# REVISED DRAFT PERMIT

**PERMITTEE**

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

*Authorized Representative:*
Mr. Keith Wahoske, Vice President

Air Permit No. PSD-FL-393
Project No. 1070005-045-AC
Georgia-Pacific Palatka Mill
No. 4 Combination Boiler Modifications
SIC Nos. 2611 and 2621
Permit Expires: July 1, 2011

**FACILITY AND LOCATION**

This permit authorizes several physical modifications to the No. 4 Combination Boiler. The proposed work will be conducted at the existing Palatka Mill, which is a paper and pulp mill. The facility is 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.

**STATEMENT OF BASIS**

This air pollution construction permit is issued under the provisions of Chapter 403 of the Florida Statutes (F.S.), Chapters 62-4, 62-204, 62-210, 62-212, 62-296 and 62-297 of the Florida Administrative Code (F.A.C.), and Part 63 of Title 40 of the Code of Federal Regulations (CFR). Specifically, the project is subject to the preconstruction requirements for the Prevention of Significant Deterioration (PSD) of Air Quality in accordance with Rule 62-212.400, F.A.C. 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).

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(Draft)

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Joseph Kahn, Director — Effective Date
Division of Air Resource Management

## FACILITY AND PROJECT DESCRIPTION

The Georgia-Pacific Consumer Operations LLC operates an existing pulp and paper mill in Palatka, Florida. The existing mill uses the Kraft sulfate process in which 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 process the green liquor to cooking liquor. Steam and energy needs are met by the combination, power and recovery boilers, which burn a variety of fuels including carbonaceous fuel, BLS, fuel oil and natural gas. Products of incomplete combustion include carbon monoxide (CO), nitrogen oxides ($NO_X$), particulate matter (PM), particulate matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers ($PM_{10}$), sulfuric acid mist (SAM), sulfur dioxide ($SO_2$), total reduced sulfur (TRS) and volatile organic compounds (VOC).

## FACILITY REGULATORY CLASSIFICATION

- The facility is a major source of hazardous air pollutants (HAP).
- The facility has no units subject to the acid rain provisions of the Clean Air Act.
- The facility is a Title V major source of air pollution in accordance with Chapter 213, F.A.C.
- The facility is a major stationary source in accordance with Rule 62-212.400(PSD), F.A.C.

## PROJECT DESCRIPTION

Current Project

The No. 4 Combination Boiler (EU-016) will be modified in two phases. The initial phase includes the following changes: upgrading the bark/wood delivery system with new air swept bark conveyors and feed bin to increase bark/wood firing rate; increasing the maximum hourly heat input rate; installation of a new overfire air (OFA) system; installing new mechanical collectors to replace the existing multiclone pre-cleaners; installing a bottom ash handling system; modifying the ductwork to use the existing multiclones/electrostatic precipitator (ESP)/stack from the No. 5 Power Boiler (which has been converted to natural gas) to serve the No. 4 Combination Boiler in parallel with the existing multiclones/ESP/stack; and modifying the ductwork to introduce the dilute noncondensible gases (DNCG) into the new OFA system. The second phase will convert the supplemental residual oil firing system for No. 4 Combination Boiler to natural gas and permanently discontinue use of residual oil. Implementing this phase is dependent on obtaining additional pipeline capacity from the natural gas vendor, the Florida Gas Transmission Company, which may take approximately two to three years depending on the siting process for new pipelines as well as construction.

Based on a netting analysis including other contemporaneous projects, this project is subject to PSD preconstruction review for emissions of CO, $NO_X$, $PM_{10}$ and VOC in accordance with Rule 62-212.400, F.A.C. The permit establishes emissions standards for these pollutants based on the Best Available Control Technologies (BACT) as determined by the Department. Particulate matter emissions will be controlled with new mechanical collectors and an improved ESP system. A continuous opacity monitoring system (COMS) is required to demonstrate compliance with the new opacity standard. Emissions of CO, $NO_X$ and VOC will be controlled by improving overall combustion and staging combustion with the upgraded OFA system. Low-$NO_X$ burners will be installed to further reduce $NO_X$ emissions when firing natural gas. Continuous emissions monitoring systems (CEMS) are required for CO and $NO_X$ to demonstrate compliance, which will also provide feedback to the control system and operators.

Previous Projects

Based on the following previous projects, the No. 4 Combination Boiler is currently authorized to operate as a control device in the following circumstances.

