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Palatka Pulp and Paper Operations  
Consumer Products Division

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

BUREAU OF AIR REGULATION

March 6, 2008

Mr. Jeffery F. Koerner, Air Permitting North Section  
Bureau of Air Regulation  
Florida Department of Environmental Protection  
2600 Blair Stone Road  
Tallahassee, Florida 32399-2400

**Re: Project No. 1070005-038-AC/PSD-FL-380**  
**EU I.D. 018 - #4 Recovery Boiler**  
**Condition 3.D.7.a. - BLS Fuel Factor Protocol**

Dear Mr. Koerner:

Enclosed is a proposed testing protocol for development of a site-specific fuel factor (F-factor) for black liquor solids (BLS). The stack testing portion will be conducted by Ambient Air Services, Inc. The liquor sampling will be conducted internally and sent to an outside laboratory for analysis. We plan to proceed with initial testing later this month. However, we understand that the protocol requires your approval and we will adjust the procedure and retest as needed in order for the F-factor to meet with your approval. After the initial establishment of the factor, we would propose to confirm or adjust the factor as needed based on the results of annual compliance testing.

If there are any questions regarding this request, please do not hesitate to contact Ron Reynolds at 386-329-0967.

Sincerely,

A handwritten signature in cursive script that reads 'Keith Wahoske'.

Keith W. Wahoske, Vice-President  
Palatka Operations

Cc: T. Champion, S. Matchett, M. Curtis – GP  
J. Cooksey - AASI

# **Ambient Air Services, Inc.**

106 Ambient Airway • Starke, FL 32091 • (904) 964-8440 • FAX (904) 964-6675

**Georgia-Pacific Consumer Operations, LLC.  
Palatka, Florida**

**Permit Number: 1070005-038-AC, PSD-FL-380  
Emission Unit 018 - Number 4 Recovery Boiler**

## **SITE-SPECIFIC TEST PLAN**

March 6, 2008

### **1.0 INTRODUCTION**

It is the intention of Georgia-Pacific (GP) located in Palatka, Florida to conduct testing on the Number 4 Recovery Boiler as specified in section 3 condition D.7.a-d of the construction permit. The purpose of the testing is to develop a site specific fuel factor for Black Liquor Solids (BLS). The fuel factor will be used in place of a flow monitor on the CEMS (Permit Section 3 condition D.7.). The testing will be scheduled following approval of this test plan (Permit Section 3 condition D.7.b). The Permit is included as Attachment A of this test plan for reference.

The contacts for the test plan and testing are:

Mr. Ron Reynolds  
Georgia-Pacific  
215 County Road 216  
Palatka, FL 32178  
Phone: (386) 329-0967  
Email: [ron.reynolds@gapac.com](mailto:ron.reynolds@gapac.com)

Mr. Joseph L. Cooksey  
Ambient Air Services, Inc.  
106 Ambient Airway  
Starke, FL 32091  
Phone: (904) 964-8440  
Email: [joecooksey@ambientairservices.com](mailto:joecooksey@ambientairservices.com)

The proposed sampling and methodology described in this protocol are based on pre test knowledge and assumptions. Schedules may change, the order of testing may change, and if necessary, the test methodology and equipment may change. The changes will be based on the actual conditions encountered while on site. Conditions such as weather, process changes, equipment problems or other unforeseen issues will necessitate changes in the test plan. When practical, deviations to the protocol will be discussed with the on site regulatory representative. Deviations from this protocol will be listed in the test report.

## **2.0 Facility Information**

### **2.1 Emission Unit Description**

No. 4 Recovery Boiler: This unit fires black liquor solids (BLS) as the primary fuel to facilitate the recovery of the cooking liquor. Residual fuel oil is fired as a startup and supplemental fuel. The maximum steam production rate is 789,000 lb/hour (24-hour average) for steam conditions of 850° F to 900° F at 1250 psi. Particulate matter emissions are controlled by an electrostatic precipitator (ESP) with automatic voltage control, 2-chambers, and 6 electric fields per chamber. Total reduced sulfur emissions are reduced by the low-odor design. NO<sub>x</sub> emissions are controlled by good combustion design and operating practices. SO<sub>2</sub>, TRS, and opacity are continuously monitored and recorded. At permitted capacity, the exhaust gas flow rate is 294,000 dscfm at 8% oxygen with an exit temperature of 400° F. Exhaust gasses exit a stack that is 12 feet in diameter and 230 feet tall.

### **2.2 Operating Conditions**

During this testing the Number 4 Recovery Boiler will be operated over a range of loads representing the normal and most likely operating conditions. The loads will be based on the permitted BLS feed rate of 210,000 pounds of BLS per hour. The testing will be conducted during periods where the boiler is fired only using BLS. Three boiler loads will be tested; 75%, 85%, and 95% (+/-5%) of permitted BLS feed rate. The boiler load conditions will be documented using process records normally kept by GP. Should a boiler upset condition be encountered during the test program then the run will be redone as it will be important in the establishment of the fuel factor for the boiler to be operated at steady load conditions.

### 3.0. SPECIFIC TESTING PROPOSED

#### 3.1 Proposed Test Methods

The fuel factor for black liquor solids (BLS) will be determined by using the following methods:

<b>Summary of Tests to be Conducted</b>			
<b>Georgia-Pacific Corporation Palatka, Florida</b>			
<b>Source</b>	<b>Parameters</b>	<b>EPA Reference Methods</b>	<b>Duration of tests</b>
Number 4 Recovery Boiler	Flow, oxygen, and fuel analysis/rate	40 CFR, Part 60, Appendix A, Methods 1, 2, 3A, and 4. Fuel analysis for Btu content.	3 test runs, each run 1 hour, 3 test conditions.

The site specific BLS fuel factor will be determined using the measured air flow in the stack, the measured oxygen concentration in the stack, the BLS feed rate into the boiler and the Btu content per pound of BLS as determined by fuel analysis.

The boiler will be evaluated under 3 load conditions, (+/-5%); condition 1: 75%, condition 2: 85% and condition 3: 95% of the permitted firing rate (210,000 lb/hour of BLS). The fuel factor determined will be an average of the fuel factors determined for each condition. The following formula will be used to calculate the fuel factor (Fd):

$$F_d = \text{flow (SCFHD)} \times \frac{1}{\text{mmBtu/hr}} \times \frac{(20.9 - O_2 \text{ concentration})}{20.9}$$

Where:

Flow (SCFHD) = Average flow determined using methods 1, 2,3a, and 4 in standard cubic feet per hour dry.

mmBTU/hr = Pounds of BLS per hour X Btu per pound ÷1,000,000.

Pounds of BLS per hour will be determined based on the measured boiler feed rate. This will be provided to AASI from Georgia-Pacific.

The Btu per pound will be determined by fuel analysis of the BLS. This is done on a routine basis by GP.

O<sub>2</sub> concentration (%) will be determined using instrumental analysis reported on a volume basis (method 3A).

### **3.2 Reporting**

Following the completion of this test project a report will be prepared and submitted by AASI to GP. The report will include, at a minimum, a summary of the test conducted, any deviations from this test plan, the data collected, the proposed site specific F-factor for BLS, and an evaluation of the f-factor predicted flow rates vs. the actual measured flow rates.

## **4.0 SAMPLING AND ANALYTICAL PROCEDURES**

The following are short descriptions of the reference methods that will be used.

### **4.1 Sample and Velocity Traverse**

USEPA Method 1, as published in 40 CFR, Part 60, Appendix A, will be used as the reference method to determine the location of the traverse points for velocity measurements.

### **4.2 Velocity and Volumetric Flow Rate**

USEPA Method 2, as published in 40 CFR, Part 60, Appendix A, will be used as the reference method to determine average gas velocity. A type "S" pitot tube and oil manometer will be used for velocity determination. Gas temperature will be measured with a type K thermocouple. Calibration checks will be performed on the pitot tube to verify the face opening alignments, external tubing diameter, and base-to-opening plane distances. A base-line coefficient of 0.84 will be assigned to the pitot tube.

Three (3) flow traverses will be conducted per run, three runs per boiler load condition and three separate boiler conditions.

### **4.3 Oxygen and Carbon Dioxide**

USEPA Method 3A, as published in 40 CFR, Part 60, Appendix A, will be used as the reference method for determining oxygen and carbon dioxide levels in the effluent gas stream. A Servomex Model 1440 will be used.

### **4.4 Moisture Content**

USEPA Method 4, as published in 40 CFR, Part 60, Appendix A, will be used as the reference method to determine the moisture content of the gas stream by extracting the gas sample at a known and regulated rate through a glass condenser train. The condenser train consists of four glass impingers connected in series with leak free U-tube connectors. The gas sample will be extracted through the impinger train (maintained at below 68° F in an ice bath) with a vacuum

pump. The amount of gas sampled will be measured with a calibrated dry gas meter. The amount of moisture collected during the test will be gravimetrically determined, and the amount of gas drawn, corrected to dry standard conditions, will be determined. One (1) moisture run will be conducted for each load condition.

