0.0032 | 0.12 |
| | Annual | 0.00032 | 9.0e-02 |
| manganese | 8-hour | 0.0047 | 50 |
| | 24-hour | 0.0026 | 12 |
| | Annual | 0.00032 | 4.0e-01 |
| mercury | 8-hour | 0.00015 | 0.5 |
| | 24-hour | 0.0001 | 0.12 |
| | Annual | 0 | 3.0e-01 |
| methanol | 8-hour | 62.33 | 2620 |
| | 24-hour | 46.67 | 628.8 |
| | Annual | 3.73 | - |
| methyl ethyl ketone | 8-hour | 1.11 | 5900 |
| | 24-hour | 0.71 | 1416 |
| | Annual | 0.056 | 80 |
| methyl isobutyl ketone | 8-hour | 0.11 | 2050 |
| | 24-hour | 0.084 | 492 |
| | Annual | 0.0066 | - |
| methylene chloride | 8-hour | 0.048 | 1740 |

| | | | |
|---------------------|---------|---------|---------|
| | 24-hour | 0.036 | 417.6 |
| | Annual | 0.0033 | 2.1 |
| naphthalene | 8-hour | 0.23 | 520 |
| | 24-hour | 0.10 | 124.8 |
| | Annual | 0.010 | - |
| n-hexane | 8-hour | 1.37 | 1760.0 |
| | 24-hour | 0.84 | 422.4 |
| | Annual | 0.066 | 200 |
| nickel | 8-hour | 0.0059 | 10 |
| | 24-hour | 0.0025 | 2.4 |
| | Annual | 0.00023 | 4.2e-03 |
| PAH | 8-hour | 0.055 | 2 |
| | 24-hour | 0.023 | 0.48 |
| | Annual | 0.002 | - |
| phosphorus | 8-hour | 0.0077 | 1 |
| | 24-hour | 0.0049 | 0.24 |
| | Annual | 0.00045 | - |
| selenium | 8-hour | 0.0060 | 2 |
| | 24-hour | 0.0025 | 0.48 |
| | Annual | 0.00023 | - |
| styrene | 8-hour | 0.13 | 2130 |
| | 24-hour | 0.083 | 511.2 |
| | Annual | 0.0066 | - |
| tetrachloroethylene | 8-hour | 0.55 | 3390 |
| | 24-hour | 0.35 | 813.6 |
| | Annual | 0.028 | - |
| tin | 8-hour | 0.0037 | 20 |
| | 24-hour | 0.0016 | 4.8 |
| | Annual | 0.00015 | - |
| toluene | 8-hour | 0.78 | 3770 |
| | 24-hour | 0.48 | 904.8 |
| | Annual | 0.038 | 300 |
| trichloroethylene | 8-hour | 0.095 | 2690 |
| | 24-hour | 0.068 | 645.6 |
| | Annual | 0.0055 | - |
| vinyl acetate | 8-hour | 0.0053 | 350 |
| | 24-hour | 0.0033 | 84 |
| | Annual | 0.00031 | 200 |
| xylenes | 8-hour | 0.16 | 4340 |
| | 24-hour | 1.007 | 1041.6 |
| | Annual | 0.079 | 80 |

D. GEP stack height determination

Good Engineering Practice (GEP) stack height means the greater of: (1) 65 meters or (2) the maximum nearby building height plus the 1.5 times the building height or width, whichever is less. The stacks for this project are 25.9 meters, 33.5 meters, and 59.7 meters, respectively. They do not exceed the GEP stack height and will comply with GEP stack height regulations.

The potential for building downwash to occur was considered in the modeling analysis since the stacks are less than GEP height.

VI. Conclusion

The proposed project undertaken by Georgia-Pacific is primarily part of a modernization and efficiency improvement plan rather than new source construction or a significant plant capacity expansion.

On the basis of the information provided by Georgia-Pacific Corporation, the Department has reasonable assurance that the proposed modification of the Kraft pulp mill, as described in this evaluation and subject to the conditions proposed within, will not cause a violation of any air quality standard, PSD increment, or other technical provision of Chapter 62-212 of the Florida Administrative Code.

