Department of Environmental Protection

Jeb Bush
Governor

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

David B. Struhs
Secretary

November 5, 2002

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

RE: Georgia-Pacific Corporation
No. 3 Bleach Plant, Palatka Mill
DEP File No. 1070005-019-AC, PSD-FL-264A

Dear Mr. Bunyak:

Enclosed for your review and comment is a PSD application submitted by Georgia-Pacific Corporation to revise the CO limit at the No. 3 Bleach Plant at the company's existing facility in Palatka, Putnam County, Florida.

Your comments may be forwarded to my attention at the letterhead address or faxed to the Bureau of Air Regulation at 850/922-6979. If you have any questions, please contact Syed Arif, review engineer, at 850/921-9528.

Sincerely,

Patty Adams

for Al Linero, P.E.
Administrator
New Source Review Section

AAL/pa
Enclosure
cc: Syed Arif

Department of Environmental Protection

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Twin Towers Office Building
2600 Blair Stone Road
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Secretary

November 5, 2002

Ms. Jeaneanne M. Gettle
Acting Chief
Air Permits Section
U.S. EPA, Region 4
61 Forsyth Street
Atlanta, Georgia 30303

RE: Georgia-Pacific Corporation
No. 3 Bleach Plant, Palatka Mill
DEP File No. 1070005-019-AC, PSD-FL-264A

Dear Ms. Gettle:

Enclosed for your review and comment is a PSD application submitted by Georgia-Pacific Corporation to revise the CO limit at the No. 3 Bleach Plant at the company's existing facility in Palatka, Putnam County, Florida.

Your comments may be forwarded to my attention at the letterhead address or faxed to the Bureau of Air Regulation at 850/922-6979. If you have any questions, please contact Syed Arif, review engineer, at 850/921-9528.

Sincerely,

Patty Adams

for Al Linero, P.E.
Administrator
New Source Review Section

AAL/pa
Enclosure
cc: Syed Arif

RECEIVED

NOV 01 2002

BUREAU OF AIR REGULATION

AIR PERMIT APPLICATION TO REVISE PSD PERMIT FOR THE NO. 3 BLEACH PLANT

GEORGIA-PACIFIC CORPORATION PALATKA MILL

Prepared For:

Georgia-Pacific
North of CR-216; West of US 17
Palatka, Florida 32177

Prepared By:

Golder Associates Inc.
6241 NW 23rd Street, Suite 500
Gainesville, Florida 32653-1500

October 2002
0237561

DISTRIBUTION:
4 Copies - FDEP
2 Copies - Georgia-Pacific
2 Copies - Golder Associates Inc.

Department of Environmental Protection

Division of Air Resources Management

APPLICATION FOR AIR PERMIT - TITLE V SOURCE

See Instructions for Form No. 62-210.900(1)

I. APPLICATION INFORMATION

Identification of Facility

1. Facility Owner/Company Name: **Georgia-Pacific Corporation**	
2. Site Name: **Palatka Mill**	
3. Facility Identification Number: **1070005** [ ] Unknown	
4. Facility Location: Street Address or Other Locator: **North of CR 216; West of US 17** City: **Palatka** County: **Putnam** Zip Code: **32177**	
5. Relocatable Facility? [ ] Yes [**X**] No	6. Existing Permitted Facility? [**X**] Yes [ ] No

Application Contact

1. Name and Title of Application Contact: **Myra Carpenter, Superintendent of Environmental Affairs**
2. Application Contact Mailing Address: Organization/Firm: **Georgia-Pacific Corporation** Street Address: **P.O. Box 919** City: **Palatka** State: **FL** Zip Code: **32178-0919**
3. Application Contact Telephone Numbers: Telephone: **(386) 325 - 2001** Fax: **(386) 328 - 0014**

Application Processing Information (DEP Use)

1. Date of Receipt of Application:	11-1-02
2. Permit Number:	1070005-019-AC
3. PSD Number (if applicable):	PSD-FL-364A
4. Siting Number (if applicable):	

Purpose of Application

Air Operation Permit Application

This Application for Air Permit is submitted to obtain: (Check one)

[ ] Initial Title V air operation permit for an existing facility which is classified as a Title V source.

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

Current construction permit number:_____

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

Current construction permit number:_____

Operation permit number to be revised:_____

[ ] Title V air operation permit revision or administrative correction to address one or more proposed new or modified emissions units and to be processed concurrently with the air construction permit application. (Also check Air Construction Permit Application below.)

Operation permit number to be revised/corrected:_____

[ ] Title V air operation permit revision for reasons other than construction or modification of an emissions unit. Give reason for the revision; e.g., to comply with a new applicable requirement or to request approval of an "Early Reductions" proposal.

Operation permit number to be revised:_____

Reason for revision:_____

Air Construction Permit Application

This Application for Air Permit is submitted to obtain: (Check one)

[X] Air construction permit to construct or modify one or more emissions units.

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

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

Owner/Authorized Representative or Responsible Official

1. Name and Title of Owner/Authorized Representative or Responsible Official:
   Theodore D. Kennedy, Vice President, Georgia-Pacific, Palatka Operations
2. Owner/Authorized Representative or Responsible Official Mailing Address:
   Organization/Firm: **Georgia-Pacific Corporation**
   Street Address: **P.O. Box 919**
   City: **Palatka** State: **FL** Zip Code: **32178-0919**
3. Owner/Authorized Representative or Responsible Official Telephone Numbers:
   Telephone: **(386) 325 - 2001** Fax: **(386) 328 - 0014**
4. Owner/Authorized Representative or Responsible Official Statement:

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

Theodore D Kennedy — Signature

10/30/02 — Date

* Attach letter of authorization if not currently on file.

Professional Engineer Certification

1. Professional Engineer Name: **David A. Buff**
   Registration Number: **19011**
2. Professional Engineer Mailing Address:
   Organization/Firm: **Golder Associates Inc.**
   Street Address: **6241 NW 23rd Street, Suite 500**
   City: **Gainesville** State: **FL** Zip Code: **32653-1500**
3. Professional Engineer Telephone Numbers:
   Telephone: **(352) 336 - 5600** Fax: **(352) 336 - 6603**

4. Professional Engineer Statement:

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

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

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

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

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

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

David A. Buff
Signature

10/31/02
Date

(seal)

* Attach any exception to certification statement.

Scope of Application

Emissions Unit ID	Description of Emissions Unit	Permit Type	Processing Fee
036	No. 3 Bleach Plant	ACM1	

Application Processing Fee

Check one: [ ] Attached - Amount: $: _____ [X] Not Applicable

Construction/Modification Information

1. Description of Proposed Project or Alterations:

   To revise CO emission limit. See Attachment A for details.

2. Projected or Actual Date of Commencement of Construction: **Upon Receipt of Permit**

3. Projected Date of Completion of Construction: **N/A ***

Application Comment

***No physical construction necessary for the proposed project. Application is for CO emission limit increase only.**

II. FACILITY INFORMATION

A. GENERAL FACILITY INFORMATION

Facility Location and Type

1. Facility UTM Coordinates: Zone: **17** East (km): **434.0** North (km): **3283.4**			
2. Facility Latitude/Longitude: Latitude (DD/MM/SS): **29 / 41 / 0** Longitude (DD/MM/SS): **81 / 40 / 45**			
3. Governmental Facility Code: **0**	4. Facility Status Code: **A**	5. Facility Major Group SIC Code: **26**	6. Facility SIC(s): **2611, 2621**
7. Facility Comment (limit to 500 characters):			

Facility Contact

1. Name and Title of Facility Contact: **Myra Carpenter, Superintendent of Environmental Affairs**		
2. Facility Contact Mailing Address: Organization/Firm: **Georgia-Pacific Corporation** Street Address: **P.O. Box 919** City: **Palatka** State: **FL** Zip Code: **32178-0919**		
3. Facility Contact Telephone Numbers: Telephone: **(386) 325-2001** Fax: **(386) 328-0014**		

Facility Regulatory Classifications

Check all that apply:

1. [ ] Small Business Stationary Source?	[ ] Unknown
2. [X] Major Source of Pollutants Other than Hazardous Air Pollutants (HAPs)?	
3. [ ] Synthetic Minor Source of Pollutants Other than HAPs?	
4. [X] Major Source of Hazardous Air Pollutants (HAPs)?	
5. [ ] Synthetic Minor Source of HAPs?	
6. [X] One or More Emissions Units Subject to NSPS?	
7. [X] One or More Emission Units Subject to NESHAP?	
8. [ ] Title V Source by EPA Designation?	
9. Facility Regulatory Classifications Comment (limit to 200 characters):	

List of Applicable Regulations

62-210.700(1) - Excess Emission
62-210.700(4) - Excess Emission
62-210.700(5) - Excess Emission
62-210.700(6) - Excess Emission
62-296.320(4) - General VE Limit
See Title V Core List, Effective 3/1/02

Title V Core List Effective: 03/01/02

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

Federal: ***(description)***

40 CFR 61, Subpart M: NESHAP for Asbestos.

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

State: (description)

CHAPTER 62-4, F.A.C.: PERMITS, effective 06-01-01

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

CHAPTER 62-210, F.A.C.: STATIONARY SOURCES - GENERAL REQUIREMENTS, effective 06-21-01

62-210.300, F.A.C.: Permits Required.
62-210.300(1), F.A.C.: Air Construction Permits.
62-210.300(2), F.A.C.: Air Operation Permits.
62-210.300(3), F.A.C.: Exemptions.
62-210.300(5), F.A.C.: Notification of Startup.
62-210.300(6), F.A.C.: Emissions Unit Reclassification.
62-210.300(7), F.A.C.: Transfer of Air Permits.

62-210.350, F.A.C.: Public Notice and Comment.
62-210.350(1), F.A.C.: Public Notice of Proposed Agency Action.
62-210.350(2), F.A.C.: Additional Public Notice Requirements for Emissions Units Subject to Prevention of Significant Deterioration or Nonattainment-Area Preconstruction Review.
62-210.350(3), F.A.C.: Additional Public Notice Requirements for Sources Subject to Operation Permits for Title V Sources.

62-210.360, F.A.C.: Administrative Permit Corrections.
62-210.370(3), F.A.C.: Annual Operating Report for Air Pollutant Emitting Facility.
62-210.400, F.A.C.: Emission Estimates.
62-210.650, F.A.C.: Circumvention.
62-210.700, F.A.C.: Excess Emissions

62-210.900, F.A.C.: Forms and Instructions.
62-210.900(1), F.A.C.: Application for Air Permit - Title V Source, Form and Instructions.
62-210.900(5), F.A.C.: Annual Operating Report for Air Pollutant Emitting Facility, Form and Instructions.
62-210.900(7), F.A.C.: Application for Transfer of Air Permit - Title V and Non-Title V Source.

CHAPTER 62-212, F.A.C.: STATIONARY SOURCES- PRECONSTRUCTION REVIEW, effective 08-17-00

CHAPTER 62-213, F.A.C.: OPERATION PERMITS FOR MAJOR SOURCES OF AIR POLLUTION, effective 04-16-01

62-213.205, F.A.C.: Annual Emissions Fee.
62-213.400, F.A.C.: Permits and Permit Revisions Required.
62-213.410, F.A.C.: Changes Without Permit Revision.
62-213.412, F.A.C.: Immediate Implementation Pending Revision Process.
62-213.415, F.A.C.: Trading of Emissions Within a Source.
62-213.420, F.A.C.: Permit Applications.
62-213.430, F.A.C.: Permit Issuance, Renewal, and Revision.
62-213.440, F.A.C.: Permit Content.
62-213.450, F.A.C.: Permit Review by EPA and Affected States
62-213.460, F.A.C.: Permit Shield.

62-213.900, F.A.C.: Forms and Instructions.
62-213.900(1), F.A.C.: Major Air Pollution Source Annual Emissions Fee Form.
62-213.900(7), F.A.C.: Statement of Compliance Form

CHAPTER 62-296, F.A.C.: STATIONARY SOURCES - EMISSION STANDARDS, effective 03-02-99

62-296.320(2), F.A.C.: Objectionable Odor Prohibited.
62-296.320(4)(c), F.A.C.: Unconfined Emissions of Particulate Matter

CHAPTER 62-297, F.A.C.: STATIONARY SOURCES - EMISSIONS MONITORING, effective 03-02-99

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

Miscellaneous:

CHAPTER 28-106, F.A.C.: Decisions Determining Substantial Interests
CHAPTER 62-110, F.A.C.: Exception to the Uniform Rules of Procedure, effective 07-01-98
CHAPTER 62-256, F.A.C.: Open Burning and Frost Protection Fires, effective 11-30-94
CHAPTER 62-257, F.A.C.: Asbestos Notification and Fee, effective 02-09-99
CHAPTER 62-281, F.A.C.: Motor Vehicle Air Conditioning Refrigerant Recovery and Recycling, effective 09-10-96

B. FACILITY POLLUTANTS

List of Pollutants Emitted

1. Pollutant Emitted	2. Pollutant Classif.	3. Requested Emissions Cap lbs/hr	tons/year	4. Basis for Emissions Cap	5. Pollutant Comment
PM	A				Particulate Matter – Total
PM_{10}	A				Particulate Matter – PM_{10}
SO_2	A				Sulfur Dioxide
NO_X	A				Nitrogen Oxides
CO	A				Carbon Monoxide
VOC	A				Volatile Organic Compounds
SAM	A				Sulfuric Acid Mist
TRS	A				Total Reduced Sulfur
HAPs	A				Total Hazardous Air Pollutants
H001	A				Acetaldehyde
H021	B				Beryllium Compounds
H043	A				Chloroform
H095	A				Formaldehyde
H106	A				Hydrochloric Acid
H115	A				Methanol

C. FACILITY SUPPLEMENTAL INFORMATION

Supplemental Requirements

1. Area Map Showing Facility Location: [X] Attached, Document ID: GP-FI-C1 [ ] Not Applicable [ ] Waiver Requested
2. Facility Plot Plan: [X] Attached, Document ID: GP-FI-C2 [ ] Not Applicable [ ] Waiver Requested
3. Process Flow Diagram(s): [X] Attached, Document ID: GP-FI-C3 [ ] Not Applicable [ ] Waiver Requested
4. Precautions to Prevent Emissions of Unconfined Particulate Matter: [ ] Attached, Document ID: _____ [X] Not Applicable [ ] Waiver Requested
5. Fugitive Emissions Identification: [ ] Attached, Document ID: _____ [X] Not Applicable [ ] Waiver Requested
6. Supplemental Information for Construction Permit Application: [X] Attached, Document ID: Attachment A [ ] Not Applicable
7. Supplemental Requirements Comment:

Additional Supplemental Requirements for Title V Air Operation Permit Applications

8. List of Proposed Insignificant Activities:
   [ ] Attached, Document ID:_____ [X] Not Applicable

9. List of Equipment/Activities Regulated under Title VI:
   [ ] Attached, Document ID:_____
   [ ] Equipment/Activities On site but Not Required to be Individually Listed
   [X] Not Applicable

10. Alternative Methods of Operation:
    [ ] Attached, Document ID:_____ [X] Not Applicable

11. Alternative Modes of Operation (Emissions Trading):
    [ ] Attached, Document ID:_____ [X] Not Applicable

12. Identification of Additional Applicable Requirements:
    [ ] Attached, Document ID:_____[X] Not Applicable

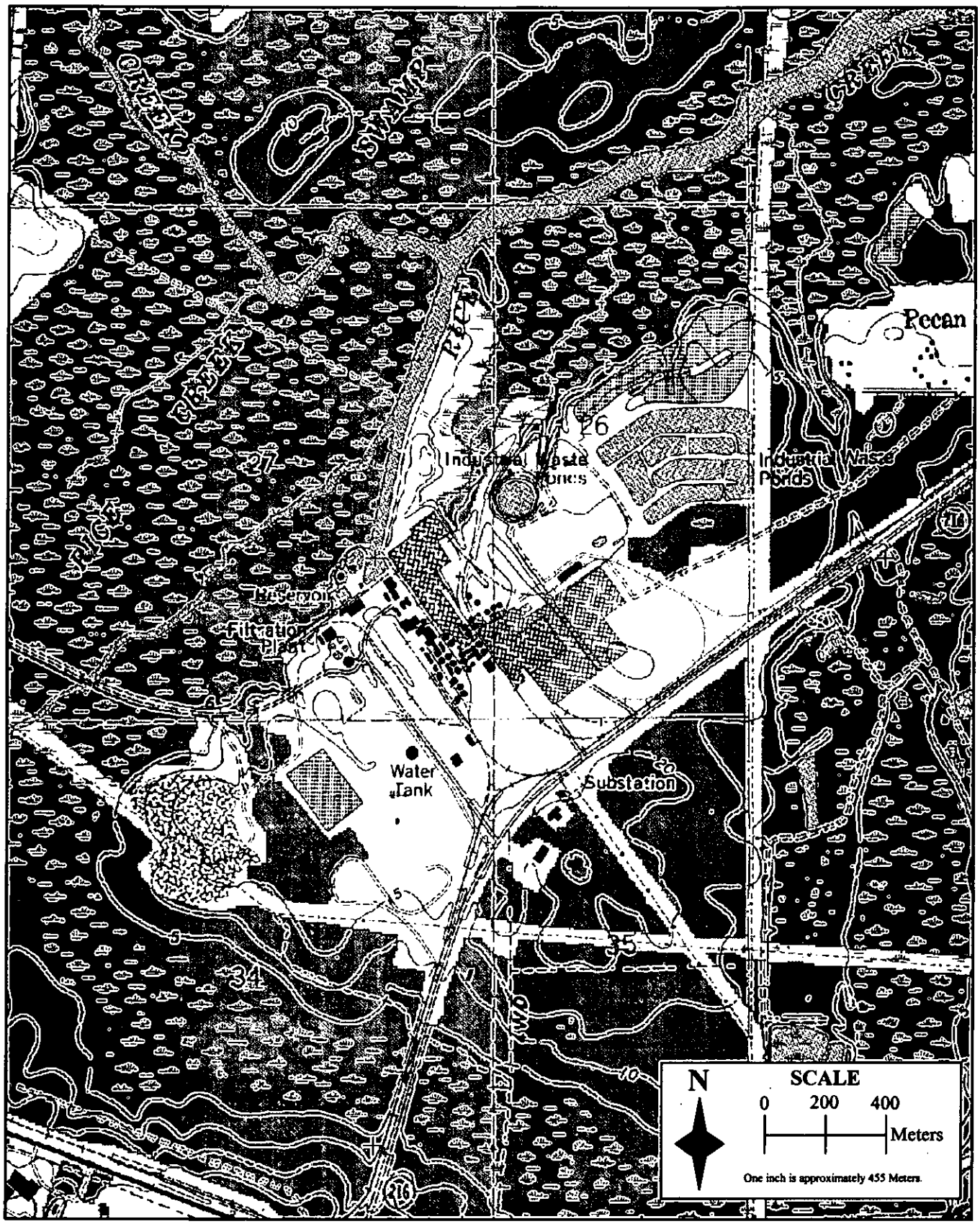
13. Risk Management Plan Verification:
    [ ] Plan previously submitted to Chemical Emergency Preparedness and Prevention Office (CEPPO). Verification of submittal attached (Document ID:) _____ or previously submitted to DEP (Date and DEP Office:_____)
    [ ] Plan to be submitted to CEPPO (Date required:_____)
    [X] Not Applicable

14. Compliance Report and Plan:
    [ ] Attached, Document ID:_____ [X] Not Applicable

15. Compliance Certification (Hard-copy Required):
    [ ] Attached, Document ID:_____ [X] Not Applicable

ATTACHMENT GP-FI-C1

AREA MAP SHOWING FACILITY LOCATION



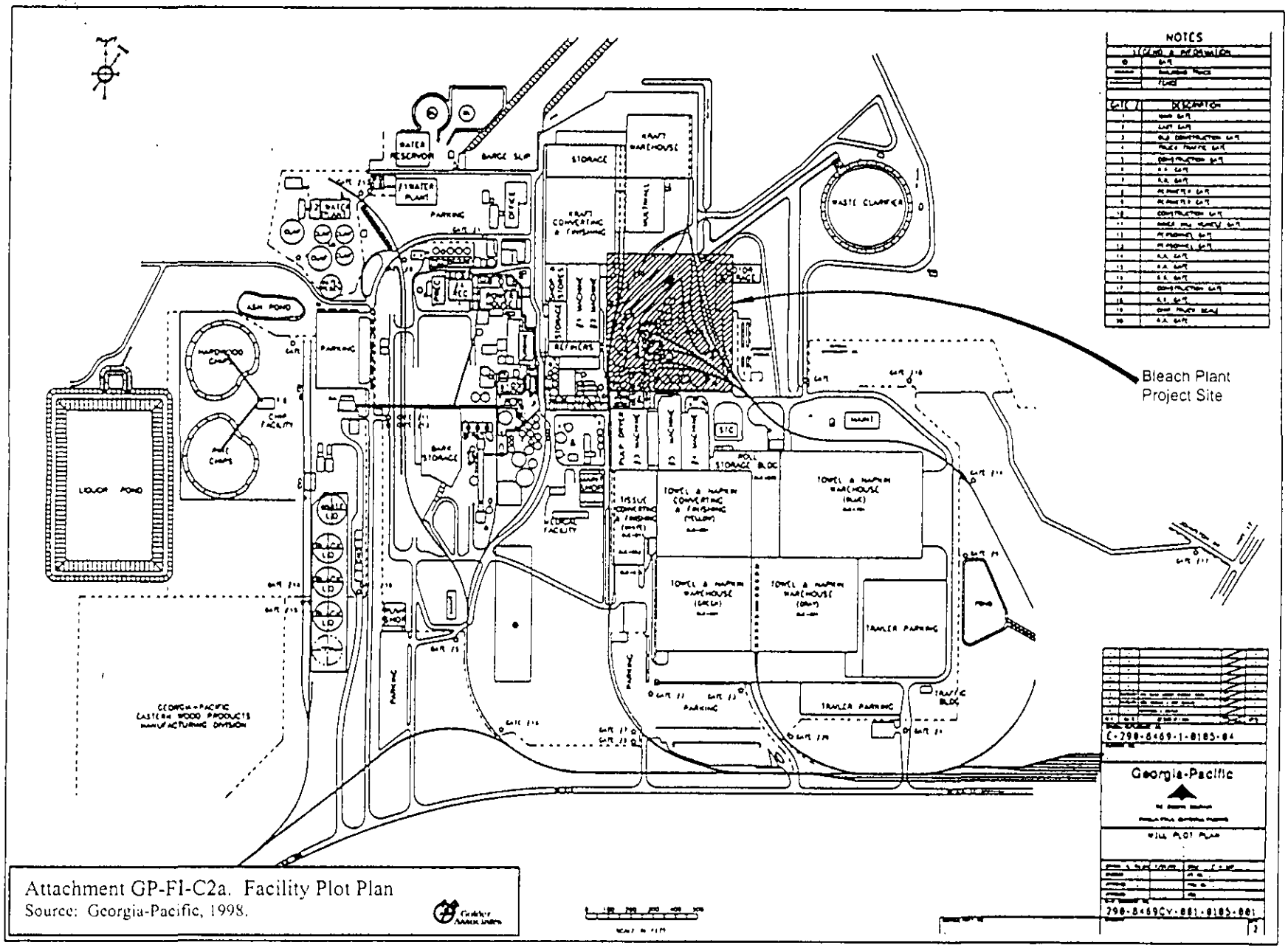
Attachment GP-FI-C1
Area Map
Georgia-Pacific Corporation, Palatka Mill

Source: Golder, 2002.

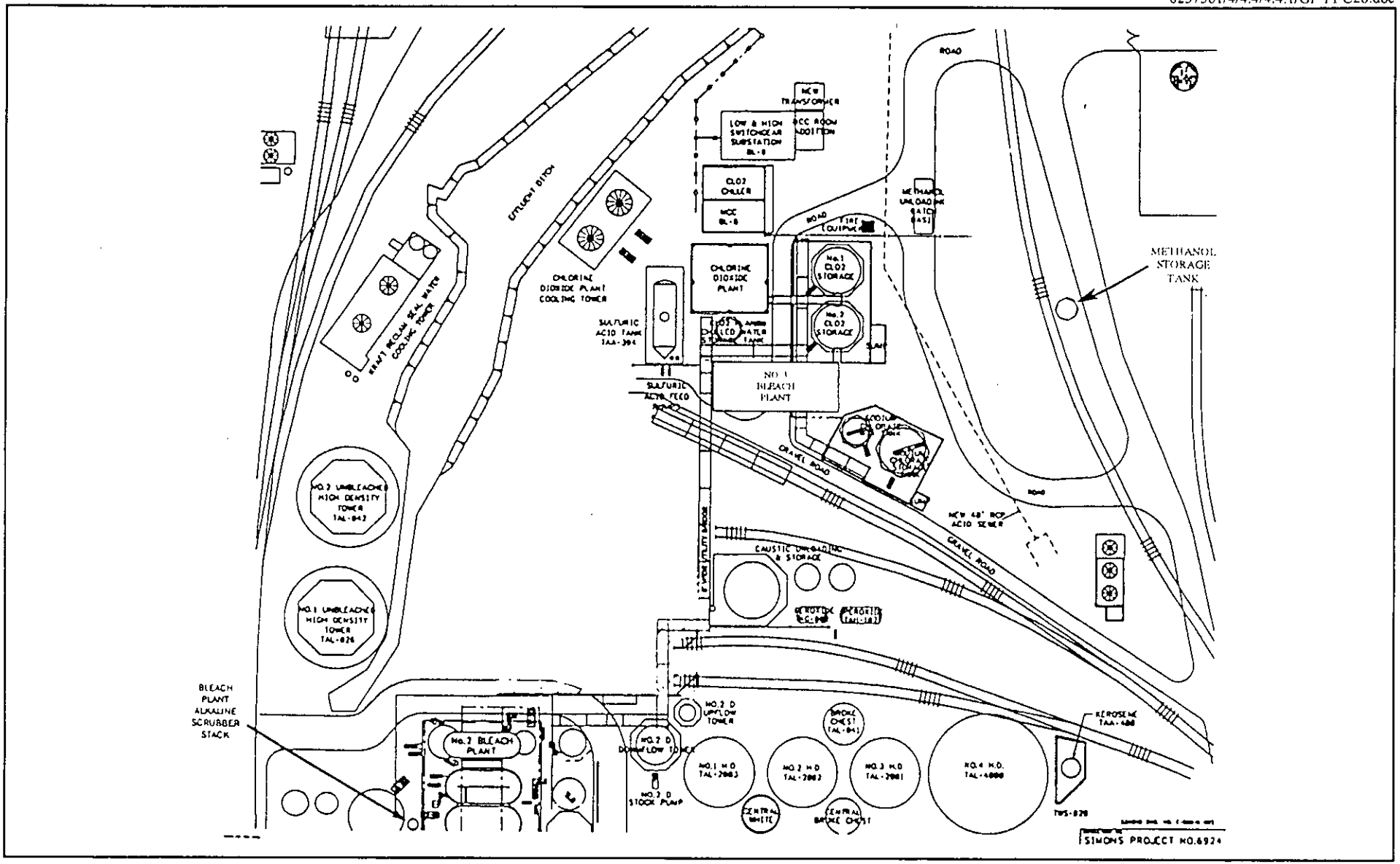
Golder Associates

ATTACHMENT GP-FI-C2

FACILITY PLOT PLAN



Attachment GP-FI-C2a. Facility Plot Plan
Source: Georgia-Pacific, 1998.