#### **4.5 Sample System**

The sample system for oxygen and carbon dioxide will consist of the following components: A fully extractive sample system to convey the stack gas to the analytical instruments. The sample system will consist of the following components: a probe, calibration tee, moisture removal system, particulate filter, sample line, a sample pump and a sample manifold to distribute the sample gas to the analytical instruments. The system is designed so that all calibration gases are injected at the probe and pass through the same system as the sample gas. A schematic of the sampling system is shown in Figure 1.

#### **5.0 SAMPLING LOCATION**

See Figure 2.

#### **6.0 PROCESS DATA**

GP will be responsible for collecting process data during the test including BLS consumption, boiler loads, fuel analysis and general operating data.

#### **7.0 QUALITY ASSURANCE**

##### **7.1 QA Objectives**

The objectives of AASI QA program are to produce data that are complete, representative, and of known precision and accuracy.

##### **7.2 Completeness**

Completeness is the percentage of the required field and laboratory measurements and all necessary documentation that was achieved. It is our policy to promote a systematic, detailed and documented approach to completeness.

##### **7.3 Precision and Accuracy**

Precision and Accuracy are measures of data quality. These measures are included in the reference test methods and procedures in the form of equipment, reagent, and performance specifications, e.g., calibration accuracy, precision of triplicate analyses, percent recoveries, and trace abilities to primary standards. AASI has a stated company policy that all staff members are to be dedicated to

highest standards of precision and accuracy. Team Leaders and the Project Manager are considered to be precision and accuracy inspectors for the projects they oversee.

#### **7.4 Out of Control and/or Unacceptable Data**

All of the test methods addressed in contain some form of allowable data limits, whether it will be in the form of calibration limits or perhaps repeatability limits on a liquid titration. In all cases where these limits are not met, the technician shall document these facts and contact his supervisor for further guidance.

AASI policy is to have the supervisor and technician jointly identify the problem and see a successful alternative to the procedure to enable future results to be within specified tolerances. If for some reason, such as sample exhaustion, satisfactory results cannot be achieved, the results of the sample run in question will be declared void with proper notations in the project file and/or report as appropriate. For the situation where two of three runs are considered valid, the administrator can be petitioned to consider those two runs as adequate to satisfy the needs dictated by the test. In the event the test team has the foresight to anticipate trouble with one or more runs and collects more than the minimum of three runs, then any set of three or more successful replicate runs may be reported, with the notation however that problems were encountered with data excluded.

In the event that less than two successful runs are realized from an acceptable data perspective; the entire test will be repeated with proper precautions to avoid another set of unacceptable results. Note however that all data, whether acceptable or not, should be retained in project files.

#### **7.5 Representativeness**

Representativeness is defined by the “when”, “how”, and “how many” of measurements taken. These conditions are usually specified within the regulation, e.g., source operating at maximum capacity using high sulfur content fuel, Method 6C for SO<sub>2</sub> at a single point at the centroid of the stack, three 20-minute runs, etc. If not specified in the regulations, all interested parties must agree upon the desired “representative” conditions before any measurement are taken. Special care will be taken to ensure a detailed record of test specifics or other special data testing and processing matrices.

#### **7.6 Organization**

Ambient Air Services, Inc. has a designated QA Manager and is responsible to the President of the company. The QA Manager’s responsibilities include:

- a. Adherence to SOP plan, including stipulated calibration scheduled therein.
- b. Organization and conduct of internal training programs.
- c. Reviews of reports or other work product prior to release.

## **7.7 Procedures**

Specified procedural steps can be found in the Ambient Air Services, Inc. Quality Manual, which complies with the rules and guidance of the Louisiana Environmental Laboratory Accreditation Program. LELAP Certification Number 04064, LELAP Agency Interest Number 100329. All of AASI's Team Leaders and Project Managers possess a copy of this manual.

## **7.8 Sample Identification and Custody**

The Team Leader/Project Manager will be responsible for the custody control of the samples taken. A custody control form will be filled out and utilized for the samples until the samples can be legally disposed of.

## **8.0 SAFETY**

The AASI Team Leader/Project Manager will be responsible for the safety conduct of all AASI personnel. It is the responsibility of Georgia-Pacific to inform and train AASI personnel in their specific safety requirements for their plant.

## **9.0 DETAILED TEST SCHEDULE**

Day 1: Arrive on site, set-up, test 1 boiler load condition.  
Day 2: Test 2 boiler load conditions, breakdown equipment.

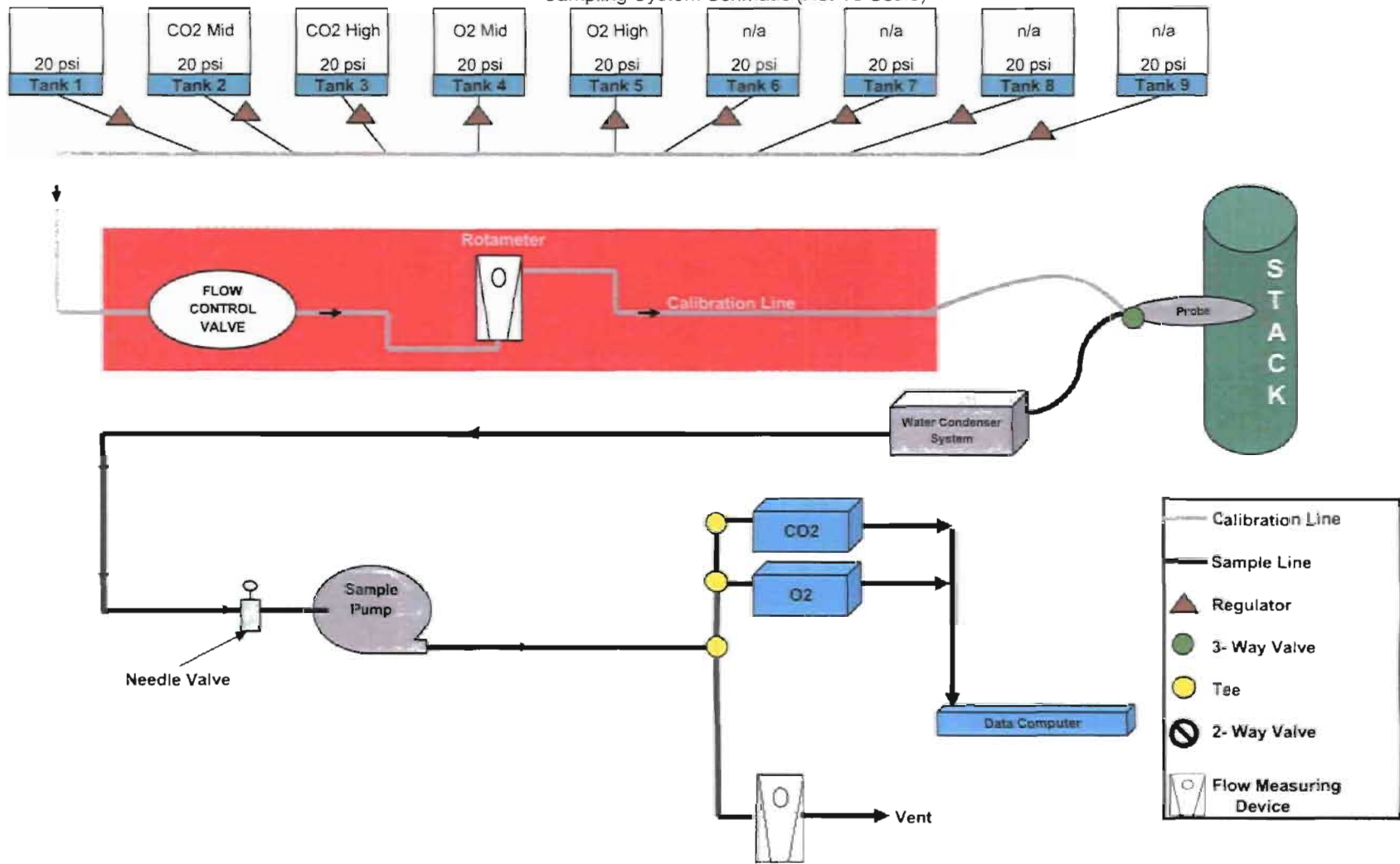
Schedules may change, the order of testing may change, and if necessary, the test methodology and equipment may change. The changes will be based on the actual conditions encountered while on site. Conditions such as weather, process changes, equipment problems or other unforeseen issues will necessitate changes in the test plan.