Best Available Control Technology (BACT) Determination

Georgia-Pacific Corporation
Palatka, Putnam County, Florida
AC54-266676/PSD-FL-226

The applicant, Georgia-Pacific Corporation, located in Palatka, Putnam County, Florida, proposes to modify an existing Kraft pulp mill by replacing two batch digesters, installing a TRS scrubber, adding screen tubes to the recovery boiler, installing a new chip conditioner system, installing a white liquor heating system, and installing an automatic cleaning system on the lime mud filter. The modification has the potential to increase actual pulp production. The increase in emissions that could occur at the production rate requested by the applicant are 300 tons per year (TPY) particulate matter (total PM/PM₁₀), 36.1 TPY sulfur dioxide (SO₂), 626 TPY nitrogen oxides (NO_x), 1,022.5 TPY carbon monoxide (CO), 322.2 TPY volatile organic compounds (VOC), 88.5 TPY total reduced sulfur (TRS), 0.04 TPY lead, 0.009 TPY mercury, and 0.0011 TPY beryllium (Be). Sulfuric acid mist emission is estimated to decrease by 12.4 TPY. The increase in the allowable emissions of PM/PM₁₀, NO_x, CO, VOC, TRS, and Be are above the significant emission rates and subjects the proposed modification to the Prevention of Significant Deterioration (PSD) new source review regulations. The allowable emissions of these pollutants are set by a Best Available Control Technology (BACT) determination. Only the digester system and recovery boiler, which have physical changes as part of this modification, are subject to this BACT determination.

Date of Receipt of a BACT Application

March 15, 1995

BACT Requested by the Applicant

Air pollution control equipment proposed as BACT for the digester system is a new TRS scrubber and the existing TRS incinerator. For the recovery boiler, the applicant proposes the existing electrostatic precipitator as BACT. The proposed emissions from the digester system and recovery boiler are summarized in the following table:

| Pollutant | Digester System** | | Recovery Boiler | | lbs/hr | TPY |
|------------------|---------------------------------|--------|-----------------|-----------------------------------------------------|--------------|--------|
| | Emission Factor | lbs/hr | TPY | Emission Factor | | |
| PM ₁₀ | Permit | 5.5 | 24.1 | 0.033 gr/dscf @ 8% O ₂ | 83.2 | 364.4 |
| NOx | NG 100 lbs/mmft ³ | 0.76 | 3.33 | | | |
| | M 14 lbs/1000 gal | 1.74 | 7.60 | 100 ppmvd @ 8% O ₂ | 210.6 | 922.4 |
| CO | NG 20 lbs/mmft ³ | 0.15 | 0.66 | 800 (1 hr) + 400 (annual) ppmvd @ 8% O ₂ | 1025.4(hr) | |
| | M 1.9 lbs/1000 gal | 0.24 | 1.03 | | 512.7 annual | 2245.6 |
| VOC | NG 8 lbs/mmft ³ | 0.06 | 0.27 | | | |
| | M 0.5 lbs/1000 gal | 0.06 | 0.27 | 0.52 lb/ton BLS* | 54.6 | 239.1 |
| TRS | NG 5 ppmvd @ 10% O ₂ | 0.12 | 0.53 | | | |
| | M 5 ppmvd @ 10% O ₂ | 0.12 | 0.53 | 11.4 ppmvd @ 8% O ₂ | 17.8 | 78.0 |
| Be | | | | 0.5 lb/E+12 Btu | 6.4 E-4 | 2.8E-3 |

* Black Liquor Solids

** Factor for either Natural Gas (NG) or Methanol (M) Fuel

BACT Determination Procedure

In accordance with Rule 62-212.410, Florida Administrative Code, Best Available Control Technology Determination, Stationary Source-Preconstruction Review, this BACT determination is based on the maximum degree of reduction of each pollutant emitted which the Department of Environmental Protection (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 BACT pursuant to 40 CFR 52.21, 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 unit in question the most stringent control available for a similar or identical emission unit or emission unit category. If it is shown that this level of control is technically or economically infeasible for the emission unit 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 Pollutant Analysis

DIGESTER SYSTEM

The digester system is a source of TRS. The new source performance standard (40 CFR 60, Subpart BB) allows the TRS gases to be combusted in an incinerator operating at 1200°F with a 0.5 second residence time. The applicant has been using an incinerator meeting these specifications to control the TRS emissions. The applicant is proposing to add a 50% efficient TRS scrubber ahead of the TRS incinerator as part of this modification. Recent BACT determinations have selected incinerators for the control of TRS emissions. The Department is setting BACT for the incinerator at 5 ppmvd @ 10% O₂ when either natural gas or methanol is being burned.

The emissions of the other air pollutants for the digester system that are subject to this BACT determination, primarily the products of combustion, are to be minimized through Good Combustion Practices.