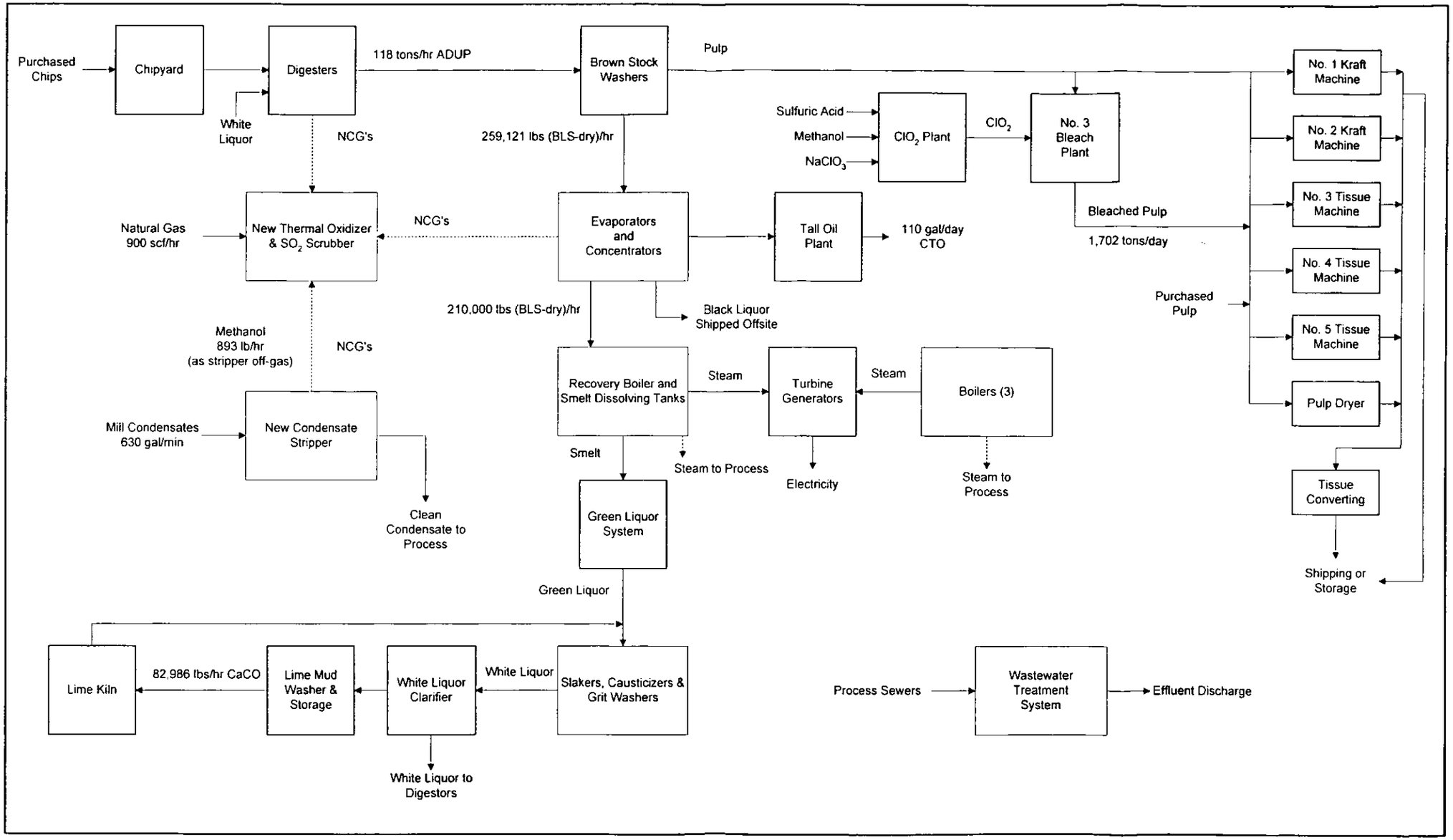
Attachment GP-FI-C2b
Plot Plan

Source: Golder, 2001.

Golder Associates

ATTACHMENT GP-FI-C3

PROCESS FLOW DIAGRAM



Attachment GP-FI-C3
Facility Process Flow Diagram
Georgia-Pacific Palatka Operations
Palatka, Florida

Notes:
ADUP = Air Dried Unbleached Pulp
CTO = Crude Tall Oil
Solid/Liquid
Gas

Filename: 0237561\4\4.4\4.4.1\GP-FI-C3.VSD
Date: 10/31/02

Golder Associates

III. EMISSIONS UNIT INFORMATION

A separate Emissions Unit Information Section (including subsections A through J as required) must be completed for each emissions unit addressed in this Application for Air Permit. If submitting the application form in hard copy, indicate, in the space provided at the top of each page, the number of this Emissions Unit Information Section and the total number of Emissions Unit Information Sections submitted as part of this application.

A. GENERAL EMISSIONS UNIT INFORMATION
(All Emissions Units)

Emissions Unit Description and Status

1. Type of Emissions Unit Addressed in This Section: (Check one)

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

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

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

2. Regulated or Unregulated Emissions Unit? (Check one)

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

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

3. Description of Emissions Unit Addressed in This Section (limit to 60 characters):
Elemental Chlorine Free (ECF) No. 3 Bleach Plant

4. Emissions Unit Identification Number:
ID: **036**
[ ] No ID
[ ] ID Unknown

5. Emissions Unit Status Code:	6. Initial Startup Date:	7. Emissions Unit Major Group SIC Code:	8. Acid Rain Unit?
A	**2/15/2001**	**26**	[ ]

9. Emissions Unit Comment: (Limit to 500 Characters)

Emissions Unit Control Equipment

1. Control Equipment/Method Description (Limit to 200 characters per device or method):

Packed-Gas Adsorption Column

2. Control Device or Method Code(s): **050**

Emissions Unit Details

1. Package Unit:		
Manufacturer:	Model Number:	
2. Generator Nameplate Rating:	MW	
3. Incinerator Information:		
Dwell Temperature:		°F
Dwell Time:		seconds
Incinerator Afterburner Temperature:		°F

B. EMISSIONS UNIT CAPACITY INFORMATION
(Regulated Emissions Units Only)

Emissions Unit Operating Capacity and Schedule

1. Maximum Heat Input Rate:			mmBtu/hr
2. Maximum Incineration Rate:	lbs/hr		tons/day
3. Maximum Process or Throughput Rate:			
4. Maximum Production Rate:	**1,702 tons/day**		
5. Requested Maximum Operating Schedule:			
24	hours/day	**7**	days/week
52	weeks/year	**8,760**	hours/year

6. Operating Capacity/Schedule Comment (limit to 200 characters):

Maximum production rate refers to maximum daily permit limit for air-dried tons of bleached pulp (ADTBP). Maximum monthly average permitted rate is 1,350 ADTBP/day.

C. EMISSIONS UNIT REGULATIONS
(Regulated Emissions Units Only)

List of Applicable Regulations

See Attachment GP-EU1-C.

D. EMISSION POINT (STACK/VENT) INFORMATION
(Regulated Emissions Units Only)

Emission Point Description and Type

1. Identification of Point on Plot Plan or Flow Diagram? **Bleach Plant Alkaline Scrubber Stack**	2. Emission Point Type Code: **2**	
3. Descriptions of Emission Points Comprising this Emissions Unit for VE Tracking (limit to 100 characters per point):		
4. ID Numbers or Descriptions of Emission Units with this Emission Point in Common:		
5. Discharge Type Code: **V**	6. Stack Height: **118** feet	7. Exit Diameter: **3.5** feet
8. Exit Temperature: ~**85** °F	9. Actual Volumetric Flow Rate: ~**15,400** acfm	10. Water Vapor: %
11. Maximum Dry Standard Flow Rate: dscfm	12. Nonstack Emission Point Height: feet	
13. Emission Point UTM Coordinates: Zone: East (km): North (km):		
14. Emission Point Comment (limit to 200 characters): **Values representative of scrubber exhaust stack. Exit temperature and actual volumetric flow rate values are constantly changing with ambient conditions.**		

E. SEGMENT (PROCESS/FUEL) INFORMATION
(All Emissions Units)

Segment Description and Rate: Segment 1 of 1

1. Segment Description (Process/Fuel Type) (limit to 500 characters): **Pulp and Paper and Wood - Sulfate (Kraft) Pulping; Industrial processes: Sulfate (Kraft) Pulping Bleaching Reactors**		
2. Source Classification Code (SCC): **3-07-001-14**	3. SCC Units: **Tons of air-dried unbleached pulp produced**	
4. Maximum Hourly Rate: **77.1**	5. Maximum Annual Rate: **535,455**	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur:	8. Maximum % Ash:	9. Million Btu per SCC Unit:
10. Segment Comment (limit to 200 characters): **See Attachment GP-EU1-E10. Maximum hourly rate based on 1,702 tons per day ADBP. Maximum annual rate based on 1,350 tons per day ADBP.**		

Segment Description and Rate: Segment ____ of ____

1. Segment Description (Process/Fuel Type) (limit to 500 characters):		
2. Source Classification Code (SCC):	3. SCC Units:	
4. Maximum Hourly Rate:	5. Maximum Annual Rate:	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur:	8. Maximum % Ash:	9. Million Btu per SCC Unit:
10. Segment Comment (limit to 200 characters):		

F. EMISSIONS UNIT POLLUTANTS
(All Emissions Units)

1. Pollutant Emitted	2. Primary Control Device Code	3. Secondary Control Device Code	4. Pollutant Regulatory Code
VOC	050		NS
HAPs	050		WP
H115	050		NS
H043	050		WP
CO			EL
H038	050		WP

G. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION
(Regulated Emissions Units - Emissions-Limited and Preconstruction Review Pollutants Only)

Potential/Fugitive Emissions

1. Pollutant Emitted: **CO**	2. Total Percent Efficiency of Control:
3. Potential Emissions: **100** lbs/hr **349** tons/year	4. Synthetically Limited? [ ]
5. Range of Estimated Fugitive Emissions: [ ] 1 [ ] 2 [ ] 3 _____ to _____ tons/year	
6. Emission Factor: **1.42 lbs/ADTBP** Reference: **See Attachment A**	7. Emissions Method Code: **0**
8. Calculation of Emissions (limit to 600 characters): **See Table 2-2 for calculations.**	
9. Pollutant Potential/Fugitive Emissions Comment (limit to 200 characters):	

Allowable Emissions Allowable Emissions 1 of 1

1. Basis for Allowable Emissions Code: **OTHER**	2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units: **100 lbs/hr; 349 TPY**	4. Equivalent Allowable Emissions: **100** lbs/hour **349** tons/year
5. Method of Compliance (limit to 60 characters): **EPA Method 10**	
6. Allowable Emissions Comment (Desc. of Operating Method) (limit to 200 characters): **See Attachment A. Based on softwood bleaching only.**	

H. VISIBLE EMISSIONS INFORMATION
(Only Regulated Emissions Units Subject to a VE Limitation)

Visible Emissions Limitation: Visible Emissions Limitation 1 of 1

1. Visible Emissions Subtype: **VE20**	2. Basis for Allowable Opacity: [X] Rule [ ] Other
3. Requested Allowable Opacity: Normal Conditions: **20** % Exceptional Conditions: % Maximum Period of Excess Opacity Allowed: min/hour	
4. Method of Compliance: **EPA Method 10**	
5. Visible Emissions Comment (limit to 200 characters): **Based on Rules 62-296.320 and 62-296.404(2)(b), F.A.C., and Permit No. 1070005-006-AC; PSD-FL-264.**	

I. CONTINUOUS MONITOR INFORMATION
(Only Regulated Emissions Units Subject to Continuous Monitoring)

Continuous Monitoring System: Continuous Monitor 1 of 3

1. Parameter Code: **pH**	2. Pollutant(s):
3. CMS Requirement:	[X] Rule [ ] Other
4. Monitor Information: Manufacturer: Model Number: Serial Number:	
5. Installation Date:	6. Performance Specification Test Date:
7. Continuous Monitor Comment (limit to 200 characters): **40 CFR 63.453(c)(1) requires pH monitoring of the gas scrubbing medium. G-P proposes to record pH data on a 3-hour average basis.**	

H. VISIBLE EMISSIONS INFORMATION
(Only Regulated Emissions Units Subject to a VE Limitation)

Visible Emissions Limitation: Visible Emissions Limitation _____ of _____

1. Visible Emissions Subtype:	2. Basis for Allowable Opacity: [ ] Rule [ ] Other
3. Requested Allowable Opacity: Normal Conditions: % Exceptional Conditions: % Maximum Period of Excess Opacity Allowed: min/hour	
4. Method of Compliance:	
5. Visible Emissions Comment (limit to 200 characters):	

I. CONTINUOUS MONITOR INFORMATION
(Only Regulated Emissions Units Subject to Continuous Monitoring)

Continuous Monitoring System: Continuous Monitor 2 of 3

1. Parameter Code: **FLOW**	2. Pollutant(s):
3. CMS Requirement:	[X] Rule [ ] Other
4. Monitor Information: Manufacturer: Model Number: Serial Number:	
5. Installation Date:	6. Performance Specification Test Date:
7. Continuous Monitor Comment (limit to 200 characters): **40 CFR 63.453(c)(2) requires measurement of vent gas inlet flow rate. EPA approved an alternative monitoring plan to monitor fan amperage of the bleaching system vent gas fan. G-P proposes to record fan amperage on a 3-hour average basis.**	

H. VISIBLE EMISSIONS INFORMATION
(Only Regulated Emissions Units Subject to a VE Limitation)

Visible Emissions Limitation: Visible Emissions Limitation _____ of _____

1. Visible Emissions Subtype:	2. Basis for Allowable Opacity: [ ] Rule [ ] Other
3. Requested Allowable Opacity: Normal Conditions: % Exceptional Conditions: % Maximum Period of Excess Opacity Allowed: min/hour	
4. Method of Compliance:	
5. Visible Emissions Comment (limit to 200 characters):	

I. CONTINUOUS MONITOR INFORMATION
(Only Regulated Emissions Units Subject to Continuous Monitoring)

Continuous Monitoring System: Continuous Monitor 3 of 3

1. Parameter Code: **FLOW**	2. Pollutant(s):
3. CMS Requirement:	[X] Rule [ ] Other
4. Monitor Information: Manufacturer: Model Number: Serial Number:	
5. Installation Date:	6. Performance Specification Test Date:
7. Continuous Monitor Comment (limit to 200 characters): **40 CFR 63.453(c)(3) requires measurement of the gas scrubber liquid flow rate. G-P will monitor the recirculation flow, which is the actual amount of liquid introduced to the scrubber. G-P proposes to record scrubber recirculation flow on a 3-hour average basis.**	