GP will notify FDEP of the scheduled test dates after approval of this test plan.

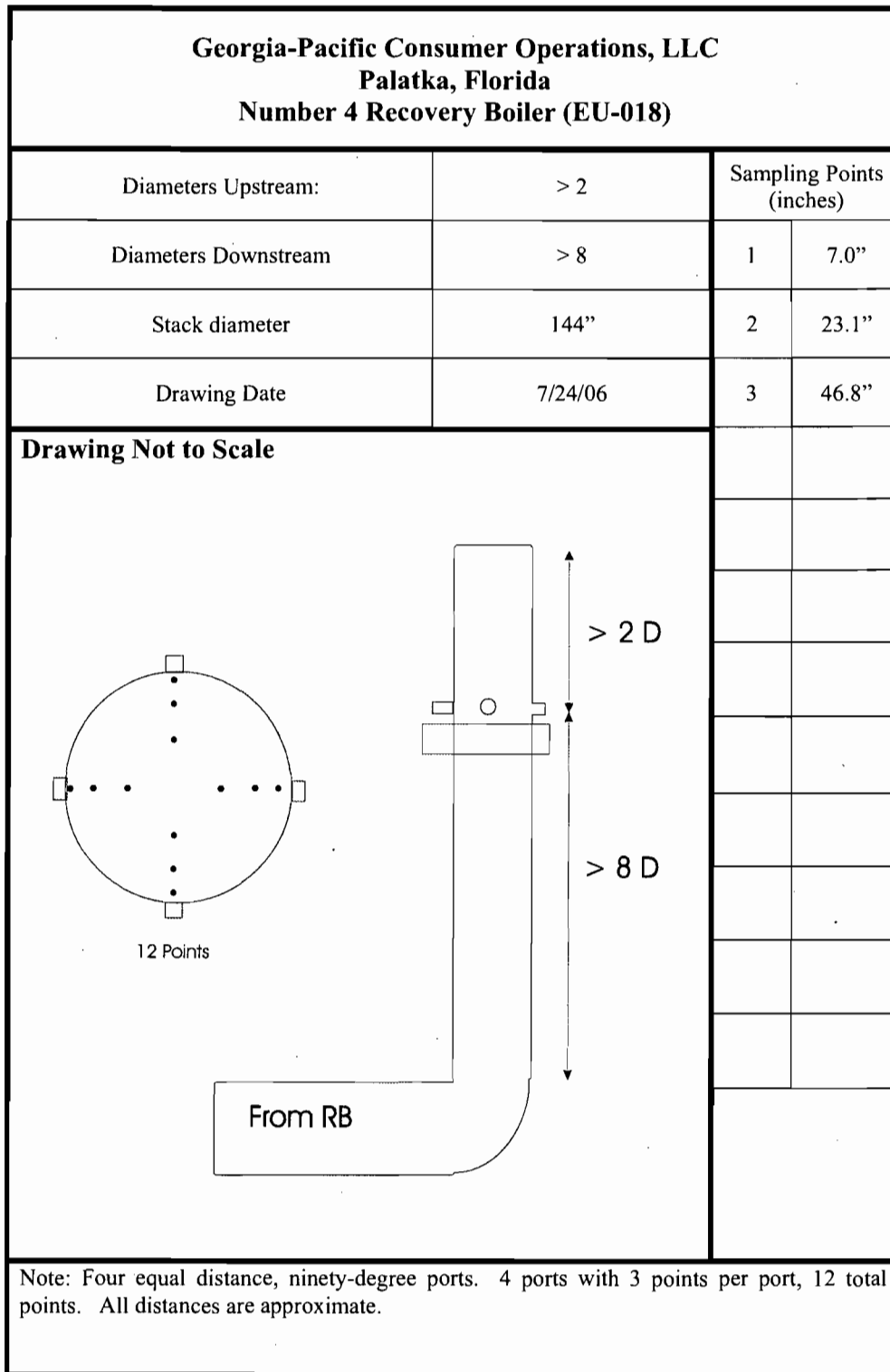


Figure 1

Sampling System Schematic (Not To Scale)



**Figure 2**



**Attachment A - Permit Number: 1070005-038-AC, PSD-FL-380**

**PERMITTEE**

Georgia-Pacific Consumer Operations LLC  
Post Office Box 919  
Palatka, Florida 32178-0919

Authorized Representative:  
Mr. Keith Wahoske, Vice President

Air Permit No. 1070005-038-AC PSD No. PSD-FL-380 Georgia-Pacific Palatka Mill PSD Modification SIC Nos. 2611 and 2621 Permit Expires: November 1, 2009
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**FACILITY AND LOCATION**

Georgia-Pacific Consumer Operations LLC operates the Palatka Mill, which is a Kraft process pulp and paper mill located North of County Road 216 and West of U.S. Highway 17 in Palatka, Putnam County, Florida. The map coordinates are: UTM Zone 17; 434.0 km East; and, 3283.4 km North. This permit requires permanent shutdown of the No. 4 Power Boiler and authorizes modifications to the No. 5 Power Boiler, No. 4 Lime Kiln, No. 4 Recovery Boiler, and No. 4 multiple effect evaporator set.

**STATEMENT OF BASIS**

This air pollution construction permit is issued under the provisions of Chapter 403 of the Florida Statutes (F.S.), and Chapters 62-4, 62-204, 62-210, 62-212, 62-296, and 62-297 of the Florida Administrative Code (F.A.C.) and Title 40, Parts 60 and 63 of the Code of Federal Regulations (CFR). The permittee is authorized to install the proposed equipment in accordance with the conditions of this permit and as described in the application, approved drawings, plans, and other documents on file with the Department of Environmental Protection (Department).

**CONTENTS**

- Section 1. General Information
- Section 2. Administrative Requirements
- Section 3. Emissions Units Specific Conditions
- Section 4. Appendices

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Joseph Kahn, Director  
Division of Air Resource Management

\_\_\_\_\_  
Effective Date

## SECTION 1. GENERAL INFORMATION

### FACILITY DESCRIPTION

Georgia-Pacific operates an existing paper and pulp mill in Palatka, Florida using the Kraft sulfate process. In the Kraft process, the digesting liquor (white liquor) is a solution of sodium hydroxide and sodium sulfide that is mixed with wood chips and cooked under pressure. The spent liquor, known as weak black liquor, is concentrated and sodium sulfate is added to make up for chemical losses. The black liquor solids (BLS) are burned in the recovery furnace to produce a smelt of sodium carbonate and sodium sulfide. The smelt is dissolved in water to form green liquor to which quicklime (calcium oxide) is added to convert the sodium carbonate back to sodium hydroxide, which reconstitutes the cooking liquor. The spent lime cake (calcium carbonate) is recalcined in a rotary lime kiln to produce quicklime, which is used to convert the green liquor to cooking liquor. Other steam and energy needs are met by the power boilers, which burn a variety of fuels including fuel oil and natural gas.

### REGULATORY CLASSIFICATION

- The facility is a major source of hazardous air pollutants (HAP).
- The facility operates no units subject to the acid rain provisions of the Clean Air Act.
- The facility is a Title V major source of air pollution.
- The facility is a major stationary source subject to the Prevention of Significant Deterioration (PSD) of Air Quality.

### PROJECT DESCRIPTION

This permit authorizes the following major modifications: permanent shutdown of the No. 4 Power Boiler; conversion of the No. 5 Power Boiler to natural gas; replacement of the hot-end section and cooler tubes for the No. 4 Lime Kiln; extensive tube replacement and modification of the combustion air system (including the addition of a fourth level of overfire air) for the No. 4 Recovery Boiler; and the addition of a crystallizer with associated storage/flash tank and modifications to the two concentrators associated with the No. 4 multiple effect evaporator set. This permit affects the following emissions units.

ID	Emission Unit Description
014	No. 4 Power Boiler
015	No. 5 Power Boiler
016	No. 4 Combination Boiler
017	No. 4 Lime Kiln
018	No. 4 Recovery Boiler
037	Noncondensable Gas System including the No. 4 Multiple Effect Evaporator (MEE) Set

The permittee conducted a PSD netting analysis based on contemporaneous emissions increases and decreases to avoid PSD preconstruction review for sulfur dioxide (SO<sub>2</sub>), sulfuric acid mist (SAM), and total reduced sulfur (TRS). The project is subject to PSD preconstruction review for carbon monoxide (CO), nitrogen oxides (NO<sub>x</sub>), particulate matter (PM), and volatile organic compounds (VOC). For this permit, the Department determined the Best Available Control Technology (BACT) for the following units: the No. 5 Power Boiler (CO and VOC); the No. 4 Lime Kiln (CO, NO<sub>x</sub>, PM, and VOC); and the No. 4 Recovery Boiler (CO, NO<sub>x</sub>, PM, and VOC). The No. 4 Combination Boiler is currently under PSD preconstruction review in Project No. 1070005-045-AC for CO, NO<sub>x</sub>, PM, and VOC. Throughout this permit, particulate matter emissions are referred to as PM emissions, which serve as a surrogate for regulating PM<sub>2.5</sub> and PM<sub>10</sub> emissions.