RECOVERY BOILER

The recovery boiler is a source of PM/PM₁₀, NO_x, CO, VOC, TRS, and Be. This unit is now controlled with a 20-year old high-efficiency electrostatic precipitator (ESP) that was rebuilt in 1991. The ESP will control PM/PM₁₀ and Be. Recent BACT determinations have selected ESPs to control emissions from recovery boilers. The PM/PM₁₀ standards in BACT determinations range from 0.021 to 0.033 gr/dscf @ 8% O₂. Test results show the PM/PM₁₀ emissions from this boiler varied from 0.006 to 0.03 gr/dscf @ 8% O₂. The Department is setting the BACT standard at 0.030 gr/dscf @ 8% O₂.

Recovery boilers have relatively low NO_x emissions. Combustion controls technology is used to control NO_x. This includes adjusting the furnace bed height and decreasing the primary air temperature. Furnace design affects actual NO_x emissions. High particulate matter loading in the flue gas creates technical problems which prevent flue gas recirculation (FGR) from being used on a recovery furnace. Catalyst fouling prevent the application of selective catalytic reduction (SCR). Ammonia bisulfate would also cause plugging of the equipment downstream of a selective non-catalytic reduction (SNCR) system. Neither system is reported to have been

used on a recovery boiler. BACT/LAER Clearinghouse document shows BACT emission limits of 75 to 120 ppmvd @ 8% O₂. Actual test results on this furnace show NO_x emissions varied from 45 to 65 ppmvd @ 8% O₂. The Department is setting the BACT standard for NO_x at 80 ppmvd @ 8% O₂.

CO and VOC emissions are formed during the incomplete combustion of the black liquor which is about 25 percent carbon. Good Combustion Practice is used to control these pollutants. The BACT/LAER Clearinghouse document list BACT determinations for CO of 200-400 ppmvd @ 8% O₂. Test data on this furnace show CO emissions range from 102 to 756 ppmvd @ 8% O₂. BACT determinations for VOC range from 0.048 to 0.095 lbs/MMBtu. Test data on this furnace show VOC emissions range from 0.01 to 0.50 lbs ton black liquor solid (BLS). The Department is setting the BACT standard for CO at 800 ppmvd @ 8% O₂, 3-hour average, and 400 ppmvd @ 8% O₂, 24-hour average. The Department is setting the BACT standard for VOC at 0.30 lbs/ton BLS.

TRS is controlled by the distribution of the combustion air in the furnace. Continuous emissions monitoring data for this furnace shows TRS emissions of up to 11.2 ppmvd @ 8% O₂. The BACT/LAER Clearinghouse document listed limits at 5.0 ppmvd @ 8% O₂. These boilers were subject to the new source performance standard for Kraft pulp mills. The Department is setting the BACT standard for TRS at 11.2 ppmvd @ 8% O₂, 12-hour average, and 7.0 ppmvd @ 8% O₂, 12-month rolling average. The Department will revisit this BACT determination for the 12-month rolling average standard for TRS if it can be shown with a minimum of 6 months actual operation and emission data from the modified boiler that the standard is inappropriate.

Summary of the BACT Determination by the Department

DIGESTER SYSTEM

The Department has determined that the TRS scrubber in combinations with the TRS incinerator is BACT for the digester system. The addition of the scrubber will reduce the potential emissions of TRS to less than the current actual emissions. Considering the recent test data as the incinerator, the Department is setting the BACT determination standard at 5 ppmvd @ 8% O₂. Compliance will be based on scrubber and incinerator operation parameters and emission test by EPA Method 16 or 16A.

RECOVERY BOILER

The Department accepts the use of the existing ESP and Good Combustion Practice as BACT for the recovery boiler.

Based on the recent ESP test data, the Department is setting the PM/PM₁₀ BACT determination standard at 0.030 gr/dscf @ 8% O₂. Visible emissions shall not exceed 20 percent opacity. Compliance shall be determined by EPA Methods 5 (assuming all PM is PM₁₀) and EPA Method 9.

BACT for Be is set at 0.5 lbs/E+12 Btu. Compliance shall be based on an emission factor established for this unit by EPA Method 103 or 104 as described in 40 CFR 61, Appendix B.

BACT for NOx is 80 ppmvd @ 8% O₂. Compliance shall be determined by EPA Method 7 or 7E.

BACT for CO is 800 ppmvd @ 8% O₂, 3-hour average, and 400 ppmvd @ 8% O₂, 24-hour average. Compliance shall be determined using EPA Method 10.

BACT for VOC is 0.30 lbs/ton BLS. Compliance shall be determined using EPA Method 25 or 25A.