J. EMISSIONS UNIT SUPPLEMENTAL INFORMATION
(Regulated Emissions Units Only)

Supplemental Requirements

1. Process Flow Diagram
   [X] Attached, Document ID: GP-EU1-J1 [ ] Not Applicable [ ] Waiver Requested

2. Fuel Analysis or Specification
   [ ] Attached, Document ID: _____ [X] Not Applicable [ ] Waiver Requested

3. Detailed Description of Control Equipment
   [X] Attached, Document ID: GP-EU1-J3 [ ] Not Applicable [ ] Waiver Requested

4. Description of Stack Sampling Facilities
   [ ] Attached, Document ID: _____ [X] Not Applicable[ ] Waiver Requested

5. Compliance Test Report
   [ ] Attached, Document ID: _____
   [X] Previously submitted, Date: 11 JUN 2001
   [ ] Not Applicable

6. Procedures for Startup and Shutdown
   [ ] Attached, Document ID: _____ [X] Not Applicable [ ] Waiver Requested

7. Operation and Maintenance Plan
   [X] Attached, Document ID: GP-EU1-J7 [ ] Not Applicable [ ] Waiver Requested

8. Supplemental Information for Construction Permit Application
   [X] Attached, Document ID: Attachment A [ ] Not Applicable

9. Other Information Required by Rule or Statute
   [X] Attached, Document ID: GP-EU1-J9 [ ] Not Applicable

10. Supplemental Requirements Comment:

Additional Supplemental Requirements for Title V Air Operation Permit Applications

11. Alternative Methods of Operation
[ ] Attached, Document ID: _____ [X] Not Applicable

12. Alternative Modes of Operation (Emissions Trading)
[ ] Attached, Document ID: _____ [X] Not Applicable

13. Identification of Additional Applicable Requirements
[ ] Attached, Document ID: _____ [X] Not Applicable

14. Compliance Assurance Monitoring Plan
[ ] Attached, Document ID: _____ [X] Not Applicable

15. Acid Rain Part Application (Hard-copy Required)

[ ] Acid Rain Part - Phase II (Form No. 62-210.900(1)(a))
Attached, Document ID: _____

[ ] Repowering Extension Plan (Form No. 62-210.900(1)(a)1.)
Attached, Document ID: _____

[ ] New Unit Exemption (Form No. 62-210.900(1)(a)2.)
Attached, Document ID: _____

[ ] Retired Unit Exemption (Form No. 62-210.900(1)(a)3.)
Attached, Document ID: _____

[ ] Phase II NOx Compliance Plan (Form No. 62-210.900(1)(a)4.)
Attached, Document ID: _____

[ ] Phase NOx Averaging Plan (Form No. 62-210.900(1)(a)5.)
Attached, Document ID: _____

[X] Not Applicable

ATTACHMENT GP-EU1-C

LIST OF APPLICABLE REGULATIONS

ATTACHMENT GP-EU1-C

LIST OF APPLICABLE REGULATIONS

(Page 1 of 2)

40 CFR 63.445(a)(2)	Standards for the bleaching system
40 CFR 63.445(b)	Standards for the bleaching system
40 CFR 63.445(c)(1)	Standards for the bleaching system
40 CFR 63.445(d)	Standards for the bleaching system
40 CFR 63.450(a)-(d)	Standards for enclosures and closed-vent systems
40 CFR 63.453(a)	Monitoring Requirements
40 CFR 63.453(c)-(d)	Monitoring Requirements
40 CFR 63.453(k)	Monitoring Requirements
40 CFR 63.453(n)-(o)	Monitoring Requirements
40 CFR 63.454(a)-(b)	Recordkeeping Requirements
40 CFR 63.454(d)	Recordkeeping Requirements
40 CFR 63.455(a)	Recordkeeping Requirements
40 CFR 63.454(d)	Recordkeeping Requirements
40 CFR 63.457(a)-(b)	Test Methods and Procedures
40 CFR 63.457(d)-(e)	Test Methods and Procedures
40 CFR 63.457(h)-(i)	Test Methods and Procedures
62-212.400	PSD
62-210.700	Excess Emissions
40 CFR 63.1(a)(1)-(4)	Applicability
40 CFR 63.1(a)(11)-(14)	Applicability
40 CFR 63.1(b)(2)-(3)	Applicability
40 CFR 63.1(c)(1)-(2)	Applicability
40 CFR 63.1(c)(5)	Applicability
40 CFR 63.1(e)	Applicability
40 CFR 63.2	Definitions
40 CFR 63.3	Units and Abbreviations
40 CFR 63.4(a)(1)	Prohibited Activities and Circumvention
40 CFR 63.4(a)(3)	Prohibited Activities and Circumvention
40 CFR 63.4(a)(5)	Prohibited Activities and Circumvention
40 CFR 63.4(b)-(c)	Prohibited Activities and Circumvention
40 CFR 63.5(a)	Construction and Reconstruction
40 CFR 63.5(b)(1)	Construction and Reconstruction
40 CFR 63.5(b)(3)-(6)	Construction and Reconstruction
40 CFR 63.5(d)(1)	Construction and Reconstruction
40 CFR 63.5(d)(3)-(4)	Construction and Reconstruction
40 CFR 63.5(e)	Construction and Reconstruction
40 CFR 63.5(f)	Construction and Reconstruction
40 CFR 63.6(a)	Compliance with Standards and Maintenance Requirements
40 CFR 63.6(e)-(g)	Compliance with Standards and Maintenance Requirements
40 CFR 63.6(i)-(j)	Compliance with Standards and Maintenance Requirements
40 CFR 63.8(a)(1)-(2)	Monitoring Requirements
40 CFR 63.8(a)(4)	Monitoring Requirements
40 CFR 63.8(b)(1)	Monitoring Requirements
40 CFR 63.8(b)(3)	Monitoring Requirements
40 CFR 63.8(c)(1)-(3)	Monitoring Requirements
40 CFR 63.8(c)(6)-(8)	Monitoring Requirements

ATTACHMENT GP-EU1-C

LIST OF APPLICABLE REGULATIONS

(Page 2 of 2)

40 CFR 63.8(d)	Monitoring Requirements
40 CFR 63.8(e)	Monitoring Requirements
40 CFR 63.8(f)(1)-(5)	Monitoring Requirements
40 CFR 63.8(g)	Monitoring Requirements
40 CFR 63.9(a)-(b)	Notification Requirements
40 CFR 63.9(c)	Notification Requirements
40 CFR 63.9(g)(1)	Notification Requirements
40 CFR 63.9(h)-(j)	Notification Requirements
40 CFR 63.10(a)-(c)	Recordkeeping and Reporting Requirements
40 CFR 63.10(d)(1)-(2)	Recordkeeping and Reporting Requirements
40 CFR 63.10(d)(4)-(5)	Recordkeeping and Reporting Requirements
40 CFR 63.10(e)(1)	Recordkeeping and Reporting Requirements
40 CFR 63.10(e)(2)(i)	Recordkeeping and Reporting Requirements
40 CFR 63.10(e)(3)	Recordkeeping and Reporting Requirements
40 CFR 63.10(f)	Recordkeeping and Reporting Requirements
40 CFR 63.12	State Authority and Delegation
40 CFR 63.13	Addresses of State Air Pollution Control Agencies and EPA Regional Offices
40 CFR 63.14	Incorporations by References
40 CFR 63.15	Availability of Information and Confidentiality

ATTACHMENT GP-EU1-E10

SEGMENT COMMENT

ATTACHMENT GP-EU1-E10
SEGMENT COMMENT

Maximum Annual Rate based on average monthly No. 3 Bleach plant production of 1,350 Air Dried Tons of Bleached Pulp (ADTBP) per day. Maximum hourly rate based on maximum daily production of 1,702 ADTBP per day. Values converted to Air-Dried Tons Unbleached Pulp (ADTUP) using a conversion factor of Unbleached/Bleached = 1:0.92.

1,350 ADTBP ÷0.92 = 1,467 ADTUP (monthly average)

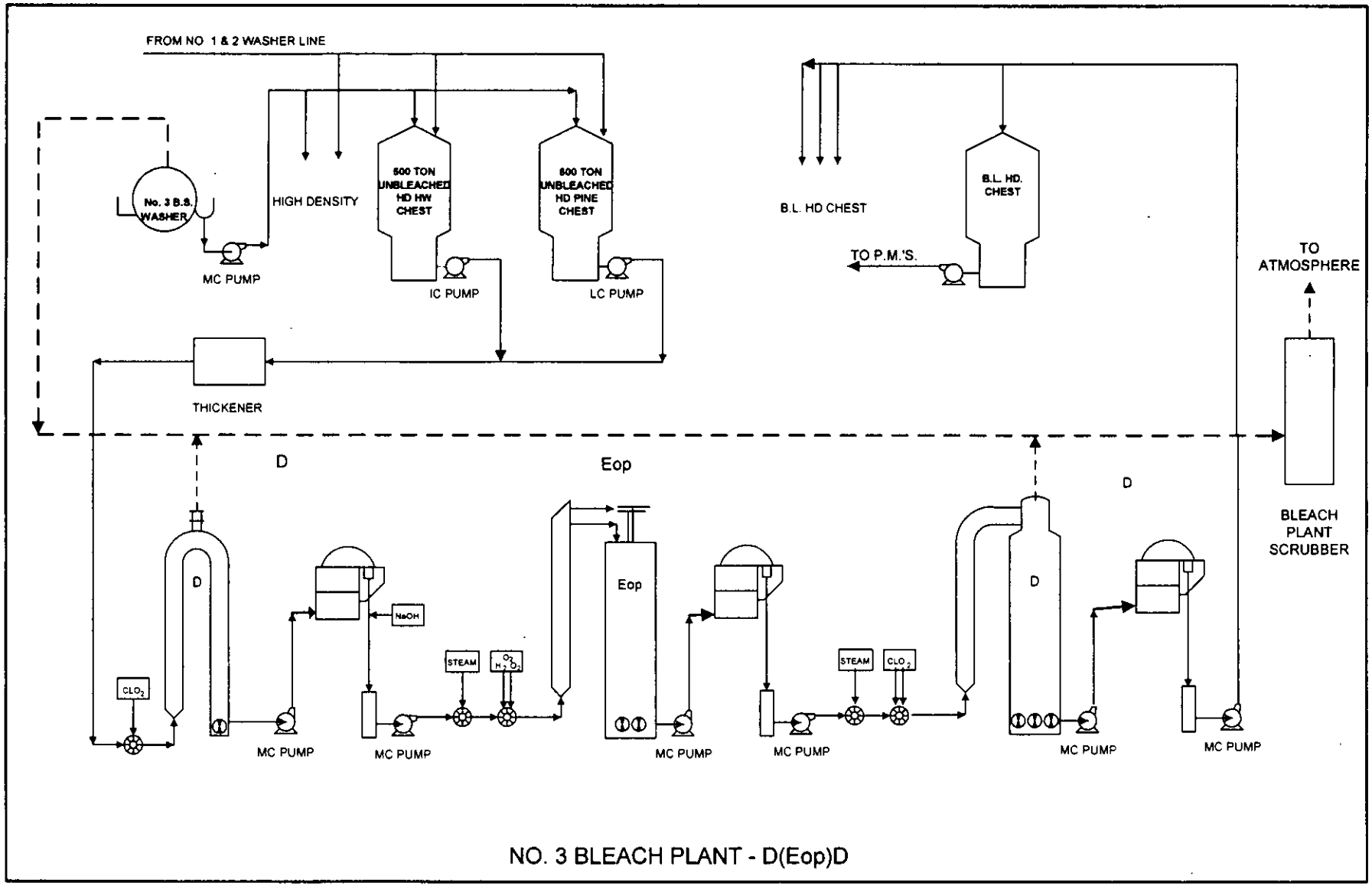
1,702 ADTBP÷0.92 = 1,850 ADTUP (maximum daily)

Maximum Hourly Rate: 1,850 ADTUP÷24 hrs/day = 77.1 ADTUP per hour, 24-hr average

Maximum Annual Rate: 1,467 ADTUP x 365 days/year = 535,455 ADTUP per year

ATTACHMENT GP-EU1-J1

PROCESS FLOW DIAGRAM



NO. 3 BLEACH PLANT - D(Eop)D

ATTACHMENT GP-EU1-J1
ECF BLEACH PLANT FLOW DIAGRAM

Source: Georgia-Pacific, 1998.

Process Flow Legend:
Solid / Liquid
Gas

Project: 0237561\4\4.4\4.4.1
Filename: GP-EU1-J1.VSD
Date: 10/30/02

Golder Associates

ATTACHMENT GP-EU1-J3

DETAILED DESCRIPTION OF CONTROL EQUIPMENT

ATTACHMENT GP-EU1-J3

Georgia-Pacific Corporation Palatka Facility

No. 3 Bleach Plant

Alkaline Scrubber Equipment Design Parameters

Scrubber Type	Packed Bed Wet Scrubber
Scrubbant	Alkaline Liquid
Packing Material	No. 2 Super Interlocks
Packing Arrangement	Two 25-ft beds
Outlet Gas Temp (°F)	85
Outlet Gas Flow Rate (ACFM)	15,400
Average Scrubbant pH	>7.0
Scrubbant Flow Rate (gpm)	>1,200

ATTACHMENT GP-EU1-J7

OPERATION AND MAINTENANCE PLAN

No. 3 Bleach Plant
O & M Plan

Plant Overview

The Georgia-Pacific Palatka Operations mill uses a Prewash-D_0-E_{op}-D_1 bleaching sequence.

In simple terms, the bleaching sequence is:

Prewash Stage - provides final washing and consistency control of the pulp before starting the bleaching process.

D_0 Stage - the first bleaching stage, where chlorine dioxide (D_0; ClO_2) followed by washing. This stage solubilizes most of the remaining lignin.

E_{op} Stage -the second bleaching stage, where the sequential addition of caustic (E; NaOH), then hydrogen peroxide (p; H_2O_2) and oxygen (0; O_2) takes place, followed by washing. This stage dissolves the soluble lignin and removes it at the stage's wash press.

D_1 Stage - the final bleaching stage, where the true bleaching of the pulp occurs using chlorine dioxide (D_1; ClO_2), followed by washing. In this stage, the pulp is bleached to the desired brightness and the impact of impurities (wood dirt, shives) is greatly reduced.