- Pursuant to previous air construction Permit No. 1070005-017-AC, the No. 4 Combination Boiler is authorized to serve as a backup destruction device to the Thermal Oxidizer (EU-037) for noncondensible gases (NCG) and condensate stripper off-gases (SOG) from the sources subject to Subpart S (MACT I) of 40 CFR 63 and Rule 62-296.404, F.A.C., for TRS emissions. Prior to destruction in the boiler, a spray tower pre-scrubber removes sulfur compounds from the batch digesting system and a separate spray tower pre-scrubber removes sulfur compounds from the multiple effect evaporator system streams. Operation as a backup destruction device would occur during startup, shutdown and malfunctions of the Thermal Oxidizer. The boiler is permitted to operate as the backup destruction device for a maximum uptime of 20%. These provisions also include a requirement to continuously monitor the combustion zone temperature with a thermocouple in lieu of monitoring TRS emissions.
- Pursuant to previous air construction Permit No. 1070005-024-AC, the No. 4 Combination Boiler is authorized to destroy DNCG from the from the brown stock washer system and associated pressure knotters and screens, the oxygen delignification (OD) system, the post-OD washer and the bleach plant washer. The No. 5 Power Boiler serves as a backup unit to the No. 4 Combination Boiler for the destruction of DNCG.

These provisions are specified in the latest Title V air operation permit (No. 1070005-048-AV). This project does not impose any new applicable requirements for operation as a control device.

1. Permitting Authority. The Permitting Authority for this project is the Bureau of Air Regulation in the Department's Division of Air Resource Management. The mailing address for the Bureau of Air Regulation is 2600 Blair Stone Road, MS #5505, Tallahassee, Florida 32399-2400. All documents related to applications for permits to operate an emissions unit shall be submitted to Department's Northeast District office.

2. Compliance Authority. All documents related to compliance activities such as reports, tests, and notifications shall be submitted to the Department's Northeast District office. The mailing address and phone number of the Department of Environmental Protection, Northeast District, Air Resources, 7825 Baymeadows Way, Suite 200B, Jacksonville, Florida 32256-7590. The District telephone number is 904/807-3300 and facsimile number is 904/448-4363.

3. Appendices. The following Appendices are attached as an enforceable part of this permit:

   a. Appendix A. Citation Formats and Glossary of Common Terms.

   b. Appendix B. General Conditions.

   c. Appendix C. Common Conditions.

   d. Appendix D. Standard Testing Requirements.

   e. Appendix E. Summary of Best Available Control Technology Determinations.

   f. Appendix F. Standard Continuous Monitoring Requirements.

   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.

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. Depending on the timing of Phase 2 of this project, it may be necessary to submit an application to revise the Title V permit after completing the Phase 1 work and later apply for a revision to include the Phase 2 work. 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 appropriate Permitting Authority with copies to each Compliance Authority. [Rules 62-4.030, 62-4.050, 62-4.220, and Chapter 62-213, F.A.C.]

## A. No. 4 Combination Boiler (EU-016)

This section of the permit addresses the following emissions unit.

| **No. 4 Combination Boiler (EU-016)** |
|---|
| The boiler is a spreader-stoker traveling grate furnace with a pneumatic fuel feed distribution system. It was manufactured by Babcock & Wilcox and constructed in 1965. The primary fuel is bark/wood, which is supplemented with fuel oil. This project will replace supplemental fuel oil with natural gas. The maximum steam production rate is 475,000 lb/hour based on steam conditions of 900$^{o}$ F at 1275 psi. Particulate matter emissions are controlled by mechanical dust collectors as pre-cleaners to the ESP. The boiler also serves as a backup control device for other permitted operations. The unit continuously monitors TRS emissions. This project will add CO and $NO_X$ CEMS and an opacity COMS. |

### EXISTING APPLICABLE REGULATIONS

1. Existing Permits and Regulations: This permit supplements other previously issued air permits for the No. 4 Combination Boiler, which include the following applicable state and federal regulations.

   a. Pursuant to Rule 62-296.404(3)(a)1, F.A.C., the No. 4 Combination Boiler is subject to the applicable requirements for a combustion device incinerating TRS emissions at a Kraft pulp mill.

   b. Pursuant to Rule 62-296.410(1)(b), F.A.C., the No. 4 Combination Boiler is subject to the applicable requirements for an existing carbonaceous fuel fired boiler.

   c. Pursuant to 40 CFR 63.443(d)(4)(ii), the No. 4 Combination Boiler is subject to the applicable requirements for controlling HAP emissions from the pulping system at Kraft processes. [NESHAP Subpart S in 40 CFR 63]

   *{Permitting Note: The applicable requirements are specified in the latest Title V air operation permit (No. 1070005-048-AV). This project does not impose any new applicable requirements from these existing regulations.}* [Rules 62-296.404 and 62-296.410, F.A.C.; and 40 CFR 63.443]