BACT for TRS is 11.2 ppmvd @ 8% O₂, 12-hour average, and 7.0 ppmvd @ 8% O₂, 12-month rolling average. Compliance with the 12-hour standard shall be based on EPA Method 16 or 16A. Compliance with the 12-month rolling average standard shall be based on the TRS continuous emission monitoring records. The Department will reconsider the 12-month rolling average standard if a minimum of 6 months actual operation and emission data from the modified boiler demonstrate it is inappropriate.

Test data shows these standards can be met with the existing ESP.

Details of the Analysis May be Obtained by Contacting:

A. A. Linero, P.E., Administrator, NSR Section
Willard Hanks, Review Engineer
Department of Environmental Protection
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

Virginia B. Wetherell, Secretary
Dept. of Environmental Protection

_____, 1995
Date

_____, 1995
Date



Department of Environmental Protection

DRAFT

Lawton Chiles
Governor

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

Virginia B. Wetherell
Secretary

Permittee:
Georgia-Pacific Corporation
P. O. Box 919
Palatka, FL 32178-0919

Permit Number: AC54-266676
(PSD-FL-226)
Expiration Date: 12/31/96
County: Putnam
Latitude/Longitude:
29°41'00"
81°40'45"
Project: Kraft Pulp Mill
Modification

This permit is issued under the provision of Chapter 403, Florida Statutes (F.S.), and Chapters 62-4 and 62-212, Florida Administrative Code (F.A.C.). The above named permittee is hereby authorized to perform the work or operate the facility shown on the application and approved drawings, plans, and other documents attached hereto and specifically described as follows:

For modification of an existing Kraft pulp mill located north of County Road 216 and west of U.S. Highway 17 near Palatka, Putnam County, Florida. The UTM coordinates of the plant site are Zone 17, 424.0 km E and 3283.4 km N. The modification consists of the replacement of two digesters, adding additional screen tubes to the recovery boiler, installing a new total reduced sulfur (TRS) scrubber ahead of the TRS incinerator, installing a chip conditioner system, installing a white liquor heating system, and installing an automatic cleaning system on the lime mud filter. Allowable production for the facility remains at 118 tons per hour (TPH) air dried unbleached pulp (ADUP) and 1,850 tons per day (TPD) ADUP.

Stack parameters for the major units at this facility are shown below:

| Units | Height (ft) | Diameter (ft) | Temperature (°F) | Velocity (FPS) |
|--------------------------------|----------------|------------------|---------------------|-------------------|
| Recovery Boiler - No. 4 | 230 | 12.0 | 400 | 63.7 |
| Lime Kiln No. 4 | 131 | 4.4 | 150 | 60.8 |
| Smelt Dissolving Tank No. 4 | 206 | 5.0 | 160 | 21.2 |
| TRS Incinerator | 250 | 3.1 | 500 | 105.1 |
| Tall Oil Plant | 40 | 1.3 | 200 | 40.8 |

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PERMITTEE:
Georgia-Pacific Corporation

PERMIT NUMBER: AC54-266676
(PSD-FL-226)

The emission units shall be constructed (modified) in accordance with the permit application, plans, documents, amendments and drawings, except as otherwise noted in the General and Specific Conditions.

Attachments are listed below:

1. Application received March 15, 1995.
2. KBN letter dated March 27, 1995.
3. DEP letter dated March 29, 1995.
4. KBN letter dated April 13, 1995.
5. KBN letter dated April 17, 1995.
6. Permit Nos. AC54-142282, AC54-142283, AC54-142288, and AC54-142291 with amendments to these permits dated July 18, 1988, July 28, 1989, December 6, 1989, and September 5, 1990.
7. Permit No. AC54-170420
8. Permit No. AC54-192550 (PSD-FL-171)
9. Permit No. AC54-192551 (PSD-FL-171)
10. Permit No. AC54-193841 (PSD-FL-171)
11. Permit No. AC54-108945
12. KBN letter dated July 5, 1995.
13. KBN letter dated July 26, 1995.

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, F.S. 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), F.S., 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.

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PERMITTEE:
Georgia-Pacific Corporation

PERMIT NUMBER: AC54-266676
(PSD-FL-226)

GENERAL CONDITIONS:

4. This permit conveys no title to land or water, does not constitute State recognition or acknowledgment 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 F.S. and Department rules, unless specifically authorized by an order from the Department.

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

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PERMITTEE:
Georgia-Pacific Corporation

PERMIT NUMBER: AC54-266676
(PSD-FL-226)

GENERAL CONDITIONS:

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.