The main objective of bleaching is to increase the brightness (whiteness) of the pulp while still maintaining good physical strength properties. The pulp is then used by the paper mill to manufacture a wide variety of consumer goods.

When bleaching pulp, there are a number of key parameters that influence the results of the chemical reactions and the effectiveness of each treatment. To obtain optimal bleaching results, specific conditions need to be met in each stage. The chemicals used in the different bleaching stages vary in their selectivity when reacting with cellulose and lignin as well as their ability to brighten the pulp.

The four key parameters for all bleaching stages are:

1) chemical dosage
2) reaction time
3) reaction temperature
4) stock pH.

All bleaching chemicals react according to the same principle with a fast initial reaction phase and then a slower subsequent phase. Chlorine dioxide (ClO_2) is unique, however, having an almost instantaneous reaction with pulp.

In order to take advantage of this known reaction mechanism, a typical bleaching stage usually involves chemical addition, a chemical/pulp mixer, reaction in a tower to provide retention time, followed by washing to remove the excess chemicals and reaction products.

The Palatka facility utilizes this type of equipment for the bleaching of both hardwoods and softwoods in the same and only bleach plant. The physical equipment operation is fundamentally the same for both species with different targeted values for the four key parameters mentioned above.

The following are examples of the type of instrumentation used to assure a safe, effective, and efficient bleaching process:

- Flow Indication for stock, water, effluent, chemicals, and steam.
- Consistency meters prior to each beaching sequence for chemical addition.
- Temperatures for all flows in all stages of the process.
- pH probes for stock and effluent throughout the process.
- Chemical residual analyzers for stock streams throughout process. >- Stock Kappa analyzer at each stage for chemical addition.
- Brightness instrumentation at each stage for brightness development and chemical addition.
- Fiber length analyzers for accurate species tracking and correct chemical addition.
- ClO_2 strength analyzer for maximizing ClO_2 addition on stock.
- Local and DCS gas emission alarms strategically placed throughout all levels of the operation.
- Conductivity probes in sewer effluent.

Operator training consisted of the following:

- 24 hours of Computer Based Training
- 16 hours of Class Room Training
- 16 hours of in the Field Training
- 40 hours of one on one Running the Plant Training.

The operating staff of this equipment utilizes sophisticated Digital Controls Systems via remote PC to monitor and make every control adjustment to the key parameters.

Operators maintain a log sheet that contains critical operating data. A shift by shift equipment checklist is completed each day for equipment lubrication, vibration, noise, and temperature. A multitude of alarm limits and safety interlocks also help to assure that the four key parameters are kept in check.

In an effort to verify that the control instrumentation is correct, operating staff complete manual test verification log sheets periodically during the day. Deviations from field instrumentation are adjusted as needed and calibrations are made as soon as possible.

To minimize the need for frequent adjustments, field instrumentation is inspected, cleaned, replaced and/or calibrated on either a daily, weekly, or monthly basis.

All environmental, safety, or major pieces of equipment have written maintenance procedures and parts lists readily available to the maintenance staff. Preventative Maintenance routes are completed routinely via either vender recommendations or historical performance. All maintenance work on any piece of equipment is tracked electronically for repetitive issue resolution.

ATTACHMENT GP-EU1-J9

OTHER INFORMATION REQUIRED BY RULE OR STATUTE

ATTACHMENT GP-EU1-J9

(Revised 11/13/02)

This application is being submitted to revise the PSD Permit (Permit No. 1070005-010-AC) to increase the CO emission rate for the No. 3 Bleach Plant at Georgia-Pacific (G-P) Palatka.

Specific Condition 3 of Permit No. 1070005-010-AC requires that an Operation and Maintenance (O&M) Plan for the No. 3 Bleach Plant be submitted which sets forth the practices which are employed to result in efficient bleaching operations. The required O & M Plan is contained in Attachment GP-EU1-J7.

As per Specific Condition 12 of Permit No. 1070005-010-AC, G-P is to operate continuous monitors for pH of the gas scrubber liquid, the gas scrubber liquid recirculation flow rate, and gas scrubber vent inlet flow rate. The monitoring of the fan loading is an alternative to the continuous monitoring of the gas scrubber vent inlet flow rate. The EPA letter of approval for use of alternative monitoring is attached. Monitoring fan loading insures that gas is flowing to the scrubber. G-P will be submitting a letter to the Administrator, in the near future, requesting approval to monitor differential pressure in place of fan loading in the event the fan load monitor is inoperative. Monitoring pH insures that the scrubber liquid is the appropriate strength to control emissions from the vent gas. Monitoring the scrubber recirculation flow ensures that scrubber liquid is actually flowing into the scrubber.

G-P plans to establish parametric values during the most recent compliance test. The methodology and calculations utilized in setting the parametric values will be submitted in conjunction with any compliance test results. Once these values are established, operation will be allowed at 90% or greater of the minimum value or 110% or less of the maximum value.

G-P requests that any condition placed in the Title V permit to require minimum or maximum scrubber operating parameters state the following: "Such parameters remain valid until a compliance test demonstrates that compliance can be achieved at lower or higher values. Upon such demonstration, the lower or higher values become the new limitations for the gas scrubber."

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 4
ATLANTA FEDERAL CENTER
61 FORSYTH STREET
ATLANTA, GEORGIA 30303-8960

DEC 2 ? 2000

received
12-27-00

4APT-ARB

Myra J. Carpenter
Superintendent, Environmental Affairs
Georgia-Pacific Corporation
P. O. Box 919
Palatka, Florida 32178-0919

Dear Ms. Carpenter:

Thank you for your letter dated December 1, 2000, regarding a request from the Georgia-Pacific Corporation, Palatka, Florida, for approval of a bleach plant alternative monitoring parameter pursuant to the Pulp & Paper MACT standard. Section 63.453(c)(2) of the MACT requires subject mills to continuously monitor the gas scrubber vent gas inlet flow rate. However, the facility states that because the inlet to the gas scrubber is a very corrosive, moist environment, it is not conducive to continuous flow measurement and therefore Georgia-Pacific is seeking approval of a system to continuously monitor operation of the fan used to convey hazardous air pollutants to the bleach plant scrubber.

Based on the discussion of the alternative monitoring parameter issue in the Environmental Protection Agency's (EPA's) Q&A Document for the Pulp & Paper MACT (Volume 1, Page 8 - 10), Region 4 concurs that adequate rationale for using an alternative parameter (as required in 63.453(n)), has been demonstrated. Therefore, Region 4 concurs with the Georgia-Pacific request to substitute vent gas fan data (i.e., install, calibrate, operate and properly maintain a continuous monitoring system to monitor the fan amperage of the bleaching system vent gas fan) as an alternative monitoring parameter to 63.453(c)(2) and accordingly approves this specific request.

If further assistance is needed, please contact Lee Page of the EPA Region 4 staff at (404) 562-9131.

Sincerely,

Paul Hagen

R. Douglas Neeley
Chief
Air and Radiation Technology Branch
Air, Pesticides and Toxics
Management Division

cc: Howard Rhodes, FL DEP

ATTACHMENT A

SUPPLEMENTAL INFORMATION FOR CONSTRUCTION PERMIT APPLICATION

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1.0 INTRODUCTION

Georgia-Pacific Corporation (G-P) operates a Kraft pulp mill located in Palatka, Florida. As part of the paper making process, pulp bleaching is conducted at the facility. In 1999, G-P applied for a construction permit to construct an elemental chlorine-free (ECF) three-stage bleach plant. On June 30, 1999, the Florida Department of Environmental Protection (FDEP) issued G-P a Prevention of Significant Deterioration (PSD) permit to construct the No. 3 Bleach Plant. Construction for the No. 3 Bleach Plant was completed by February 15, 2001 and the bleach plant is now operational. Based on initial test data from the new bleach plant, G-P believes that the carbon monoxide (CO) emission limit that the bleach plant is subject to does not adequately reflect process variability of the bleach plant.

G-P is now submitting this application to revise the CO emission limit in the No. 3 Bleach Plant PSD permit, Permit No. 1070005-006-AC; PSD-FL-264. The current permit limit is 46 pounds per hour (lbs/hr) and 201 tons per year (TPY). G-P is proposing to increase the CO emission limit to 100 lbs/hr and 349 TPY. This increase in emissions reflects the potential for 100 percent softwood processing, as well as increased application of chlorine dioxide to the pulp compared to what was originally proposed in the PSD permit application. G-P believes that the revised emission estimate is more representative of potential CO emissions from the No. 3 Bleach Plant. It should be noted that G-P estimated an average hourly CO emission rate of 63.4 lb/hr in the original PSD application, based on processing 65 percent softwood and 35 percent hardwood. The revised potential CO emissions contained in this application, reflects the scenario of 100 percent softwood production.

This report contains background information relating to the CO emissions, an update on Best Available Control Technology (BACT), and a modeling analysis showing that the proposed higher emission rate for CO will not have any adverse air quality impacts. As discussed further in Section 3.0, G-P still feels that the BACT analysis presented in the original application is appropriate, even in light of the revised emission limits. As such, that section is included for informational purposes only.

2.0 PROJECT DESCRIPTION

2.1 BACKGROUND

G-P operates a Kraft pulp and paper mill located in Palatka, Florida. Processes and systems at the mill include a batch digester system, multiple effect evaporator (MEE) system, condensate stripper system, recovery boiler and smelt dissolving tanks, lime kiln, tall oil plant, utilities, bleach plant, chlorine dioxide plant, and other equipment to produce finished paper products from virgin wood.

Prior to the construction of the No. 3 Bleach Plant, G-P operated two bleach plants, the No. 1 and No. 2 Bleach Plants. These bleach plants used a combination of chlorine dioxide (ClO_2) and elemental chlorine to bleach pulp. The No. 3 Bleach Plant was constructed to replace the No. 1 and the No. 2 Bleach Plant and to help G-P meet the Maximum Achievable Control Technology (MACT) Standards promulgated for the pulp and paper industry (40 CFR Part 63, Subpart S) by converting the bleaching system to a totally ECF process.

The No. 3 Bleach Plant has the ability to bleach either softwood or hardwood pulp. The bleach plant operates in three stages, with a prewash prior to the front sequence. The three stages consist of a D_0 stage (chlorine dioxide stage), an E_{OP} stage (caustic extraction with oxygen and peroxide), and a D_1 stage (chlorine dioxide stage), resulting in a $D_0(E_{OP})D_1$ sequence. Pulp is supplied to the bleach plant from the No. 2 High Density (HD) chest for hardwood and from the No. 3 HD chest for softwood. The bleach plant is designed for a maximum daily production rate of 1,702 air-dried tons of bleached pulp (ADTBP) per day and a monthly average production rate of 1,350 ADTBP per day.

2.2 PROJECTED CO EMISSIONS

2.2.1 ORIGINAL CONSTRUCTION PERMIT APPLICATION

When G-P applied for the PSD construction permit for the bleach plant, G-P did not have specific data for its three stage bleaching plant on which to base CO emissions. CO emissions from the No. 3 Bleach Plant were estimated based on emissions presented in technical literature. Specifically, NCASI Technical Bulletin No. 760 was used to estimate emissions from the No. 3 Bleach Plant.

A summary of the CO emissions data contained in NCASI Technical Bulletin No. 760 is presented in Table 2-1. As discussed further in the NCASI Technical Bulletin, these data indicated that CO emissions from softwood bleaching are dependent on the rate of ClO_2 application to the pulp, but CO

emissions from hardwood bleaching are not dependent on ClO_2 application rate. To estimate CO emissions from softwood bleaching in the No. 3 Bleach Plant, an interpolation of the presented data was performed using estimated peak and average ClO_2 application rates (see Appendix A to this permit application). CO emissions from hardwood bleaching were estimated by averaging the emission factors for the hardwood bleaching.

The projected CO emissions from softwood bleaching were estimated as 1.03 lb/ADTBP for short-term emissions and 0.91 lb/ADTBP for long-term emissions. The projected CO emissions from hardwood bleaching were estimated as 0.64 lb/ADTBP. Maximum hourly emissions from the No. 3 Bleach Plant were based on the maximum pulp production rate of 1,702 ADTBP per day and a processing ratio of 65 percent softwood and 35 percent hardwood. Annual emissions were based on the average pulp production rate of 1,350 ADTBP per day and a processing ratio of 65 percent softwood and 35 percent hardwood. This resulted in an hourly emission rate of 63.4 lbs/hr and an annual emission rate of 201 TPY. These derivations can be found in Appendix A of the original PSD application.

2.2.2 REVISED PROJECTIONS BASED ON OPERATIONAL DATA

Since the bleach plant is now operating, G-P has actual operating data experience with the No. 3 Bleach Plant. In the original PSD application, G-P estimated that the peak ClO_2 application rate would be 3.57 percent and the average application rate would be 2.89 percent. G-P now believes that a maximum application rate of 5.7 percent is more representative of the softwood bleaching operations. Incorporating this updated ClO_2 application rate into the emission calculations results in a maximum emission factor for CO of 1.42 lb/ADTBP. These calculations are presented in Appendix A.

G-P desires to permit the No. 3 Bleach Plant for the 100-percent softwood bleaching scenario, which according to NCASI Technical Bulletin No. 760, would correspond to the highest emissions. Again, this NCASI data is utilized in developing an emission factor for use at the Palatka Mill (see Appendix A for emission factor derivation).

Proposed maximum hourly emissions from the No. 3 Bleach Plant are based on the permitted maximum daily pulp production rate of 1,702 ADTBP per day and the emission factor of 1.42 lbs CO/ADTBP. The proposed annual emissions are based on the permitted maximum monthly

average pulp production rate of 1,350 ADTBP per day and the emission factor of 1.42 lbs CO/ADTBP. These calculations can be found in Appendix A of this application.

2.3 SUMMARY

Based on the information presented above, G-P is requesting a higher emission limit for CO for the No. 3 Bleach Plant. G-P is requesting a CO emission limit of 100 lb/hr and 349 TPY. The derivation of these emission rates is summarized in Appendix A of this application. The short-term and annual CO emissions for the No. 3 Bleach Plant are summarized in Table 2-2.