### MODIFICATIONS AND CAPACITIES

2. Modifications – Phase 1: The permittee shall make the following modifications and other related work to the No. 4 Combination Boiler:

   a. Upgrade the bark/wood waste fuel delivery system by replacing worn out feed system parts, replacing the existing bark surge bin, modifying conveyors to accommodate these changes, and installing new air swept bark distributors;

   b. Install a new OFA system with multiple levels of combustion air;

   c. Modify the DNCG piping for incorporation into the new OFA system;

   d. Replace existing multiclones with a new mechanical dust collector; and

   e. Modify the ductwork to use the existing multiclones/ESP/stack from the No. 5 Power Boiler (EU-015, which has been converted to fire only natural gas) to connect in parallel service with the new mechanical dust collector/existing ESP/existing stack for the No. 4 Combination Boiler.

   The purpose of this phase is to improve overall combustion, increase the maximum hourly heat input rate for bark/wood firing, improve equipment reliability and reduce $NO_X$ and PM emissions. These modifications shall be complete prior to operating at the higher heat input rates authorized by this permit. The permittee shall begin construction on this phase within 18 months of issuance of this permit. [Rules 62-4.070(3) and 62-212.400(12), F.A.C., and Application No. 1070005-045-AC (PSD-FL-393)]

6. Modifications – Phase 2: The permittee is authorized to make the following modifications to the No. 4

Combination Boiler and other related work:

a. Install low-$NO_X$ burners with a natural gas distribution system; and

b. Connect to the natural gas supply line for continuous operation.

The natural gas vendor, the Florida Gas Transmission Company, estimates that it may take approximately two to three years to add the necessary capacity to the pipeline for this project. Therefore, the permittee shall commence construction on this phase of the project within 18 months of July 1, 2010. Once the boiler is fully functional on natural gas, the boiler is prohibited from firing fuel oil. [Rules 62-4.070(3) and 62-212.400(12), F.A.C., and Application No. 1070005-045-AC (PSD-FL-393)]

7. PM Control Equipment: On each exhaust stream, the permittee shall install, operate and maintain mechanical dust collectors and an ESP to control PM emissions. The following table summarizes the main preliminary control equipment parameters for these systems.

| **Parameter** | **Exhaust 1** [a] | **Exhaust 2** [b] |
|---|---|---|
| Pre-Cleaner | | |
| Type | Mechanical Dust Collectors | Mechanical Dust Collectors |
| Inlet Temperature | 480° F | 480° F |
| Exhaust Flow Rate | 280,000 acfm | 280,000 acfm |
| Pressure Drop | < 3 inches of w.c. | < 3 inches of w.c. |
| Control Efficiency | 80% - 90% | 80% - 90% |
| ESP | | |
| Manufacturer | Research Cottrell | Research Cottrell |
| Type | Plate/Rigid Mast Electrodes | Plate/Rigid Mast Electrodes |
| Configuration | 2 chambers, 3 fields | 2 chambers, 3 fields |
| Pressure | Positive | Positive |
| T/R Sets | 6 T/R sets per field | 6 T/R sets per field |
| Inlet Temperature | 475° F | 475° F |
| Exhaust Flow Rate | 230,000 acfm | 230,000 acfm |
| Control Efficiency | 99.5% | 99.5% |
| Stack | | |
| Diameter | 8.0 feet | 8.0 feet |
| Height | 237 feet | 237 feet |
| Exhaust Flow | 158,500 acfm | 158,500acfm |
| | 67,700 dscfm @ 10% $O_2$ | 67,700 dscfm @ 10% $O_2$ |
| Exhaust Temperature | 466° F | 466° F |

a. This exhaust stream includes a new mechanical dust collector and the existing ESP and stack originally constructed with the No. 4 Combination Boiler.

b. This exhaust stream includes the mechanical dust collector, ESP and stack originally constructed with the No. 5 Power Boiler.

[Rules 62-4.070(3), 62-210.200(PTE) and 62-212.400(BACT), F.A.C.]