## SECTION 1. GENERAL INFORMATION

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### RELEVANT DOCUMENTS

The following relevant documents are not a part of this permit, but helped form the basis for this permitting action: the permit application and additional information received to make it complete; the draft permit package including the Department's Technical Evaluation and Preliminary Determination; publication and comments; the Department's Final Determination; previous air construction permits; and the current Title V air operation permit.

## SECTION 2. ADMINISTRATIVE REQUIREMENTS

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1. Permitting Authority: The Permitting Authority for this project is the Bureau of Air Regulation in the Division of Air Resource Management of the Department. The mailing address is 2600 Blair Stone Road, MS #5505, Tallahassee, Florida 32399-2400. The phone number is 850/488-0114.
2. Compliance Authority: All documents related to compliance activities such as reports, tests, and notifications shall be submitted to the Air Resource Section of the Department's Northeast District Office. The mailing address is 7825 Baymeadows Way, Suite 200B, Jacksonville, Florida, 32256. The phone number is 904/807-3300.
3. Appendices: The following Appendices are attached as part of this permit:
  - a. Appendix A. Citation Formats
  - b. Appendix B. General Conditions
  - c. Appendix C. Common Conditions
  - d. Appendix D. Standard Testing Requirements
  - e. Appendix E. Standard Continuous Monitoring Requirements
  - f. Appendix F. Final BACT Determinations and Emissions Summary
  - g. Appendix G. On-Specification Used Oil Requirements
4. Applicable Regulations, Forms and Application Procedures: Unless otherwise specified in this permit, the construction and operation of the subject emissions units shall be in accordance with the capacities and specifications stated in the application. The facility is subject to all applicable provisions of: Chapter 403, F.S.; and Chapters 62-4, 62-204, 62-210, 62-212, 62-213, 62-296, and 62-297, F.A.C. Issuance of this permit does not relieve the permittee from compliance with any applicable federal, state, or local permitting or regulations.
5. New or Additional Conditions: For good cause shown and after notice and an administrative hearing, if requested, the Department may require the permittee to conform to new or additional conditions. The Department shall allow the permittee a reasonable time to conform to the new or additional conditions, and on application of the permittee, the Department may grant additional time. [Rule 62-4.080, F.A.C.]
6. Modifications: No emissions unit shall be constructed or modified without obtaining an air construction permit from the Department. Such permit shall be obtained prior to beginning construction or modification. [Rules 62-210.300(1) and 62-212.300(1)(a), F.A.C.]
7. Source Obligation:
  - (a) Authorization to construct shall expire if construction is not commenced within 18 months after receipt of the permit, if construction is discontinued for a period of 18 months or more, or if construction is not completed within a reasonable time. This provision does not apply to the time period between construction of the approved phases of a phased construction project except that each phase must commence construction within 18 months of the commencement date established by the Department in the permit.
  - (b) At such time that a particular source or modification becomes a major stationary source or major modification (as these terms were defined at the time the source obtained the enforceable limitation) solely by virtue of a relaxation in any enforceable limitation which was established after August 7, 1980, on the capacity of the source or modification otherwise to emit a pollutant, such as a restriction on hours of operation, then the requirements of subsections 62-212.400(4) through (12), F.A.C., shall apply to the source or modification as though construction had not yet commenced on the source or modification.

## SECTION 2. ADMINISTRATIVE REQUIREMENTS

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- (c) At such time that a particular source or modification becomes a major stationary source or major modification (as these terms were defined at the time the source obtained the enforceable limitation) solely by exceeding its projected actual emissions, then the requirements of subsections 62-212.400(4) through (12), F.A.C., shall apply to the source or modification as though construction had not yet commenced on the source or modification.

[Rule 62-212.400(12), F.A.C.]

8. Title V Permit: This permit authorizes specific modifications and/or new construction on the affected emissions units as well as initial operation to determine compliance with conditions of this permit. A Title V operation permit is required for regular operation of the permitted emissions unit. The permittee shall apply for a Title V operation permit at least 90 days prior to expiration of this permit, but no later than 180 days after completing the required work and commencing operation. To apply for a Title V operation permit, the applicant shall submit the appropriate application form, compliance test results, and such additional information as the Department may by law require. The application shall be submitted to the Air Resource Section of the Department's Northeast District Office. [Rules 62-4.030, 62-4.050, 62-4.220, and Chapter 62-213, F.A.C.]
9. Previous Air Construction Permits: This permit supplements all previous permits issued for the affected emissions units. The conditions of this permit satisfy the applicable requirements for the emissions increases related to the project. These conditions supersede corresponding similar conditions specified in previous air construction permits. However, if not specifically regulated by this permit, other standards and permit requirements from previous air construction permits remain valid. The affected emissions units remain subject to all applicable standards and regulations as regulated by the Title V air operation permit. [Rules 62-212.300 and 62-212.400 (BACT), F.A.C.]



### SECTION 3. EMISSIONS UNIT SPECIFIC CONDITIONS

#### A. No. 4 Power Boiler and No. 4 Combination Boiler

This subsection of the permit addresses the following emissions units.

ID	Emission Unit Description
014	No. 4 Power Boiler
016	No. 4 Combination Boiler

*{Permitting Note: In accordance with Rule 62-212.400 (PSD), F.A.C., the permittee conducted a PSD netting analysis that used contemporaneous emissions decreases from the permanent shutdown of the No. 4 Power Boiler to avoid PSD preconstruction review for SO<sub>2</sub>, SAM, and TRS.}*

#### PERFORMANCE RESTRICTIONS

1. **Shutdown:** The No. 4 Power Boiler is currently not in operation. As part of this project, the permittee shall permanently shutdown the No. 4 Power Boiler. Within 90 days of issuance of this permit, the permittee shall provide written notice of the permanent shutdown of this unit. [Rules 62-4.070(3) and 62-212.400(12), F.A.C.]
2. **PSD Review:** The permittee plans to modify the No. 4 Combination Boiler. Although a review is being conducted under Project No. 1070005-045-AC, emissions increases from this unit were included in the PSD netting analysis. That project is also subject to PSD preconstruction review for CO, NO<sub>x</sub>, PM, and VOC emissions. [Rule 62-212.400 (PSD), F.A.C.]
3. **Oil Firing – No. 4 Combination Boiler:** The maximum sulfur content of oil is 2.35% by weight. No more than 5,100,000 gallons of oil shall be fired during any consecutive 12 months. The permittee shall keep records on a monthly basis to ensure compliance with the oil firing restriction. *{Permitting Note: This limits oil firing to an annual capacity factor of approximately 21% of the total maximum heat input rate to the unit.}*

### SECTION 3. EMISSIONS UNIT SPECIFIC CONDITIONS

#### B. No. 5 Power Boiler

This subsection of the permit addresses the following emissions unit.

ID	Emission Unit Description
015	<b>No. 5 Power Boiler:</b> This unit fires natural gas to produce steam and power for use at the mill. The permitted capacity is 568.9 MMBtu per hour of heat input to produce approximately 445,200 lb/hour of steam. CO, NO <sub>x</sub> and VOC emissions are controlled by the burner design and efficient combustion of natural gas, which also minimizes PM/PM <sub>10</sub> , SAM and SO <sub>2</sub> emissions. At permitted capacity, the exhaust gas flow rate is 135,400 dscfm at 10% oxygen with an exit temperature of 500° F. Exhaust gases exit a stack that is 9.0 feet in diameter and 156.5 feet tall.