Table 2-1. Comparison of CO Emissions from Hardwood and Softwood Bleach Plants

Mill Code	Carbon Monoxide Emissions		
	lb/ODTUP	lb/ADTUP	lb/ADTBP
Softwood			
B	0.85	0.77	0.83
C	0.62	0.56	0.61
C	0.93	0.84	0.91
G	1.02	0.92	1.00
Average =	0.86	0.77	0.84
Hardwood			
B	0.65	0.59	0.62
C	0.88	0.79	0.84
SA	0.54	0.49	0.52
SE	0.64	0.58	0.61
SH	0.63	0.57	0.60
Average =	0.67	0.60	0.64

Note: ADTUP = air-dried tons unbleached pulp.
ODTUP = oven-dried tons unbleached pulp.

Source: NCASI Technical Bulletin No. 760, July 1998.

Table 2-2. Revised Maximum CO Emissions for the No. 3 Bleach Plant (Revised 11/12/02)

Averaging Period	Wood Species	Emission Factor (lbs/ADTBP) (a)	Throughput Rate	Emission Rate
Short-Term (Hourly)	Softwood	1.68	60 ADTBP/hour	100.8 lbs/hour (d)
Long-Term (Annual)	Softwood	1.68	320,287.5 ADTBP/year (b)	269.0 tons/year
	Hardwood	0.64	172,462.5 ADTBP/year (c)	55.2 tons/year
		Total (Long-Term)	492,750 ADTBP/year	324.2 tons/year

(a) Refer to Appendix A of Attachment A for derivation of softwood and hardwood emission factors.

(b) Based on an average daily throughput of 1,350 ADTBP and assuming 65% softwood on an annual basis (1,350 ADTBP/day x 365 days/year x 0.65 = 320,287.5 ADTBP/year).

(c) Based on an average daily throughput of 1,350 ADTBP and assuming 35% hardwood on an annual basis (1,350 ADTBP/day x 365 days/year x 0.35 = 172,462.5 ADTBP/year).

(d) Actual calculated value is 100.8 lbs/hour; G-P is proposing a maximum hourly permitted rate for CO of 100 lbs/hour.

3.0 AIR QUALITY MONITORING REQUIREMENTS

In accordance with requirements of 40 CFR 52.21(m) and FDEP Rule 62-212.400(5)(f), F.A.C., any application for a PSD permit must contain an analysis of continuous ambient air quality data in the area affected by the proposed major stationary facility or major modification. For a new major facility, the affected pollutants are those that the facility potentially would emit in significant amounts. For a major modification, the pollutants are those for which the net emissions increase exceeds the significant emission rate.

Ambient air monitoring for a period of up to 1 year is generally appropriate to satisfy the PSD monitoring requirements. A minimum of 4 months of data is required. Existing data from the vicinity of the proposed source may be used if the data meet minimum of 4 months of data is required. Existing data from the vicinity of the proposed source may be used if the data meet certain quality assurance requirements; otherwise, additional data may need to be gathered. Guidance in designing a PSD monitoring network is provided in the U.S. Environmental Protection Agency's (EPA's) Ambient Monitoring Guidelines for Prevention of Significant Deterioration (EPA, 1987a).

FDEP may exempt a proposed major stationary facility or major modification from the monitoring requirements with respect to a particular pollutant if the emissions increase of the pollutant from the facility or modification would cause, in any area, air quality impacts less than the *de minimis* monitoring levels (FDEP Rule 62-212.400, F.A.C.). Presented in Table 3-1 is a comparison of the maximum future CO impact of the No. 3 Bleach Plant to the CO *de minimis* monitoring concentration. Since the maximum 8-hour CO concentration of 293 micrograms per cubic meter ($\mu g/m^3$) is less than the 8-hour *de minimis* monitoring concentration of 575 $\mu g/m^3$, the proposed project is exempt from monitoring requirements for CO.

Table 3-1. Comparison of Maximum Future Impact of the No. 3 Bleach Plant to the *De Minimis* Monitoring Concentration

Pollutant	Impact Due to Future Proposed Project [a] ($\mu g/m^3$)	*De Minimis* Monitoring Concentration ($\mu g/m^3$)	Preconstruction Ambient Monitoring Analysis Required?
Carbon Monoxide	293, 8-hour	575, 8-hour	No

[a] Impact presented is for maximum CO emissions from the No. 3 Bleach Plant.

Source: Golder Associates Inc., 2002.

4.0 BEST AVAILABLE CONTROL TECHNOLOGY REQUIREMENTS

In the case of the Bleach Plant addition at G-P, only CO required a BACT analysis for the proposed No. 3 Bleach Plant. The following section presents an update to the BACT analysis for CO.

4.1 BACT FOR CO FROM THE NO. 3 BLEACH PLANT

CO is a byproduct that is formed when bleaching pulp in a pulp mill. It has been known for some time that CO is formed in the stages of a chlorine, caustic extraction, and chlorine dioxide (CEDED) bleaching sequence. This sequence is similar to the sequence used in G-P's existing bleaching process. However, until recently, it was not known how much CO formation could be expected from bleaching using up to 100 percent ClO_2 substitution (NCASI TB 760, 1998).

Based on studies performed by NCASI, it has been postulated that CO formation from ClO_2 substitution occurs as a result of the synergistic reaction between ClO_2 and certain precursors formed from bleaching with chlorine. The results of the studies do not show a correlation between CO formation and percent ClO_2 substitution. However, there is evidence to show that, when using 100 percent ClO_2 substitution, CO emissions appear to increase linearly with the total percent ClO_2 applied on the pulp. Therefore, it would appear that when bleaching using an ECF bleaching process (i.e., 100 percent ClO_2 substitution), CO formation may be reduced be reducing the amount of ClO_2 applied to the pulp. This would suggest that CO emissions from the ECF bleaching process could be "controlled" by maintaining the percentage of ClO_2 applied to the pulp at minimum levels that would ensure proper bleaching of the pulp. Thus, ensuring efficient use of ClO_2 and efficient operation of the bleaching process would minimize CO emissions.

As part of the BACT analysis, EPA's BACT Clearinghouse database was searched for instances of similar BACT determinations for CO emissions from bleach plants. Other than G-P's original BACT determination for the No. 3 Bleach Plant, only three other such determinations were found. A summary of these determinations is provided in Table 4-1. The determinations were made for two different Weyerhaeuser facilities, located in North Carolina and Mississippi. The BACT determinations were 2.2 pounds per oven-dried ton (lb/ODT) and 0.98 lb/ODT, respectively, for these two facilities. There were no control technologies associated with these BACT determinations. The Mississippi Weyerhaeuser facility's BACT determination was based on efficient operations of

the bleach plant. G-P's proposed limit is equivalent to 1.28 lbs/oven-dried tons per bleached pulp (ODTBP) (1.42 lbs/ADTBP), which falls within the range of previous determinations.

In addition, key researchers of bleach plant CO emission studies for NCASI were queried as to the most effective means of control of CO emissions from ECF bleach plants. The consensus was that the most effective method to control CO emissions is to maintain efficient operations of the bleach plant.

Based on this information, G-P still feels that "efficient bleaching operations" as a work practice to minimize CO emissions represents BACT from the No. 3 Bleach Plant. No other feasible or practical means of CO emissions control or reduction has been applied to pulp mill CO emissions.

Table 4-1. Summary of BACT Determinations for Carbon Monoxide Emissions from Bleach Plants

Company Name	State	RBLC ID	Permit Issue Date	Throughput Per Unit	Emission Limits As provided in BACT/LAER Clearinghouse	Emission Limits Converted to lb/hr [a]	Control Technology/Comment
Georgia-Pacific Corp.	FL	FL-0183	6/30/99	1,532 ODT/D [b]	0.71 lb/ODT	46	--
Weyerhaeuser Company--Plymouth Pulp and Paper Mill	NC	NC-0070	11/25/98	800 ODT/D	2.2 lb/ODT	73.3	--
Weyerhaeuser Company--Plymouth Pulp and Paper Mill	NC	NC-0070	11/25/98	1,250 ODT/D	2.2 lb/ODT	114.6	--
Weyerhaeuser Company	MS	MS-0029	9/10/96	1,685 ODT/D [b]	0.98 lb/ODT	69.0	Efficient Operation

Reference: RACT/BACT/LAER Clearinghouse on EPA's Webpage, 2001
ADT/D = Air dried tons per day
ODT/D = Oven dried tons per day

[a] Calculating assuming 24 hour operation per day.

[b] Converted from ADT/D to ODT/D using the conversion factor ADT/D = ODT/D x 1/0.90

5.0 AIR QUALITY MODELING ANALYSIS

5.1 INTRODUCTION

To demonstrate that the increased CO emissions will not have an adverse affect on air quality, a modeling analysis for CO was performed. Except as noted below, this analysis was performed in the same manner as the modeling performed in the original construction permit application that was submitted in 1999 for the No. 3 Bleach Plant, except as discussed below. The latest version of the Industrial Source Complex Short-Term [(ISCST3), Version 02035] dispersion model (EPA, 2002) was used to evaluate the CO impacts due to the proposed project in areas within 50 kilometers (km) of the proposed facility. A listing of ISCST3 model features is presented in Table 5-1.

A different receptor grid was used in this modeling analysis. To determine the CO significant impact area for the proposed project, concentrations were predicted using polar grids. The receptor grids, comprised of 36 radials spaced at 10-degree intervals, began at the plant property and extended out to a distance of 5.5 km. An additional 334 Cartesian grid receptors, spaced at 100-meter (m) intervals, were used to predict impacts along the fence line areas. A summary of the fence line receptors is presented in Table 5-2.

At the off-property areas between the fence line and the outermost ring distance of 5.5 km, 205 discrete polar receptors were used, spaced at 10-degree intervals at ring distances of 0.5, 0.6, 0.7, 1.0, 2.0, 3.0, 4.0, 4.5, 5.0, and 5.5 km from the origin. All receptor locations are relative to the former TRS Incinerator stack location, an origin that was used for the modeling in the original PSD application. The radial and property line receptors are presented in Figure 5-1.

Eleven receptors were used to predict the CO concentrations at the Okefenokee and Wolf Island National Wilderness Area (NWA) PSD Class I areas. Ten of the 11 receptors were located along the southern and eastern boundaries of Okefenokee NWA. One additional receptor was located at the Wolf Island NWA. A list of these receptors is presented in Table 5-3. Because allowable PSD increments do not exist for CO, the Class I modeling analysis was performed only for the air quality related value (AQRV) assessment.

5.2 EMISSION INVENTORY

The maximum short-term CO emissions for the No. 3 Bleach Plant are 100 lbs/hr as presented in Table 2-2. The maximum CO impacts due to these future maximum CO emissions from the No. 3 Bleach Plant were compared to the CO significant impact levels. The stack parameters for the bleach plant scrubber used in the modeling analysis are presented in Table 5-4. Since the original PSD application was submitted prior to construction of the No. 3 Bleach Plant, some of the stack parameters varied slightly from the original design parameters.

5.3 BUILDING DOWNWASH EFFECTS

The potential for building downwash to occur was evaluated for all source/structure combinations at the G-P Palatka facility. A total of 12 building structures were evaluated. All building structures were processed in the EPA Building Input Profile (BPIP, Version 95086) program to determine direction-specific building heights and projected widths for each 10-degree azimuth direction for the bleach plant scrubber. The evaluated structures are presented in Table 5-5. A plot plan showing building and stack locations is presented in Attachments GP-FI-C2a and GP-FI-C2b.

5.4 MODEL RESULTS - SIGNIFICANT IMPACT ANALYSIS

Results of the significant impact screening analyses for CO are summarized in Table 5-6. The maximum 8-hour and 1-hour CO impacts of 293 and 1,096 $\mu g/m^3$, respectively, are below the significant impact levels of 500 and 2,000 $\mu g/m^3$, respectively. Because the maximum predicted impacts from the screening analysis were less than 60 percent of the EPA significant impact levels, additional refinements were not performed. Furthermore, since the predicted CO impacts do not exceed the significant impact levels, an additional analysis comparing the CO impacts to the ambient air quality standards (AAQS) is not required.

Table 5-1. Major Features of the ISCST3 Model

ISCST3 Model Features
• Polar or Cartesian coordinate systems for receptor locations.
• Rural or one of three urban options which affect wind speed profile exponent, dispersion rates, and mixing height calculations.
• Plume rise due to momentum and buoyancy as a function of downwind distance for stack emissions (Briggs, 1969, 1971, 1972, and 1975; Bowers *et al.*, 1979).
• Procedures suggested by Huber and Snyder (1976); Huber (1977); and Schulman and Scire (1980) for evaluating building wake effects.
• Procedures suggested by Briggs (1974) for evaluating stack-tip downwash.
• Separation of multiple emission sources.
• Consideration of the effects of gravitational settling and dry deposition on ambient particulate concentrations.
• Capability of simulating point, line, volume, area, and open pit sources.
• Capability to calculate dry and wet deposition, including both gaseous and particulate precipitation scavenging for wet deposition.
• Variation of wind speed with height (wind speed-profile exponent law).
• Concentration estimates for 1 hour to annual average times.
• Terrain-adjustment procedures for elevated terrain including a terrain truncation algorithm for ISCST3; a built-in algorithm for predicting concentrations in complex terrain.
• Consideration of time-dependent exponential decay of pollutants.
• The method of Pasquill (1976) to account for buoyancy-induced dispersion.
• A regulatory default option to set various model options and parameters to EPA recommended values (see text for regulatory options used).
• Procedure for calm-wind processing including setting wind speeds less than 1 m/s to 1 m/s.

Note: ISCST3 = Industrial Source Complex Short-Term.

References:

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Pasquill, F. 1976. Atmospheric Dispersion Parameters in Gaussian Plume Modeling - Part II. Possible Requirements for Change in the Turner Workbook Values. EPA-600/4-76-030b, U.S. Environmental Protection Agency, Research Triangle Park, North Carolina 27711.

Schulman, L.L. and J.S. Scire. 1980. Buoyant Line and Point Source (BLP) Dispersion Model User's Guide. Document P-7304B, Environmental Research and Technology, Inc., Concord, MA.