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 F.S. or Department rules, except where such use is prescribed by Sections 403.73 and 403.111, F.S. 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 F.S. after a reasonable time for compliance, provided, however, the permittee does not waive any other rights granted by F. S. or Department rules.

11. This permit is transferable only upon Department approval in accordance with Rules 62-4.120 and 62-30.300, 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 also constitutes:

- (x) Determination of Best Available Control Technology (BACT)
- (x) Determination of Prevention of Significant Deterioration (PSD)
- (x) Compliance with New Source Performance Standards (NSPS)

DRAFT

PERMITTEE:
Georgia-Pacific Corporation

PERMIT NUMBER: AC54-266676
(PSD-FL-226)

GENERAL CONDITIONS:

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.
- 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:

General

1. The provisions of the following air construction/operation permits and revisions to those permits, except for the changes noted, are incorporated by reference as conditions of this air construction permit.

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PERMITTEE:
Georgia-Pacific Corporation

PERMIT NUMBER: AC54-266676
(PSD-FL-226)

SPECIFIC CONDITIONS:

Digester System, Multiple Effect Evaporator System, Condensate Stripper System, and TRS Incinerator (AO54-166018)

| Permit Number | Issue Date | Amendment Date(s) | Changes by this Permit |
|---------------|--------------|-------------------|---------------------------|
| AC54-142282 | APR 26, 1988 | JUL 18, 1988 | Replace 2 batch digesters |
| AC54-142283 | | JUL 28, 1989 | |
| AC54-142288 | | DEC 6, 1989 | |
| AC54-142291 | | SEP 5, 1990 | |

Digester System

| Permit Number | Issue Date | Amendment Date(s) | Changes by this Permit |
|---------------|--------------|-------------------|-----------------------------------------------------------------------------------------------|
| AC54-170420 | JAN 26, 1989 | None | Replace 2 batch digesters Specific Condition (SC) 5- SO ₂ emission standards |

No. 4 Recovery Boiler (AO54-209650)

| Permit Number | Issue Date | Amendment Date(s) | Changes by this Permit |
|-----------------------------|--------------|-------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------|
| AC54-192550 (PSD-FL-171) | JUN 12, 1991 | None | SC 3- PM/PM ₁₀ , NO _x , CO, VOC, and visible emission standards SC 4- TRS emission standards SC 6- SAM emission standards |

No. 4 Lime Kiln (AO54-209858)

| Permit Number | Issue Date | Amendment Date(s) | Changes by this Permit |
|-----------------------------|--------------|-------------------|------------------------|
| AC54-192551 (PSD-FL-171) | JUN 12, 1991 | None | No Change |

Smelt Dissolving Tanks (AO54-209650)

| Permit Number | Issue Date | Amendment Date(s) | Changes by this Permit |
|-----------------------------|--------------|-------------------|------------------------|
| AC54-193841 (PSD-FL-171) | JUN 12, 1991 | None | No change |

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PERMITTEE:
Georgia-Pacific Corporation

PERMIT NUMBER: AC54-266676
(PSD-FL-226)

SPECIFIC CONDITIONS:

Tall Oil Plant (AO54-209098)

| Permit Number | Issue Date | Amendment Date(s) | Changes by this Permit |
|---------------|-------------|-----------------------------|------------------------|
| AC54-108945 | FEB 6, 1987 | JUN 20, 1987 JAN 1, 1988 | No change |

Construction

2. The construction/modifications authorized by this permit are:
 - A. Replace two of the existing thirteen 4,000 ft³ digesters with two 4,900 ft³ digesters.
 - B. Install additional screen tube modules (bundles of 10 individual tubes) on 12 inch centers around the existing 15 screen tube modules in No. 4 Recovery Boiler.
 - C. Install a total reduced sulfur (TRS) packed tower scrubber ahead of the existing TRS incinerator that is designed to remove 50 percent of the TRS.
 - D. Install a new chip conditioner system consisting of two horizontal steel rolls that turn at a low rpm to crush or fissure the chips.
 - E. Installation of a white liquor heating system.
 - F. Install an automatic cleaning system on the lime mud filter .

Federal Requirements

3. The permittee shall comply with all applicable requirements for the digester system in 40 CFR 60, Subpart BB- Standards of Performance for Kraft Pulp Mills.