*{Permitting Note: In accordance with Rule 62-212.400 (PSD), F.A.C., the above emission unit is subject to BACT determinations for CO and VOC emissions, which are presented in Appendix E of this permit.}*

#### EXISTING APPLICABLE REQUIREMENTS

1. State Rule for Kraft Pulp Mills: The No. 5 Power Boiler is subject to the applicable requirements of Rule 62-296.404, F.A.C. for Kraft Pulp Mills.
2. State Rule for Large Boilers: The No. 5 Power Boiler is subject to the applicable requirements of Rule 62-296.405, F.A.C. for Fossil Fuel Steam Generators with More than 250 MMBtu per hour of Heat Input.
3. NESHAP Subpart S for Kraft Pulp Mills: The No. 5 Power Boiler is subject to the applicable MACT requirements in NESHAP Subpart S in 40 CFR 63.
4. NESHAP Subpart DDDDD for Industrial Boilers: The No. 5 Power Boiler is subject to the applicable requirements for existing units specified in NESHAP Subpart DDDDD of 40 CFR 63 for Industrial, Commercial, and Institutional Boilers and Process Heaters.
5. PCP Exemption: This current permitting action does not affect the previous authorization of Permit No. 1070005-024-AC issued on July 2, 2004 for destroying DNCGs issued as a Pollution Control Project (PCP) pursuant to Rule 62-212.400(2)(a)2.b, F.A.C. That permit specified the strategy for complying with the applicable requirements of the MACT standards in NESHAP Subpart S in 40 CFR 63. That permit authorizes the No. 5 Power Boiler to destroy dilute non-condensable gases (DNCGs) from the high-volume, low-concentration (HVLC) system, which include emissions from brown stock washers, pressure knotters, the bleach plant pre-washer, the oxygen delignification system, and softwood/hardwood high density storage tanks. The DNCGs are introduced with the primary fuel, directed into the flame zone, or added with the combustion air. Optionally, the DNCGs may also be directed to the No. 4 Combination Boiler, which shares common permit conditions with the No. 5 Power Boiler. Permit No. 1070005-024-AC limits SO<sub>2</sub> emissions to 82.6 lb/hour and 236.3 tons per year from the destruction of DNCGs in any combination of the No. 4 Combination Boiler and the No. 5 Power Boiler. [Permit No. 1070005-024-AC; Rule 62-212.400 (PSD), F.A.C.]

#### MODIFICATIONS AND CAPACITIES

6. Natural Gas Conversion: The permittee shall convert the No. 5 Power Boiler to a natural gas-fired boiler. The permittee shall remove the oil burners and install natural gas burners that will achieve the emissions standards and capacities specified in this permit. If necessary to achieve the NO<sub>x</sub> standard, the permittee is authorized to install a flue gas recirculation system consisting of the necessary fans, ductwork, and dampers. The conversion to natural gas shall be completed by April 1, 2008. Once converted to natural gas, the existing electrostatic precipitator may be removed from the No. 5 Power Boiler. It may be used as additional fields for controlling PM emissions from the No. 4 Combination Boiler. [Application No. 1070005-038-AC; Rule 62-212.400 (PSD), F.A.C.]

### SECTION 3. EMISSIONS UNIT SPECIFIC CONDITIONS

#### B. No. 5 Power Boiler

7. **Authorized Fuels:** The No. 5 Power Boiler shall be converted to fire pipeline natural gas as the sole fuel. After completing the project, the firing of oil is prohibited. As a control device, the No. 5 Power Boiler is authorized to destroy dilute non-condensable gases (DNCGs) from the high-volume, low-concentration (HVLC) system *{Permitting Note: The No. 5 Power Boiler currently fires oil with a maximum sulfur content of 2.35% by weight. After conversion to natural gas, potential annual SO<sub>2</sub> emissions will be less than 2 tons per year and potential SAM and TRS emissions will be negligible.}* [Application No. 1070005-038-AC; Rule 62-212.400 (PSD), F.A.C.]
8. **Permitted Capacity:** After converting to natural gas, the permitted capacity of the No. 5 Power Boiler shall be 568.9 MMBtu of heat input per hour based on a 24-hour average. At this heat input rate, the unit will produce approximately 445,200 lb/hour of steam based on a 24-hour average. Hours of operation are not restricted (8760 hours/year). [Application No. 1070005-038-AC; Rules 62-210.200 (PTE) and 62-212.400 (PSD), F.A.C.]

#### EMISSIONS AND PERFORMANCE STANDARDS

9. **CO Standard:** As determined by EPA Method 10, CO emissions shall not exceed 0.185 lb per MMBtu of heat input and 105.2 lb/hour based on the average of three test runs. The CO standard serves as a surrogate standard for minimizing VOC emissions as a result of the efficient combustion of natural gas. *{Permitting Note: VOC emissions are expected to be less than 14 tons per year from firing natural gas.}* [Rule 62-212.400 (BACT), F.A.C.]
10. **NO<sub>x</sub> Standard:** As determined by EPA Method 7E, NO<sub>x</sub> emissions shall not exceed 0.125 lb/MMBtu of heat input and 71.1 lb/hour based on the average of three test runs. [Rules 62-4.070(3) and 62-212.400(12), F.A.C.]

#### COMPLIANCE MONITORING AND TESTING

11. **Standard Testing Requirements:** All required emissions tests shall be conducted in accordance with the requirements specified in Appendix D (Standard Testing Requirements) of this permit. [Rules 62-204.800 and 62-297.100, F.A.C.; and 40 CFR 60, Appendix A]
12. **Test Notification:** The permittee shall notify the Compliance Authority in writing at least 15 days prior to any required tests. [Rule 62-297.310(7)(a)9, F.A.C.]
13. **Test Methods:** When required, tests shall be performed in accordance with the following methods.

Method	Description of Method and Comments
1-4	Traverse Points, Velocity and Flow Rate, Gas Analysis, and Moisture Content
7E	Determination of Nitrogen Oxide Emissions from Stationary Sources
10	Determination of Carbon Monoxide Emissions from Stationary Sources <i>{Note: The method shall be based on a continuous sampling train.}</i>
19	Determination of Sulfur Dioxide Removal Efficiency and Particulate Matter, Sulfur Dioxide, and Nitrogen Oxides Emission Rates (Optional F-factor method may be used to determine flow rate and gas analysis to calculate mass emissions in lieu of Methods 1-4.)

Tests shall also be conducted in accordance with the requirements specified in Appendix D (Standard Testing Requirements) of this permit. The above methods are described in 40 CFR 60, Appendix A, and adopted by reference in Rule 62-204.800, F.A.C. [Rules 62-204.800 and 62-297.100, F.A.C.; 40 CFR 60, Appendix A]

### SECTION 3. EMISSIONS UNIT SPECIFIC CONDITIONS

#### B. No. 5 Power Boiler

14. Initial Stack Tests: In accordance with the specified test methods, the No. 5 Power Boiler shall be tested to demonstrate compliance with the emissions standards for CO and NO<sub>x</sub>. Initial stack tests for these pollutants shall be conducted within 60 days after achieving permitted capacity, but not later than 180 days after initial startup on natural gas. All initial tests shall be conducted with the emissions unit operating at 90% to 100% of the permitted capacity; otherwise, this permit shall be modified to reflect the true maximum capacity as constructed. The Department may require the permittee to repeat some or all of the initial stack tests after major replacement or major repair of emissions-related equipment. [Rules 62-4.070(3), 62-212.400(PSD) and 62-297.310(7), F.A.C.]
15. Annual Stack Tests: During each federal fiscal year (October 1<sup>st</sup> to September 30<sup>th</sup>), the No. 5 Power Boiler shall be tested to demonstrate compliance with the emission standards for CO and NO<sub>x</sub>. Testing of emissions shall be conducted with the emissions unit operating at 90% to 100% of the permitted capacity. If it is impractical to test within this range, the emissions unit may be tested at less than 90% of the maximum permitted capacity. In this case, subsequent emissions unit operation is limited to 110% of the tested rate until a new test is conducted. Once the unit is so limited, operation at higher capacities is allowed for no more than 15 consecutive days for the purpose of additional compliance testing to regain the authority to operate at the permitted capacity. *{Permitting Note: Additional tests may be required by other applicable requirements.}* [Rules 62-4.070(3), 62-212.400(PSD) and 62-297.310(7), F.A.C.]
16. Fuel Monitoring: The permittee shall install equipment to continuously monitor the flow rates of natural gas and DNCGs to the No. 5 Power Boiler. This may consist of fuel flow meters with integrators to monitor each flow rate. [Rules 62-4.070(3) and 62-212.400(12), F.A.C.]

#### RECORDS AND REPORTS

17. Test Reports: For each required test, the permittee shall file a report with the Compliance Authority on the results of each required test in accordance with the requirements of Rule 62-297.310(8), F.A.C.
18. Monitoring of Capacity: The permittee shall monitor and record the operating rate of the No. 5 Power Boiler on a daily average basis considering the number of hours of operation during each day. This shall be achieved through monitoring daily rates of consumption and heat content of natural gas. The information shall be documented and recorded for each day of operation. Records shall be made available to the Compliance Authority upon request. [Rule 62-4.070(3), F.A.C.]

## SECTION 3. EMISSIONS UNIT SPECIFIC CONDITIONS

### C. No. 4 Lime Kiln

This subsection of the permit addresses the following emissions unit.