Table 5-2. Property Boundary Receptors Used in the G-P Modeling Analysis

Coordinates (m)		Coordinates (m)		Coordinates (m)		Coordinates (m)		Coordinates (m)		Coordinates (m)		Coordinates (m)		Coordinates (m)	
X	Y	X	Y	X	Y	X	Y	X	Y	X	Y	X	Y	X	Y
-311.0	-1781.0	-3231.4	-279.6	-4162.2	2413.6	-3944.5	3977.0	-1217.8	4808.0	1914.3	4492.0	1574.6	2851.9	1248.5	842.0
-402.0	-1739.6	-3331.4	-276.3	-4168.3	2513.4	-4044.5	3977.0	-1117.8	4808.6	1911.6	4392.0	1527.7	2763.6	1348.5	842.0
-493.1	-1698.2	-3431.3	-273.0	-4174.5	2613.3	-4144.5	3977.0	-1017.8	4809.3	1908.9	4292.0	1480.8	2675.3	1448.5	842.0
-584.1	-1656.9	-3531.3	-269.7	-4180.6	2713.1	-4185.0	4036.5	-917.8	4809.9	1906.3	4192.1	1433.9	2587.0	1548.5	842.0
-675.1	-1615.5	-3631.2	-266.4	-4186.8	2812.9	-4185.0	4136.5	-817.8	4810.5	1903.6	4092.1	1341.7	2574.0	1648.5	842.0
-766.2	-1574.1	-3731.1	-263.1	-4193.0	2912.7	-4185.0	4236.5	-717.8	4811.2	1826.1	4069.0	1241.7	2574.0	1740.2	832.5
-857.2	-1532.7	-3831.1	-259.8	-4199.1	3012.5	-4161.5	4313.4	-617.8	4811.8	1739.0	4081.9	1141.7	2574.0	1737.6	740.0
-948.3	-1491.3	-3931.0	-256.5	-4205.3	3112.3	-4061.5	4315.0	-517.8	4812.5	1739.0	4181.9	1116.1	2482.6	1657.5	680.0
-1039.3	-1450.0	-3894.6	-190.3	-4211.4	3212.1	-3961.5	4316.6	-417.8	4813.1	1739.0	4281.9	1095.9	2384.7	1577.5	620.1
-1130.3	-1408.6	-3832.3	-112.1	-4217.6	3311.9	-3861.6	4318.3	-317.8	4813.7	1739.0	4381.9	1075.6	2286.8	1497.4	560.2
-1221.4	-1367.2	-3769.9	-33.9	-4176.6	3360.5	-3761.6	4319.9	-217.8	4814.4	1739.0	4481.9	1055.4	2188.8	1417.4	500.2
-1312.4	-1325.8	-3707.6	44.3	-4077.7	3346.0	-3661.6	4321.5	-117.8	4815.0	1739.0	4581.9	1035.1	2090.9	1337.3	440.3
-1403.4	-1284.4	-3651.2	125.9	-3978.8	3331.6	-3561.6	4323.2	-17.9	4815.7	1739.0	4681.9	1033.7	2027.3	1257.3	380.4
-1494.5	-1243.1	-3613.9	218.7	-3879.8	3317.1	-3461.6	4324.8	82.1	4816.3	1642.1	4685.0	1105.3	2097.0	1177.2	320.4
-1585.5	-1201.7	-3576.7	311.5	-3780.9	3302.6	-3361.6	4326.4	182.1	4816.9	1542.1	4685.0	1177.0	2166.7	1097.2	260.5
-1676.5	-1160.3	-3562.9	403.3	-3681.9	3288.1	-3261.6	4328.1	282.1	4817.6	1442.1	4685.0	1248.7	2236.4	1017.1	200.6
-1767.6	-1118.9	-3608.6	492.2	-3583.0	3273.7	-3161.6	4329.7	382.1	4818.2	1410.0	4624.5	1320.4	2306.2	937.1	140.6
-1858.6	-1077.5	-3654.2	581.2	-3484.0	3259.2	-3087.4	4349.2	482.1	4818.9	1421.4	4525.2	1392.1	2375.9	857.0	80.7
-1949.7	-1036.2	-3732.9	616.0	-3385.1	3244.7	-3120.8	4443.5	582.1	4819.5	1432.8	4425.8	1466.0	2440.6	777.0	20.7
-2040.7	-994.8	-3832.9	616.0	-3286.1	3230.2	-3154.1	4537.8	682.1	4820.1	1444.3	4326.5	1565.7	2448.5	696.9	-39.2
-2131.7	-953.4	-3924.1	634.0	-3187.2	3215.8	-3187.4	4632.1	782.1	4820.8	1455.7	4227.1	1615.7	2396.7	616.9	-99.1
-2222.8	-912.0	-3985.8	712.8	-3088.2	3201.3	-3220.7	4726.4	882.1	4821.4	1467.2	4127.8	1625.9	2297.2	536.8	-159.1
-2313.8	-870.6	-4039.0	789.7	-2989.3	3186.8	-3217.8	4795.2	982.1	4822.1	1478.6	4028.4	1636.0	2197.8	456.8	-219.0
-2404.8	-829.3	-3951.2	837.5	-2890.3	3172.3	-3117.8	4795.8	1082.1	4822.7	1490.0	3929.1	1646.2	2098.3	376.7	-278.9
-2495.9	-787.9	-3863.4	885.4	-2806.0	3174.8	-3017.8	4796.5	1182.1	4823.3	1551.6	3886.0	1656.4	1998.8	296.7	-338.9
-2586.9	-746.5	-3831.0	966.1	-2806.0	3274.8	-2917.8	4797.1	1282.1	4824.0	1651.6	3886.0	1666.6	1899.3	216.6	-398.8
-2678.0	-705.1	-3831.0	1066.1	-2806.0	3374.8	-2817.8	4797.7	1382.1	4824.6	1751.6	3886.0	1676.8	1799.8	169.7	-483.4
-2769.0	-663.7	-3899.1	1098.0	-2806.0	3474.8	-2717.8	4798.4	1482.1	4825.3	1851.6	3886.0	1687.0	1700.4	134.9	-577.2
-2860.0	-622.4	-3999.1	1098.0	-2806.0	3574.8	-2617.8	4799.0	1582.1	4825.9	1951.6	3886.0	1625.4	1642.7	100.2	-671.0
-2940.6	-573.9	-4082.1	1116.1	-2806.0	3674.8	-2517.8	4799.7	1682.1	4826.5	2051.6	3886.0	1537.4	1600.6	65.5	-764.7
-2945.1	-474.0	-4088.3	1215.9	-2806.0	3774.8	-2417.8	4800.3	1782.1	4827.2	2076.0	3837.1	1549.7	1501.3	30.7	-858.5
-2949.7	-374.1	-4094.4	1315.7	-2860.4	3831.0	-2317.8	4800.9	1882.1	4827.8	2034.9	3745.9	1562.0	1402.1	-4.0	-952.3
-2954.3	-274.2	-4100.6	1415.5	-2958.1	3852.7	-2217.8	4801.6	1982.1	4828.5	1993.9	3654.8	1617.3	1369.0	-38.8	-1046.1
-2958.8	-174.3	-4106.8	1515.3	-3055.7	3874.3	-2117.8	4802.2	2082.1	4829.1	1952.8	3563.6	1696.5	1367.8	-73.5	-1139.8
-2963.4	-74.4	-4112.9	1615.2	-3153.4	3895.9	-2017.8	4802.9	2182.1	4829.7	1911.7	3472.4	1723.6	1271.6	-108.2	-1233.6
-2968.0	25.5	-4119.1	1715.0	-3251.0	3917.5	-1917.8	4803.5	2282.1	4830.4	1940.0	3383.5	1641.3	1229.4	-143.0	-1327.4
-3004.4	92.0	-4125.2	1814.8	-3348.6	3939.1	-1817.8	4804.1	2376.0	4830.1	1924.8	3291.7	1548.4	1192.5	-177.7	-1421.1
-3104.4	92.0	-4131.4	1914.6	-3446.3	3960.7	-1717.8	4804.8	2280.4	4801.0	1875.8	3209.6	1457.8	1152.2	-212.4	-1514.9
-3190.0	77.6	-4137.5	2014.4	-3544.5	3977.0	-1617.8	4805.4	2184.7	4771.8	1787.8	3162.1	1389.9	1078.8	-247.2	-1608.7
-3190.0	-22.4	-4143.7	2114.2	-3644.5	3977.0	-1517.8	4806.1	2107.3	4712.3	1699.8	3114.6	1322.0	1005.4	-281.9	-1702.5
-3190.0	-122.4	-4149.9	2214.0	-3744.5	3977.0	-1417.8	4806.7	2036.6	4641.6	1654.9	3033.7	1254.1	931.9		
-3190.0	-222.4	-4156.0	2313.8	-3844.5	3977.0	-1317.8	4807.3	1965.9	4570.9	1621.5	2940.2	1186.2	858.5		

Note: All coordinates are relative to old TRS incinerator stack location.

Table 5-3. Class I Area Receptors Used in the Modeling Analysis

PSD Class I Area	UTM Coordinates	
	East (km)	North (km)
Wolf Island NWA	470.5	3459.0
Okefenokee NWA	391.0	3417.0
Okefenokee NWA	390.0	3410.0
Okefenokee NWA	392.0	3400.0
Okefenokee NWA	390.0	3395.0
Okefenokee NWA	391.0	3390.0
Okefenokee NWA	390.0	3384.0
Okefenokee NWA	383.0	3382.0
Okefenokee NWA	378.0	3382.0
Okefenokee NWA	374.0	3383.0
Okefenokee NWA	370.0	3383.0

NWA = National Wilderness Area

Table 5-4. No. 3 Bleach Plant Source Location and Operating Parameters Used in Modeling Analysis

Source	ISCST Source ID	CO Emissions		Stack Height		Stack Diameter		Gas Flow Rate	Gas Exit Temperature		Velocity		Location [a] X Coordinate		Location [a] Y Coordinate	
		lb/hr	g/sec	ft	m	ft	m	acfm	°F	K	ft/sec	m/sec	ft	m	ft	m
No. 3 Bleach Plant	BLEACH	126.6	16.0	118	36.0	3.5	1.07	15,400	85	302.6	26.7	8.13	358.6	109.3	464.2	141.5

[a] Relative to the old TRS incinerator stack and to true north.

Table 5-5. Structure Dimensions Used in the Georgia-Pacific Modeling Analysis

Structure	Height		Length		Width	
	ft	m	ft	m	ft	m
RB4 Precipitator	85	25.9	130	39.6	59	18.0
RB4 Boiler Building	193.7	59.0	104	31.7	90	27.4
Power Plant Building	107.6	32.8	92	28.0	92	28.0
Pulp Dryer No. 3	84.5	25.8	263	80.2	147	44.8
Pulp Dryer No. 5	70.5	21.5	306	93.3	95	29.0
Pulp Dryer No. 4	73	22.3	242	73.8	127	38.7
Warehouse Complex 1	62.67	19.1	1,382	421.2	411	125.3
Warehouse Complex 2	46.8	14.3	852	259.7	370	112.8
Nos. 1 and 2 Machines, Storage	71.16	21.7	232	70.7	412	125.6
Kraft Converting and Storing	60.75	18.5	264	80.5	516	157.3
Kraft Warehouse and Multi-Wall	56.7	17.3	274	83.5	507	154.5
Digester	62.2	19.0	264	80.5	32	9.8

Table 5-6. Maximum Predicted CO Concentrations for the No. 3 Bleach Plant Predicted in the Plant Vicinity, Georgia Pacific, Palatka

Averaging Time	Concentration [a] ($\mu g/m^3$)	Receptor Location [b] X (m)	Receptor Location [b] Y (m)	Time Period (YYMMDDHH) [c]
Annual	11.7	492	-180	84123124
	11.1	542	-109	85123124
	11.1	431	-242	86123124
	15.2	536.8	-159.1	87123124
	14.3	456.8	-219	88123124
High 24-Hour	180	296.7	-338.9	84011424
	119	616.9	-99.1	85070824
	162	169.7	-483.4	86121524
	140	492	-180	87102724
	157	492	-180	88022124
High 8-Hour	278	216.6	-398.8	84011308
	251	536.8	-159.1	85071716
	266	134.9	-577.2	86121524
	279	359	-292	87110508
	293	431	-242	88042808
High 3-Hour	416	296.7	-338.9	84011703
	398	456.8	-219	85062612
	463	431	-242	86051309
	574	431	-242	87072509
	444	231	-548	88011003
High 1-Hour	700	359	-292	84112008
	785	376.7	-278.9	85072002
	861	376.7	-278.9	86082921
	1,096	296.7	-338.9	87012008
	715	456.8	-219	88091822

[a] Predicted on 5-year meteorological record, Jacksonville and Waycross, 1984 to 1988.

[b] All receptor coordinates are relative to the old TRS incinerator stack location.