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PERMITTEE:
Georgia-Pacific Corporation

PERMIT NUMBER: AC54-266676
(PSD-FL-226)

SPECIFIC CONDITIONS:

Emission Limitations

4. Maximum emissions from the No. 4 Recovery Boiler shall not exceed any of the following:

| Pollutant | Emission Factor | lbs/hr | TPY |
|---------------------|---------------------------------------|--------|--------|
| PM/PM ₁₀ | 0.030 gr/dscf @ 8% O ₂ | 75.6 | 331.1 |
| SO ₂ | 75 ppmvd @ 8% O ₂ | 109.9 | 481.4 |
| NO _x | 80 ppmvd @ 8% O ₂ | 168.5 | 738.1 |
| CO | 800 ppmvd @ 8% O ₂ (3-hr) | 1025.4 | |
| | 400 ppmvd @ 8% O ₂ (24-hr) | 512.7 | 2245.6 |
| VOC | 0.30 lb/ton BLS | 31.5 | 138.0 |
| SAM | 0.81 ppmvd | 3.20 | 14.2 |
| TRS* | 7.0 ppmvd @ 8% O ₂ | 10.9 | 47.7 |
| Beryllium | 0.5 lb/E+12 Btu | 6.4E-4 | 2.8E-3 |

* 12-month rolling average. Maximum of 11.2 ppmvd @ 8 percent oxygen and 17.5 lbs/hr is maximum allowable TRS emissions during any 12 hour period.

Visible emissions shall not exceed 20 percent opacity (BACT).

5. Maximum emissions from the TRS incinerator controlling the emissions from the digester system, multi-effect evaporator systems, and condensate stripper system shall not exceed any of the following:

Natural Gas or Methanol Fuel

| Pollutant | Emission Factor | lbs/hr | TPY |
|----------------------|------------------------------------------|-------------|--------|
| PM/PM _{10a} | permit | 5.5 | 24.1 |
| SO ₂ | 5.085 lbs/ton ADUP | 383 (24-hr) | 1677.5 |
| SAM | 4% of SO ₂ as SO ₃ | 18.8 | 82.3 |
| TRS | 5 ppmvd @ 10% O ₂ | 0.12 | 0.53 |

Note: ^a Total PM and PM₁₀

Visible emissions shall not exceed 5 percent opacity except 20 percent opacity is allowed for 3 minutes in any 1 hour period (Rule 62-296.401(1), F.A.C.).

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PERMITTEE:
Georgia-Pacific Corporation

PERMIT NUMBER: AC54-266676
(PSD-FL-226)

SPECIFIC CONDITIONS:

Compliance Determination

6. Except for Beryllium (Be), TRS, and SAM, compliance tests for all emission standards for the No. 4 Recovery Boiler listed in Specific Condition No. 4 shall be conducted once each Federal fiscal year. Compliance with the emission standards shall be based on the EPA reference methods as described in 40 CFR 60, Appendix A, except as noted below. If all particulate matter is assumed to be PM₁₀, compliance may be based on EPA Method 5. The initial and annual compliance tests for sulfuric acid mist emissions shall be conducted using EPA Method 8 or NCASI Method 106 for two years from the date of issuance of this permit. At the end of this time, appropriate emission testing methodology and, if supported by test data, revised SAM emission limits shall be established by the Department. Be tests shall be conducted initially and every 5 years thereafter. Compliance with the 12-hour TRS standard shall be determined annually using EPA Method 16 or 16A. Compliance with the 12-month rolling average TRS standard shall be based on the TRS continuous emissions monitor data.

7. Compliance tests for the PM/PM₁₀ standard for the TRS Incinerator listed in Specific Condition No. 5 shall be conducted prior to the expiration date of this permit and every 5 years thereafter. Compliance with the SO₂ and visible emissions standards shall be determined annually using EPA Methods 6C and 9 as described in 40 CFR 60, Appendix A. The unit will be assumed to be in compliance with the TRS standard provided the incinerator operates at a minimum temperature of 1,200°F and has a minimum retention time of 0.5 seconds. The initial and annual compliance tests for sulfuric acid mist emissions shall be conducted using EPA Method 8 or NCASI Method 106 for two years from the date of issuance of this permit. At the end of this time, appropriate emission testing methodology and, if supported by test data, revised SAM emission limits shall be established by the Department.

8. Particulate matter and visible emissions tests shall be conducted concurrently. The test report submitted to the Department's Northeast District office within 45 days of completion of the last test run.

Monitoring

9. The Department's Northeast District office shall be notified in writing at least 15 days in advance of any emission test required by this permit. Testing of emissions shall be conducted

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PERMITTEE:
Georgia-Pacific Corporation

PERMIT NUMBER: AC54-266676
(PSD-FL-226)

SPECIFIC CONDITIONS:

with the emission unit operating at permitted capacity. Permitted capacity is defined as 90-100 percent of the maximum operating rate allowed by the permit. If it is impracticable to test at permitted capacity, then emission units may be tested at less than 90 percent of the maximum operating rate allowed by the permit. In this case, subsequent emission unit operation is limited to 110 percent of the test load until a new test is conducted. Once the emission unit is so limited, then operation at higher capacities is allowed for no more than 15 consecutive days for the purposes of additional compliance testing to regain the permitted capacity in the permit.