ID	Emission Unit Description
017	<b>No. 4 Lime Kiln:</b> This unit recalcines the spent lime cake (calcium carbonate) to produce the quicklime (calcium oxide), which is used to convert the green liquor to cooking liquor. The kiln fires residual fuel oil and has a maximum processing rate of 41.5 tons of material per hour based on a 24-hour average. Particulate matter emissions are controlled by a cyclonic dust collector followed by a wet venturi scrubber. TRS emissions, scrubber pressure drop, and scrubber flow rate are continuously monitored and recorded. At permitted capacity, the exhaust gas flow rate is 54,200 dscfm at 10% oxygen with an exit temperature of 164° F. Exhaust gases exit a stack that is 4.4 feet in diameter and 131 feet tall.

*{Permitting Note: In accordance with Rule 62-212.400 (PSD), F.A.C., the above emission unit is subject to BACT determinations for CO and VOC emissions, which are presented in Appendix E of this permit.}*

#### EXISTING APPLICABLE REQUIREMENTS

1. State Rule for Kraft Pulp Mills: The No. 4 Lime Kiln remains subject to the applicable requirements of Rule 62-296.404, F.A.C. for Kraft Pulp Mills.
2. NESHAP Subpart MM for Kraft Pulp Mills: The No. 4 Lime Kiln remains subject to the applicable MACT requirements in NESHAP Subpart S in 40 CFR 63.
3. PSD Permit: Unless otherwise specified by condition in this permit, the No. 4 Lime Kiln remains subject to the applicable requirements of Permit No. PSD-FL-171.

#### MODIFICATIONS AND CAPACITIES

4. Kiln Modification: For the No. 4 Lime Kiln, the permittee is authorized to replace approximately 62 feet of the hot-end kiln shell and all 10 coolers located in this section. The new coolers will be mounted with an improved bracket design to prevent stress cracks underneath the coolers. [Rule 62-210.300(1), F.A.C.]
5. Permitted Capacity: The maximum processing rate of the No. 4 Lime Kiln is 41.5 tons of lime mud solids per hour based on a 24-hour average. This corresponds to a maximum production rate of 19.4 tons per hour of quicklime. There is no restriction on the hours of operation (8760 hours/year). At permitted capacity, the maximum flue gas flow rate is 54,200 dscfm @ 10% oxygen. The lime kiln typically operates at flue gas oxygen contents in the range of 4% to 6% by volume. [Application No. 1070005-038-AC; Rule 62-210.200 (PTE), F.A.C.]
6. Authorized Fuels: The No. 4 Lime Kiln is authorized to fire residual fuel oil with a maximum fuel sulfur content of 2.35% by weight as the primary fuel. On-specification used oil meeting the requirements in Appendix G of this permit may be blended with the residual oil and fired at a rate of no more than 10% of the fuel consumed. Natural gas is authorized as a startup and alternate fuel. The maximum heat input rate is 140 MMBtu per hour when firing a maximum of 933 gallons per hour of residual oil with a heating value of 150,000 Btu per gallon. No more than 8,173,000 gallons of oil shall be fired during any consecutive 12 months. [Application No. 1070005-038-AC; Rule 62-210.200 (PTE), F.A.C.]

#### EMISSIONS AND PERFORMANCE STANDARDS

7. CO Standard: As determined by EPA Method 10, CO emissions shall not exceed 69.0 ppmvd at 10% O<sub>2</sub> and 16.3 lb/hour based on the average of three test runs. [Rule 62-212.400 (BACT), F.A.C.]

## SECTION 3. EMISSIONS UNIT SPECIFIC CONDITIONS

### C. No. 4 Lime Kiln

8. **NO<sub>x</sub> Standard:** As determined by EPA Method 7E, NO<sub>x</sub> emissions shall not exceed 140.0 ppmvd at 10% O<sub>2</sub> and 54.2 lb/hour based on the average of three test runs. [Rule 62-212.400 (BACT), F.A.C.]
9. **PM Standard:** As determined by EPA Method 5, PM emissions from the No. 4 Lime Kiln shall not exceed 0.55 lb per ton of lime mud solids processed and 22.9 lb/hour based on the average of three test runs. *{Permitting Note: The venturi scrubber causes a wet plume, which interferes with the determination of opacity. The scrubber monitoring provisions will be used to ensure proper operation of the venturi scrubber.}* [Rule 62-212.400 (BACT), F.A.C.]
10. **SO<sub>2</sub> Standard:** As determined by EPA Method 8, SO<sub>2</sub> emissions shall not exceed 16.9 ppmvd at 10% O<sub>2</sub> and 9.1 lb/hour based on the average of three test runs. [Rule 62-212.400(12), F.A.C.]
11. **TRS Standard:** As determined by the existing CEMS, TRS emissions shall not exceed 25.1 tons per year based on a 12-month rolling CEMS total. [Rule 62-212.400(12), F.A.C.]
12. **VOC Standard:** As determined by EPA Method 25A, VOC emissions from the lime kiln shall not exceed 70.0 ppmvd at 10% O<sub>2</sub> and 9.4 lb/hour (total hydrocarbons determined as methane) based on the average of three test runs. [Rule 62-212.400 (BACT), F.A.C.]

### COMPLIANCE MONITORING AND TESTING

13. **Standard Testing Requirements:** All required emissions tests shall be conducted in accordance with the requirements specified in Appendix D (Standard Testing Requirements) of this permit. [Rules 62-204.800 and 62-297.100, F.A.C.; and 40 CFR 60, Appendix A]
14. **Test Notification:** The permittee shall notify the Compliance Authority in writing at least 15 days prior to any required tests. [Rule 62-297.310(7)(a)9, F.A.C.]
15. **Test Methods:** When required, tests shall be performed in accordance with the following methods.

Method	Description of Method and Comments
1-4	Traverse Points, Velocity and Flow Rate, Gas Analysis, and Moisture Content
5	Determination of Particulate Matter from Stationary Sources
7E	Determination of Nitrogen Oxide Emissions from Stationary Sources
10	Determination of Carbon Monoxide Emissions from Stationary Sources {Note: The method shall be based on a continuous sampling train.}
19	Determination of Sulfur Dioxide Removal Efficiency and Particulate Matter, Sulfur Dioxide, and Nitrogen Oxides Emission Rates (Optional F-factor method may be used to determine flow rate and gas analysis to calculate mass emissions in lieu of Methods 1-4.)
25A	Method for Determining Gaseous Organic Concentrations (Flame Ionization)

Tests shall also be conducted in accordance with the requirements specified in Appendix D (Standard Testing Requirements) of this permit. The above methods are described in 40 CFR 60, Appendix A, and adopted by reference in Rule 62-204.800, F.A.C. [Rules 62-204.800 and 62-297.100, F.A.C.; 40 CFR 60, Appendix A]

16. **Initial Compliance Tests:** The No. 4 Lime Kiln shall be tested to demonstrate initial compliance with the emissions standards specified for CO, NO<sub>x</sub>, PM, SO<sub>2</sub>, and VOC. The initial tests shall be conducted within 60 days after completing the kiln modification and achieving permitted capacity, but not later than 180 days after initial operation of the unit. [Rules 62-297.310(7)(a)1 and 62-212.400 (BACT), F.A.C.]

## SECTION 3. EMISSIONS UNIT SPECIFIC CONDITIONS

### C. No. 4 Lime Kiln

17. Annual Compliance Tests: During each federal fiscal year (October 1<sup>st</sup> to September 30<sup>th</sup>), the No. 4 Lime Kiln shall be tested to demonstrate compliance with the emissions standards for CO, NO<sub>x</sub>, PM, SO<sub>2</sub>, and VOC. If consecutive annual tests for CO or VOC emissions show compliance at 50% of the standard or less, the test frequency for that pollutant is reduced to testing prior to renewal of the operation permit. Annual testing shall resume for any subsequent failure to demonstrate compliance at renewal. [Rules 62-297.310(7)(a)4 and 62-212.400 (BACT), F.A.C.]
18. Tests Prior to Renewal: Within the 12-month period prior to expiration of the operation permit, the No. 4 Lime Kiln shall be tested to demonstrate compliance with the emission standards for CO, NO<sub>x</sub>, PM, SO<sub>2</sub>, and VOC. [Rules 62-297.310(7)(a)3 and 62-212.400 (BACT), F.A.C.]
19. Scrubber Monitoring: The permittee shall install, operate, and maintain equipment to continuously monitor and record the venturi scrubber pressure drop and flow rate. In accordance with the monitoring requirements specified in NESHAP Subpart MM, minimum operating levels shall be determined for these parameters; however, the operating levels shall be selected to ensure compliance with the BACT standard specified in this permit. If monitors show operation below the minimum operating levels, the permittee shall take appropriate corrective actions to regain proper operation of the control system. [Rules 62-4.070(3) and 62-212.400 (BACT), F.A.C.]