[c] YYMMDDHH = Year, Month, Day, Hour Ending

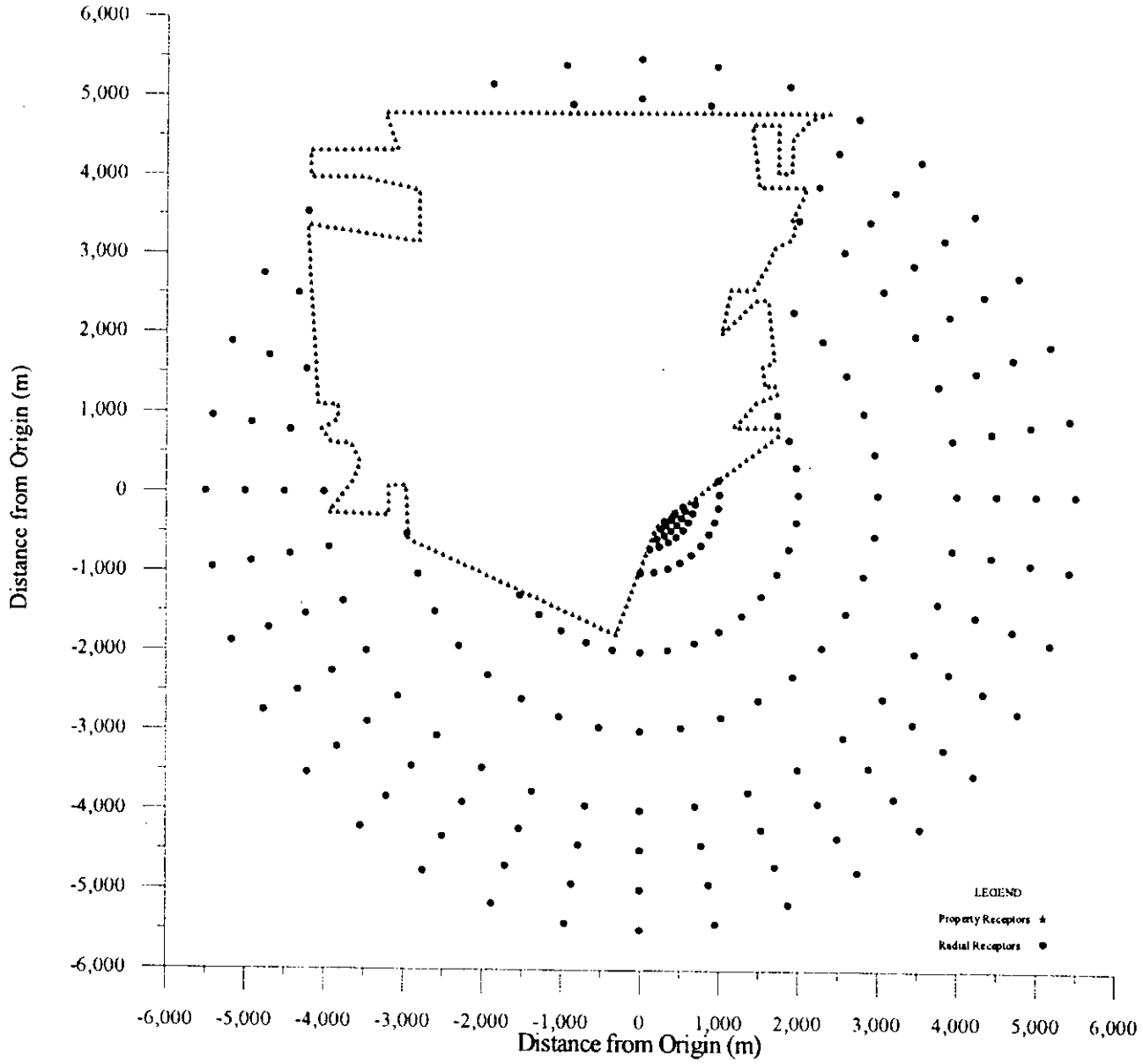


Figure 5-1. Property and Radial Receptors Used in Modeling Analysis
Georgia-Pacific, Palatka Mill

Source: Golder, 2002.

6.0 ADDITIONAL IMPACT ANALYSIS

6.1 INTRODUCTION

The additional impact analysis and the Class I area analysis address CO. The analysis addresses the potential impacts on vegetation, soils, and wildlife in the surrounding area and at the nearest two PSD Class I areas due to the increase in allowable CO emissions at G-P's Palatka Mill. Due to the distance from G-P, the Okefenokee NWA area would potentially receive much higher impacts than would the Wolf Island NWA. Therefore, only the Okefenokee NWA is addressed in this analysis.

A full CO impact analysis was performed for the initial PSD application. It was demonstrated that the predicted impacts due to the No. 3 Bleach Plant would not have any adverse affects on visibility, soil, vegetation, and wildlife at the G-P plant site and the Okefenokee NWA area. All of the predicted impacts were well below any reported levels of adverse affects. This analysis will compare the predicted impacts of the PSD application with the predicted impacts of the increased CO emissions to demonstrate that the increase in CO emissions will not have any adverse affects on the G-P plant site and the Okefenokee NWA Class I area.

6.2 PREDICTED IMPACTS IN VICINITY OF G-P PLANT

In the foregoing analysis, the maximum air quality impacts predicted to occur in the vicinity of the Georgia-Pacific plant and in the Class I area due to the No. 3 Bleach Plant are used. The ISCST3 model (Version 02035) was used to compute maximum concentrations. Maximum impacts in the vicinity of the G-P plant and in the Class I areas were predicted as discussed in Section 5.0. Meteorological data used in the ISCST3 consisted of the same 5-year record as used in the air quality analysis that was performed in support of the original PSD Permit Application. Emissions and stack data for the No. 3 Bleach Plant are presented in Section 5.0.

The results of the CO air quality modeling for the No. 3 Bleach Plant, predicted in the vicinity of the plant are presented in Table 6-1. Maximum predicted CO concentrations are presented for the annual, 24-hour, 8-hour, 3-hour, and 1-hour averaging times. This table presents a comparison of the updated modeling results included in the original PSD Permit Application submittal. As expected, the predicted impacts due to the increase in CO emissions are higher than those predicted in the original PSD application. Although the predicted impacts are higher, the predicted impacts are still less than the lowest reported concentration that has had detrimental affects on vegetation

(1.15×10^5 µg/m^3) (EPA, 1978a). In addition, there are no reports of CO effects on soils, so no additional impacts to soils from CO are predicted. Therefore, the increase in CO should not have any adverse affects in the vicinity of G-P plant site.

Furthermore, there will be no significant increase in permanent employment at G-P as a result of the installation of the new bleach plant. Therefore, there will be no anticipated permanent impacts on air quality caused by associated population growth.

6.3 PREDICTED IMPACTS TO THE OKEFENOKEE NWA CLASS I AREA

The results of the revised Class I area air quality modeling for the higher CO emissions are presented in Table 6-2. Predicted air quality concentrations of CO are presented for the Okefenokee NWA for the annual, 24-hour, 8-hour, 3-hour, and 1-hour averaging times. These concentrations reflect the total revised CO emissions due to the No. 3 Bleach Plant.

A comparison of the impacts from the original PSD application and the impacts due to the revised CO emissions is presented in Table 6-3. As expected, the impacts resulting from the revised CO emissions are higher than the impacts presented in the original PSD application. Although, the predicted impacts for the increase in CO emissions are higher, the impacts are still extremely low and are not expected to cause any adverse affects on the Class I area.

Table 6-1. Comparison of Maximum Predicted CO Concentrations from the No. 3 Bleach Plant Only in the Vicinity of the G-P Plant Site

Averaging Time	CO Concentration ($\mu g/m^3$)	
	1999 PSD Application	2002 Proposed PSD Revision
Highest 1-hour	367	1,096
Highest 3-hour	220	574
Highest 8-hour	182	293
Highest 24-hour	107	180
Annual	8	15

Table 6-2. Maximum Predicted CO Concentrations due to the No. 3 Bleach Plant at the Okefenokee NWA Class I Area

Averaging Time	Concentration ($\mu g/m^3$) [a]	Receptor Location [b]		Time Period (YYMMDDHH) [c]
		UTM-E (m)	UTM-N (m)	
Annual	0.015	374000	3383000	84123124
	0.013	391000	3390000	85123124
	0.015	383000	3382000	86123124
	0.013	378000	3382000	87123124
	0.012	370000	3383000	88123124
High 24-Hour	0.35	383000	3382000	84102224
	0.38	370000	3383000	85072624
	0.39	390000	3384000	86041424
	0.43	378000	3382000	87070224
	0.51	370000	3383000	88050324
High 8-Hour	0.97	374000	3383000	84080208
	1.23	374000	3383000	85012808
	1.16	390000	3384000	86041424
	1.33	378000	3382000	87070208
	1.14	370000	3383000	88050324
High 3-Hour	1.88	392000	3400000	84080403
	2.45	374000	3383000	85012809
	2.05	383000	3382000	86082221
	2.40	378000	3382000	87070206
	2.09	390000	3395000	88102803
High 1-Hour	5.65	392000	3400000	84080401
	7.35	374000	3383000	85012808
	6.15	383000	3382000	86082220
	4.79	383000	3382000	87070206
	5.82	370000	3383000	88050321

[a] Predicted on 5-year meteorological record, Jacksonville and Waycross, 1984 to 1988.

[b] All receptor coordinates are reported in Universal Transverse Mercator (UTM) Coordinates.

[c] YYMMDDHH = Year, Month, Day, Hour Ending

Table 6-3. Comparison of Maximum Predicted CO Concentrations from the No. 3 Bleach Plant Only at the Okefenokee NWA Area

Averaging Time	CO Concentration ($\mu g/m^3$)	
	1999 PSD Application	2002 Proposed PSD Revision
Highest 1-hour	3.9	7.4
Highest 3-hour	1.8	2.5
Highest 8-hour	0.9	1.3
Highest 24-hour	0.3	0.5
Annual	0.007	0.015

APPENDIX A

DERIVATION OF PROPOSED CO EMISSION FACTORS

Appendix A. Derivation of Proposed Emission Factors

A. Derivation of CO Emission Factor for Softwood Bleaching

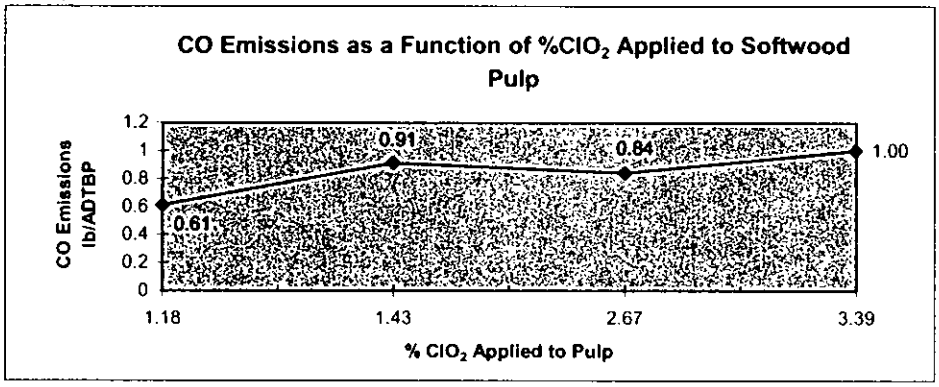
CO Emissions From Softwood Processing

% ClO_2 Applied	CO lbs/ODTUP	CO lbs/ADTUP	CO lbs/ADTBP
1.18	0.62	0.56	0.61
1.43	0.93	0.84	0.91
2.67	0.85	0.77	0.84
3.39	1.02	0.92	1.00

Nomenclature:
ODTUP = Oven Dried Tons of Unbleached Pulp
ADTUP = Air Dried Tons of Unbleached Pulp
ADTBP = Air Dried Tons of Bleached Pulp

Conversion Factors for a Given Amount of CO:
lb/ODTUP X 0.90 = lb/ADTUP
For softwood lb/ADTUP = 0.92 X lb/ADTBP

Example Here



Source: NCASI Technical Bulletin 760. Mill Codes B, C, G for Softwood.

Short-Term (Peak) and Annual (Average) CO Emission Factor (Softwood)

Proposed ECF bleach plant peak ClO_2 to be applied to the pulp is 5.75%.

Linear Interpolation of CO Emissions at 5.75% ClO_2 Applied to Pulp from NCASI TB760 Mills B, C, and G:

Slope of line = CO / %ClO_2 = (1.0-0.61) / (3.39-1.18) = 0.176
Given y=mx+b
y= (0.176 X(5.75-1.18)) + 0.61
y= 1.42 lb CO / ADTBP

B. Derivation of CO Emission Factor for Hardwood Bleaching

CO Emissions From Hardwood Processing

Mill Code	CO lbs/ODTUP	CO lbs/ADTUP	CO lbs/ADTBP
B	0.65	0.59	0.63
C	0.88	0.79	0.84
SA12	0.54	0.49	0.52
SE2	0.64	0.58	0.62
SH2	0.63	0.57	0.61
Average	0.67	0.60	0.64

Conversion Factors:

lb/ODTUP X 0.90 = lb/ADTUP

For Hardwood lb/ADTUP = 0.94 X lb/ADTBP

Source: NCASI Technical Bulletin 760.

Mills B, C, SA12, SE2, SH2 process hardwood with 100% ClO_2 substitution.

C. Potential Hourly CO Emissions from Proposed ECF Bleach Plant:

Based on an estimated maximum pulp production rate of 1,702 ADTBP per day and assuming a processing rate for softwood of 100% and 0% for hardwood:

SW = 100% X 1,702 ADTBP/day = 1,702 ADTBP/day
HW = 0% X 1,702 ADTBP/day = 0 ADTBP/day

TOTAL CO emissions = [(0 ADTBP/day X 0.64 lb/ADTBP) + (1,702 ADTBP/day X 1.42 lb/ADTBP)]/24 hr/day
= 100 lb/hr CO emissions

D. Total Potential Annual CO Emissions from Proposed ECF Bleach Plant:

Based on an estimated monthly average pulp production rate of 1,350 ADTBP per day and assuming a processing rate for softwood of 100% and 0% for hardwood:

SW = 100% 1,350 ADTBP/day = 1,350 ADTBP/day
HW = 0% 1,350 ADTBP/day = 0 ADTBP/day

TOTAL CO emissions = [(0 ADTBP/day X 0.64 lb/ADTBP) + (1,350 ADTBP/day X 1.42 lb/ADTBP)] X 365 days/yr X ton/2000 lbs
= 349 TPY CO emissions

Georgia-Pacific

Palatka Pulp and Paper Operations
Consumer Products Division

P.O. Box 919
Palatka, FL 32178-0919
(386) 325-2001

November 12, 2002

Mr. Syed Arif
State of Florida
Department of Environmental Protection
2600 Blair Stone Road
Twin Towers Office Building
Tallahassee, Florida 32399

RE: Georgia-Pacific Corporation – Palatka Mill
Air Permit Application to Revise
PSD Permit for the
No. 3 Bleach Plant
1070005-019-AC PSD-FL-344A

Dear Mr. Arif:

Please find enclosed the Revised Air Permit Application to Revise PSD Permit for the No. 3 Bleach Plant.

If you have any questions, please contact me at (386) 329-0918.

Sincerely,

Myra J. Carpenter
Environmental Superintendent

tk

Enclosure

cc: T. D. Kennedy
W. M. Jernigan
C. Holladay
C. Kirts, NED
J. Bunyak, NPS
J. Settle, EPA