Operation Limitations

10. Pulp production capacity shall not exceed 118 TPH ADUP and 1,850 TPD ADUP.
11. The total reduced sulfur (TRS) incinerator shall operate at a minimum temperature of 1,200°F with a minimum residence time of 0.5 seconds. Scrubber liquid flow and pressure of the TRS scrubber shall be maintained at or above the level documented to remove at least 50 percent of the TRS air pollutant to the scrubber.
12. Black liquor solids (BLS) input to No. 4 Recovery Boiler shall not exceed 210,000 lbs/hr and 5.04×10^6 lbs/day.

Record keeping and Reporting Requirements

13. An annual operation report shall be submitted to the Department's Northeast District office by March 1 of each year pursuant to Rule 62-210.370(2), F.A.C.
14. 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 of the permit. (Rule 62-4.090, F.A.C.)

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PERMITTEE:
Georgia-Pacific Corporation

PERMIT NUMBER: AC54-266676
(PSD-FL-226)

15. A timely application for a Title V permit to operate shall be submitted to the Northeast District office by the date specified in Chapter 62-213, F.A.C.

**STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL PROTECTION**

Virginia B. Wetherell,
Secretary, Department of
Environmental Protection

Florida Department of
Environmental Protection

Memorandum

To: A. A. Linero
From: Willard Hanks *wmh*
Date: August 1, 1995
Subject: Georgia-Pacific Corp. Modification
Permit No. AC 54-26676/PSD-FL-226

Attached for your approval and signature is the preliminary determination package for the proposed modification to Georgia-Pacific Corp.'s Kraft pulp mill located in Palatka, Putnam County, Florida.

The modification involves replacement of digesters Nos. 11 and 12 with more modern and larger units, adding screen tubes to the No. 4 Recovery Boiler, and other minor plant alternations. The new digesters will let the plant increase actual production by 40 TPD. The higher actual production rate does not exceed the current allowable production rate. The higher production rate will result in an increase in actual emissions. Except for the No. 4 Recovery Boiler and the TRS incinerator, allowable emissions are not increased. The draft permit authorizes a significant net emissions increase in emissions of PM, NOx, CO, VOC, TRS, and beryllium from the boiler and incinerator. The emissions limits for these pollutants are set by a BACT determination. The BACT concluded that the air pollution control equipment installed during the 1991 plant modification still met BACT but adjusted the emission limits on some pollutants to what tests showed the equipment was capable of meeting.

The 90th day for this application is August 15. I recommend your approval of this proposal.

Attachment



Georgia-Pacific Corporation

Palatka Operations
Packaged Products Division
P.O. Box 919
Palatka, Florida 32178-0919
Telephone (904) 325-2001

PSD PL-226
ACSA-26600716

May 5, 1995

RECEIVED

MAY 9 1995

Bureau of
Air Regulation

Mr. Willard Hanks
Permitting and Standards Section
Bureau of Air Regulation
State of Florida
Department of Environmental Protection
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

Dear Mr. Hanks:

In the attached letter to Mr. Linero dated March 24, 1995, we described three small projects that were also included in our PSD permit application. This application was recently submitted for the installation of two digesters and modification of the Recovery Boiler.

It has come to my attention that we now have an opportunity to install the lime mud filter cleaner earlier than expected. You may recall that the automatic cleaner merely eliminates filter downtime for manual cleaning. It is my understanding from our phone conversation a couple of weeks ago (April 27, 1995) that we can proceed with installation of the cleaner since there is no potential to increase air emissions. Would you please send me a letter of approval for our files at your earliest convenience.

If you have any questions, please call me at 904-325-2001.