### RECORDS AND REPORTS

20. Scrubber Records: The permittee shall continuously monitor and record the venturi scrubber pressure drop and flow rate in accordance with the monitoring requirements specified in NESHAP Subpart MM. The permittee shall document and record corrective actions taken to regain proper operation of the control system if operation falls below the minimum operating levels. [Rules 62-4.070(3) and 62-212.400 (BACT), F.A.C.]
21. Kiln Process Rate: The permittee shall monitor and record the total lime mud solids input to the No. 4 Lime Kiln on an hourly basis and record the daily average in tons per hour. [Rule 62-4.070(3), F.A.C.]
22. Fuel Records: On a monthly basis, the permittee shall document the amount of oil fired during each calendar month and the 12-month rolling total. [Rule 62-4.070(3), F.A.C.]
23. Test Reports: The permittee shall prepare and submit reports for all required tests in accordance with the requirements specified in Appendix D (Standard Testing Requirements) of this permit. For each test run, the report shall also indicate the lime kiln processing rate, the fuel firing rate, the venturi scrubber pressure differential, and the venturi scrubber flow rate. [Rule 62-297.310(8), F.A.C.]

SECTION 3. EMISSIONS UNIT SPECIFIC CONDITIONS

D. No. 4 Recovery Boiler

This subsection of the permit addresses the following emissions unit.

ID	Emission Unit Description
018	<p><b>No. 4 Recovery Boiler:</b> This unit fires black liquor solids (BLS) as the primary fuel to facilitate the recovery of the cooking liquor. Residual fuel oil is fired as a startup and supplemental fuel. The maximum steam production rate is 789,000 lb/hour (24-hour average) for steam conditions of 850° F to 900° F at 1250 psi. Particulate matter emissions are controlled by an electrostatic precipitator (ESP) with automatic voltage control, 2-chambers, and 6 electric fields per chamber. Total reduced sulfur emissions are reduced by the low-odor design. NO<sub>x</sub> emissions are controlled by a four-level overfire air system. CO and VOC emissions are controlled by good combustion design and operating practices. CO, NO<sub>x</sub>, SO<sub>2</sub>, TRS, and opacity are continuously monitored and recorded. At permitted capacity, the exhaust gas flow rate is 294,000 dscfm at 8% oxygen with an exit temperature of 400° F. Exhaust gases exit a stack that is 12 feet in diameter and 230 feet tall.</p>

{Permitting Note: In accordance with Rule 62-212.400 (PSD), F.A.C., the above emission unit is subject to BACT determinations for CO, NO<sub>x</sub>, PM, and VOC emissions, which are presented in Appendix E of this permit.}

EXISTING APPLICABLE REGULATIONS

1. State Rule for Kraft Pulp Mills: The No. 4 Recovery Boiler is subject to the applicable requirements for existing units in Rule 62-296.404, F.A.C. These standards are specified in the Title V air operation permit.
2. NESHAP Subpart MM: The No. 4 Recovery Boiler is subject to the applicable requirements specified in NESHAP Subpart MM of 40 CFR 63 for recovery combustion sources at Kraft pulp mills. These standards are specified in the Title V air operation permit.
3. PSD Permits: Unless otherwise specified by condition in this permit, the No. 4 Recovery Boiler remains subject to the applicable requirements of Permit Nos. PSD-FL-171 and PSD-FL-226.

MODIFICATIONS AND CAPACITIES

4. No. 4 Recovery Boiler Modifications: The permittee is authorized to perform the following modifications to the No. 4 Recovery Boiler in accordance with the following preliminary schedule: modify the combustion air system; add a fourth level of overfire air (quaternary air); and replace tubes in the superheater, economizer, and walls of the recovery boiler. These changes will not increase the existing permitted capacity of the recovery boiler or the pulp mill. The preliminary schedule is to begin construction in May of 2007. [Application No. 1010005-038-AC; Rules 62-212.300 and 62-212.400 (PSD), F.A.C.]
5. Capacities, Fuels and Restrictions: The No. 4 Recovery Boiler fires BLS as the primary fuel for the recovery process as well as the following fuels: natural gas as a startup and supplemental fuel; residual fuel oil with a maximum sulfur content of 2.35% by weight; and limited amounts of on-specification used oil meeting the requirements in Appendix G of this permit. The permitted capacity is 210,000 lb/hour of BLS based on a 24-hour average. The maximum consumption of oil (residual oil and on-specification used oil) shall not exceed 7,860,640 gallons during any consecutive 12-months. On-specification used oil shall be blended with residual oil and shall not exceed 10% of the oil consumed. Hours of operation are not restricted (8760 hours/year). {Permitting Note: The maximum heat input from firing BLS is 1345 MMBtu/hour based on the permitted capacity and an average heating value of 6410 Btu/lb of BLS. The oil firing restriction maintains an annual capacity factor of less than 10% for fossil fuel firing.} [Application No. 1070005-038-AC; Rules 62-210.200 (PTE) and 62-212.400 (PSD), F.A.C.]



### SECTION 3. EMISSIONS UNIT SPECIFIC CONDITIONS

#### D. No. 4 Recovery Boiler

6. **Fuel Monitoring:** The permittee shall install equipment to continuously monitor the flow rates of all fuels for the No. 4 Recovery Boiler. This may consist of fuel flow meters with integrators to monitor each flow rate. [Rules 62-4.070(3) and 62-212.400 (PSD), F.A.C.]
7. **CEMS:** To demonstrate compliance with the emissions standards for the No. 4 Recovery Boiler, the permittee shall properly install, calibrate, operate and maintain continuous emissions monitoring systems (CEMS) to measure and record CO and NO<sub>x</sub> emissions in the terms of the applicable standard. The systems shall include continuous monitors to determine the flue gas oxygen content and exhaust flow rate. Each CEMS shall be installed such that representative measurements of emissions or process parameters from the facility are obtained. The permittee shall locate the CEMS by following the procedures contained in the applicable performance specification of 40 CFR Part 60, Appendix B. Within 240 calendar days of completing construction of the fourth level of overfire air, the permittee shall install and certify the required CEMS in accordance with the applicable performance specifications identified in Appendix F (Standard Continuous Monitoring Requirements) of this permit. *{Permitting Note: This unit has existing continuous monitors for determining opacity, SO<sub>2</sub> and TRS emissions.}*

As an alternative to a continuous flow monitor, the permittee may develop a site specific F-factor for BLS in accordance with the following procedure:

- a. Submit a test protocol for approval to the Bureau of Air Regulation for developing a site specific F-factor for BLS.
- b. Upon written approval from the Bureau of Air Regulation, conduct the testing program in accordance with the protocol.
- c. Develop a site-specific F-factor for BLS based on the testing program and operational data.
- d. Submit a report on the testing program to the Bureau of Air Regulation summarizing: the tests conducted, explanations of any deviations from the test protocol, the data collected, the proposed site-specific F-factor for BLS, and an evaluation of the estimated flow rates compared to the actual measured flow rates.
- e. Submit a request for approval to the Bureau of Air Regulation to use the proposed site-specific F-factor for BLS.
- f. Upon written approval by the Bureau of Air Regulation, the permittee may begin using the site-specific F-factor for BLS to determine the exhaust flow rate. If the Bureau of Air Regulation does not approve the site-specific F-factor for BLS, the permittee shall install a continuous flow monitor.

[Rules 62-4.070(3) and 62-212.400 (PSD), F.A.C.]

#### EMISSIONS AND PERFORMANCE STANDARDS

8. **CO Standards:**
  - a. After completing installation of the four-level overfire air system, CO emissions shall not exceed 800.0 ppmvd @ 8% O<sub>2</sub> and 1025.4 lb/hour as determined by EPA Method 10 stack testing. *{Permitting Note: Once compliance with this standard is demonstrated and the CO CEMS is certified, this standard becomes obsolete.}*
  - b. Once the CO CEMS is certified, compliance shall be determined by data collected from the required CEMS. For the initial 180 calendar days after certifying the CEMS, CO emissions shall not exceed 800.0 ppmvd @ 8% O<sub>2</sub> and 1025.4 lb/hour based on a 30-day rolling CEMS average, excluding periods of startup and shutdown. Thereafter, CO emissions shall not exceed 400.0 ppmvd @ 8% O<sub>2</sub> and 512.7 lb/hour based on a 30-day rolling CEMS average, excluding periods of startup and shutdown. [Rule 62-

### SECTION 3. EMISSIONS UNIT SPECIFIC CONDITIONS

#### D. No. 4 Recovery Boiler

212.400 (BACT), F.A.C.]

9. NO<sub>x</sub> Standards:

- a. After completing installation of the four-level overfire air system, NO<sub>x</sub> emissions shall not exceed 80.0 ppmvd @ 8% O<sub>2</sub> and 168.5 lb/hour as determined by EPA Method 10 stack testing. *{Permitting Note: Once compliance with this standard is demonstrated and the NO<sub>x</sub> CEMS is certified, this standard becomes obsolete.}*
- b. As determined by data collected from the required CEMS, NO<sub>x</sub> emissions shall not exceed 80.0 ppmvd @ 8% O<sub>2</sub> and 168.5 lb/hour based on a 30-day rolling CEMS average, excluding periods of startup and shutdown. [Rule 62-212.400 (BACT), F.A.C.]