Sincerely,

Myra J. Carpenter
Environmental Superintendent

kb

Attachment

MR. WILLARD HANKS

Page Two

May 5, 1995

cc: W. L. Baxter
David Buff, KBN
B. T. Champion, GA030, G-48
Henry Hirschman
J. E. McKinley
T. R. Wyles, GA030, G-48
W. R. Wilson
L. C. Yarbrough

cc Willard
Cleve
NE District
NPS
EPA



March 24, 1995

Mr. Al Linero, P.E.
Administrator, New Source Review
Florida Department of Environmental Protection
2600 Blair Stone Road
Tallahassee, FL 32399-2400

Re: PSD Permit Application
Georgia-Pacific Corporation, Palatka Mill

Dear Mr. Linero:

Georgia-Pacific Corporation (G-P) recently submitted a PSD permit application for the Palatka mill. The permit application described proposed changes in certain emissions units at the Palatka mill: the addition of two new batch digesters and changes to the existing No. 4 Recovery Boiler. These proposed changes will also affect several other emission units: the Multiple Effect Evaporator (MEE) system, condensate stripper system, No. 4 Smelt Dissolving Tanks, No. 4 Lime Kiln, and the Tall Oil plant. These units will be affected by potential increased throughput rates due to the batch digester and recovery boiler changes.

G-P is now considering several other process changes and upgrades at the mill. Specifically, three separate projects are being considered, as described below:

1. Chip Conditioners

The Palatka mill's existing chip conditioning system is used to condition wood chips before entering the digesters. The current system consists of primary chip thickness screens, high-density separators for removing foreign material, and slicers for reducing the thickness of oversize chips.

G-P is contemplating replacing the separators and slicers with a new chip conditioner system. The new system will retain good fiber currently lost in the separators, increase wood yield by eliminating fines to the digesters and reduce maintenance costs. The chip conditioners consist of two horizontal steel rolls. The rolls turn at low rpm, and the chips fall between the rolls and are crushed or fissured.

This process results in improved white liquor penetration into the wood in the digesters, resulting in improved yield. Therefore, a small increase in the pulp production capacity of the digesters is expected to result. However, the currently permitted capacity of the digesters, i.e., 118 TPH and 1,850 TPD, is adequate. This level of pulp production is reflected in the PSD permit application.

14379C/1

KBN ENGINEERING AND APPLIED SCIENCES, INC.

6241 Northwest 23rd Street,
Suite 500
Gainesville, Florida 32653-1500
904-336-5600 FAX 904-336-6603

5405 West Cypress Street
Suite 215
Tampa, Florida 33607
813-287-1717 FAX 813-287-1716

1801 Clint Moore Road, Suite 105
Boca Raton, Florida 33457
307-994-9910
FAX 407-994-9393

7785 Baymeadows Way,
Suite 1100
Jacksonville, Florida 32256
904-739-5600 FAX 904-739-7777

1616 P Street N.W., Suite 450
Washington, D.C. 20036
202-462-1100
FAX 202-462-2270

EQUAL EMPLOYMENT OPPORTUNITY

AN AFFIRMATIVE ACTION EMPLOYER



2. White Liquor Heater

In the current operations at G-P, white liquor is pumped to the digesters at a temperature of about 180°F. The ideal temperature for use in cooking is somewhat higher. Therefore, steam is used to raise the white liquor temperature. However, this is an inefficient use of steam, and a heat exchanger system is preferable. G-P is considering installing a white liquor heating system (heat exchanger) to replace the current steam system. An added benefit of this system is that digester cooks will increase slightly due to less time to raise the digester pressure. Pulp uniformity will also increase. Therefore, a small increase in the pulp production capacity of the digesters is expected to result. However, the currently permitted capacity of the digesters, i.e., 118 TPH and 1,850 TPD, is adequate. This level of pulp production is reflected in the PSD permit application.

3. Lime Mud Filter Cleaner

G-P currently operates a lime mud filter in the causticizing area. The lime mud filter increases the consistency of lime mud before it is conveyed to the lime kiln. In the current system, there is no mechanism for continuous cleaning of the filter. The filter must be taken out of service for cleaning about three times per day for a total of about 1 hour of downtime. The installation of an automatic cleaning system for the filter will eliminate this downtime, as well as provide for a slight reduction in fuel oil usage per ton of lime mud.

Since these changes will not result in production rates or emissions which exceed those stated in the PSD permit application, these projects can be included in the PSD permit application.

In regard to the PSD permit application submitted, an error has been discovered in the operating hours for the TRS incinerator used determine PSD baseline emissions. Operating hours of 8,760 hr/yr were used, when in reality the unit operated at somewhat fewer hours during the past 2 years. This error was corrected and revised pages of the permit application prepared. These revised pages were left with you during our meeting on March 23rd. Please replace the respective pages in Emission Unit 4 and in the PSD report with the revised pages.

If you have any questions concerning this information, please call.

Sincerely,

David A. Buff, P.E.
Principal Engineer
Florida Registration 19011

S E A L

DAB/vjp

cc: Myra Carpenter
Traylor Champion
File (2)