10. Opacity Standard: Once the ESP is placed in service during startup of the recovery boiler, visible emissions shall not exceed 20% opacity based on a 6-minute average as determined by the existing COMS and EPA Method 9. [Rule 62-212.400 (BACT), F.A.C.]
11. PM Standard: As determined by EPA Method 5 or 29, PM emissions shall not exceed 0.030 grains per dscf @ 8% O<sub>2</sub> and 75.6 lb/hour based on the average of three test runs. [Rule 62-212.400 (BACT), F.A.C.]
12. SO<sub>2</sub> Standard: As determined by data collected from the existing CEMS, SO<sub>2</sub> emissions shall not exceed 153.9 tons per year based on a 12-month rolling CEMS total. [Rule 62-212.400(12), F.A.C.]
13. TRS Standard: As determined by data collected from the existing CEMS, TRS emissions shall not exceed 34.2 tons per year based on a 12-month rolling CEMS total. [Rule 62-212.400(12), F.A.C.]
14. VOC Standard: As determined by EPA Method 25A, VOC emissions shall not exceed 0.20 lb/ton of BLS and 21.0 lb/hour (THC determined as methane) based on the average of three test runs. [Rule 62-212.400 (BACT), F.A.C.]
15. ESP Operation: The permittee shall operate and maintain the ESP to minimize PM emissions. The permittee may conduct additional stack tests with fields removed from service to determine compliance with the PM and opacity standards for these periods. During such tests, the permittee shall continuously monitor and record the parameters necessary to determine the secondary power input to the ESP. If these tests demonstrate compliance, the permittee is authorized to operate the ESP under the operating conditions of the tests when conducting repairs or maintenance on the ESP. [Rules 62-4.070(3) and 62-212.400 (BACT), F.A.C.]

#### COMPLIANCE MONITORING AND TESTING

16. Compliance by CEMS: Compliance with the opacity, SO<sub>2</sub>, and TRS standards shall be demonstrated with data collected from the existing COMS and CEMS. Compliance with the CO and NO<sub>x</sub> standards shall be demonstrated with data collected from the CEMS required by this permit. The permittee shall comply with the conditions of Appendix F (Standard Continuous Monitoring Requirements) of this permit as the compliance method for the corresponding emissions standards. [Rules 62-4.070(3) and 62-212.400 (BACT), F.A.C.]
17. Standard Testing Requirements: All required emissions tests shall be conducted in accordance with the requirements specified in Appendix D (Standard Testing Requirements) of this permit. [Rules 62-204.800 and 62-297.100, F.A.C.; 40 CFR 60, Appendix A]
18. Test Notification: The permittee shall notify the Compliance Authority in writing at least 15 days prior to any required tests. [Rule 62-297.310(7)(a)9, F.A.C.]
19. Test Methods: When required, tests shall be performed in accordance with the following methods.

### SECTION 3. EMISSIONS UNIT SPECIFIC CONDITIONS

#### D. No. 4 Recovery Boiler

EPA Method	Description of Method and Comments
1 - 4	Methods for Determining Traverse Points, Velocity, Flow Rate, Gas Analysis, and Moisture Content These methods shall be performed as necessary to support other methods.
5	Method for Determining Particulate Matter Emissions
7E	Method for Determining NO <sub>x</sub> Emissions (Instrumental)
9	Method for Determining Opacity Observations
10	Method for Determining Carbon Monoxide Emissions (Instrumental) The method shall be based on a continuous sampling train.
19	Methods for Determining NO <sub>x</sub> , PM, and SO <sub>2</sub> Mass Emission Rates
25A	Method for Determining Gaseous Organic Concentrations (Flame Ionization)
29	Method for Determining Metals Emissions from Stationary Sources

The above methods are specified in Appendix A of 40 CFR 60 and are adopted by reference in Rule 62-204.800, F.A.C. No other methods may be used unless prior written approval is received from the Department. [Rules 62-4.070(3), 62-204.800(8) and 62-212.400 (BACT), F.A.C.; 40 CFR 60, Appendix A]

20. **Compliance Tests:** In accordance with the following requirements, the permittee shall have stack tests conducted to demonstrate compliance with the emissions standards specified in this permit for CO, NO<sub>x</sub>, PM and VOC.
- Initial Tests:** Initial compliance tests shall be conducted within 60 calendar days of installing the fourth level of overfire air and achieving permitted capacity, but no later than 180 calendar days after initial startup. For the initial CO and NO<sub>x</sub> tests prior to certification of the CEMS, the permittee shall demonstrate compliance with at least three hours of data, but no more than nine hours of data. [Rules 62-212.400 (BACT) and 62-297.310(7), F.A.C.]
  - Subsequent Tests:** During each federal fiscal year (October 1<sup>st</sup> to September 30<sup>th</sup>), compliance tests shall be conducted to determine PM emissions. Because VOC emissions are expected to be low and the CO CEMS will ensure efficient combustion, subsequent tests shall be conducted prior to renewal of the operation permit or when the Department requests a special test pursuant to Rule 62-297.310(7)(b), F.A.C.
  - Test Fuel:** Compliance tests shall be conducted when firing BLS at permitted capacity. [Rules 62-4.070(3), 62-212.400 (BACT) and 62-297.310, F.A.C.]
  - Operational Data for Tests:** For each test run, the permittee shall monitor and record the following information: fuel feed rate; the secondary power input to the ESP; the flue gas oxygen content (%); CO, NO<sub>x</sub>, SO<sub>2</sub> and TRS CEMS data; and opacity COMS data. [Rules 62-297.310 and 62-4.070(3), F.A.C.]

#### RECORDS AND REPORTS

21. **Stack Test Reports:** The owner or operator of an emissions unit for which a compliance test is required shall file a report with the Compliance Authority on the results of each such test. The required test report shall be filed with the Compliance Authority as soon as practical but no later than 45 days after the last sampling run of each test is completed. The test report shall provide sufficient detail on the emissions unit tested and the test procedures used to allow the Compliance Authority to determine if the test was properly conducted and the test results properly computed. As a minimum, the test report, other than for an EPA or DEP Method 9 test, shall provide the information specified in Rule 62-297.310(8), F.A.C. The stack test

### SECTION 3. EMISSIONS UNIT SPECIFIC CONDITIONS

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#### D. No. 4 Recovery Boiler

shall also report all operational data collected during each test run. [Rule 62-297.310(8), F.A.C.]

22. Semiannual Monitoring Reports: The permittee shall submit a written report to the Compliance Authority summarizing the following for each calendar quarter: CO, NO<sub>x</sub>, SO<sub>2</sub>, and TRS emissions; opacity; CEMS monitor availability; gallons of oil fired; and total hours of operation. The reports shall identify any exceedance of an emissions or performance limitation. The reports are due within 30 days following the second and fourth calendar quarters. [Rule 62-4.070(3), F.A.C.]

**SECTION 3. EMISSIONS UNIT SPECIFIC CONDITIONS**

**E. No. 4 Multiple Effect Evaporator Set**

This subsection of the permit addresses the following emissions unit.

ID	Emission Unit Description
037	Thermal Oxidizer handling the Noncondensable Gas System from the No. 4 Multiple Effect Evaporator (MEE) Set

**EXISTING APPLICABLE REGULATIONS**

1. State Rule for Kraft Pulp Mills: This emissions unit is subject to the applicable requirements for existing units in Rule 62-296.404, F.A.C. These standards are specified in the Title V air operation permit.
2. NSPS Subpart BB: This emissions unit is subject to the applicable requirements specified in NESHAP Subpart BB of 40 CFR 63 for recovery combustion sources at Kraft pulp mills. These standards are specified in the Title V air operation permit.

**MODIFICATIONS AND CAPACITIES**

3. No. 4 MEE Set: The permittee is authorized to install a new crystallizer and associated storage/flash tank as a modification to the existing multiple effect evaporator (MEE) set with two associated concentrators (EU-032). The purpose is to increase the temperature and flash-off moisture from the black liquor, which will increase the solids content of the BLS from 65% to approximately 75%. The BLS fired in the existing No. 4 Recovery Boiler will contain less moisture. Emissions from the crystallizer and associated storage/flash tank shall be directed back to the MEE set and collected as part of the existing noncondensable gas (NCG) collection system. The preliminary schedule is to begin construction in May of 2007 and startup the new equipment by May of 2008. [Application No. 1010005-038-AC; Rules 62-212.300 and 62-212.400 (PSD), F.A.C.]