8. Authorized Fuels: After completing Phase 1 of the modifications, the No. 4 Combination Boiler is authorized to fire the following fuels: bark/wood, No. 6 residual fuel oil with a maximum sulfur content of 2.35% by weight, and natural gas (startup fuel). On-specification used oil generated on site and meeting the fuel sulfur specification may be fired with No. 6 fuel oil. See Appendix G for conditions specific to on-specification used oil. Once construction is complete on Phase 2 (addition of natural gas), the permittee is prohibited from firing fuel oil and on-specification used oil. *{Permitting Note: As described in the project description in Section 1 of this permit, the No. 4 Combination Boiler was previously permitted to serve as a control device to combust NCG, SOG and DNCG.}* [Rules 62-210.200(PTE) and 62-212.400(PSD), F.A.C.; Permit Nos. 1070005-017-AC and 1070005-024-AC]

9. Permitted Capacity: After completing the modifications, the No. 4 Combination Boiler is authorized to operate at the following maximum heat input rates.

| Fuel Source | Maximum Heat Input Rate |
|---|---|
| Bark/Wood<br>(alone or combined with other fuels) | 564.0 MMBtu/hr, 24-hr average [a] |
| Residual Fuel Oil | 418.6 MMBtu/hr, 24-hr average [b] |
| Natural Gas | 427.0 MMBtu/hr, 24-hr average [c] |

[a] Based of 59.4 tons per hour of bark/wood with an average heating value of 4750 Btu/lb on an as-fired basis (wet).

[b] Based of 2791 gallons per hour No. 6 fuel oil with an average heating value of 150,000 Btu/gallon.

[c] Based of 427,000 cubic feet (cf) per hour of natural gas with an average heating value of 1000 Btu/cf.

[Rule 62-210.200(PTE), F.A.C.; Permit Nos. 1070005-024-AC and 1070005-028-AC; and Application No. 1070005-045-AC (PSD-FL-393)]

10. Operational Restrictions: The hours of operation of No. 4 Combination Boiler are not limited (8760 hours per year). However, operation shall not exceed the following restrictions.

    a. No more than 5,100,000 gallons of No. 6 fuel oil shall be fired during any consecutive 12-month rolling total. *{Permitting Note: This requirement will become obsolete after completion of the Phase 2 work and the cessation of oil firing.}*

    b. The total heat input rate shall not exceed 4,042,127 MMBtu during any consecutive 12-month rolling total.

    The permittee shall keep records on a monthly basis to ensure compliance with these operational restrictions. [Rules 62-210.200(PTE) and 62-212.400(PSD), F.A.C.; Permit No. PSD-FL-380; and Application No. 1070005-045-AC (PSD-FL-393)]

## EMISSIONS STANDARDS

*{Permitting Note: The following standards apply to the No. 4 Combination Boiler (EU-016). Unless otherwise specified for standards demonstrated by stack test, the actual emission rate shall be the arithmetic average of three separate test runs. See Rules 62-297.310(1), (2) and (3), F.A.C.]}*

11. CO Emissions: When firing any combination of authorized fuel, CO emissions shall not exceed 0.50 lb/MMBtu and 282.0 lb/hour based on a 30-day rolling CEMS average. This standard excludes authorized periods of startup, shutdown and malfunction. [Rules 62-212.400(BACT) and 62-4.070(3), F.A.C.]

12. NOx Emissions:

    a. *Bark/Wood*: During the initial interim period, $NO_X$ emissions shall not exceed 0.28 lb/MMBtu and 157.9 lb/hour based on a 30-day rolling CEMS average. The initial interim period is defined as the first consecutive 18 months after completing work (including a 90 calendar day shakedown period) on the bark/wood fuel delivery system and the OFA system. During the initial interim period, the permittee shall operate the boiler and control system to minimize $NO_X$ emissions to the extent practicable. Thereafter, one of the following standards shall apply. Day 1 of the first 30-day rolling average compliance period for the new standard is the first day after the end of the 12 month initial interim period.

        (1) $NO_X$ emissions shall not exceed 0.24 lb/MMBtu and 135.4 lb/hour based on a 30-day rolling CEMS average. This standard applies following the initial interim period defined above in Condition 12.a based on satisfactory reductions achieved by the installed OFA system.

        (2) If unable to achieve the $NO_X$ emissions standard specified above in Condition 12.a(1) based solely on the installed OFA system, the permittee shall complete the requirements in paragraphs (a) and (b) before the end of the initial interim period defined above.

            (a) The permittee shall provide notification that an additional $NO_X$ control system will be installed. The notification shall include the preliminary design details of the selected control system and a schedule for installation and commencement of operation.

            (b) The permittee shall install, operate and maintain a $NO_X$ control system (e.g., selective non-catalytic reduction system) to comply with a $NO_X$ emissions standard of 0.17 lb/MMBtu and 95.9 lb/hour based on a 30-day rolling CEMS average.

    b. *Fuel Oil*: When firing only No. 6 fuel oil, $NO_X$ emissions shall not exceed 0.27 lb/MMBtu and 113.0 lb/hour based on a 30-day rolling CEMS average.

    c. *Natural Gas*: When firing only natural gas, $NO_X$ emissions shall not exceed 0.15 lb/MMBtu and 64.1 lb/hour based on a 30-day rolling CEMS average.

    d. *Combinations of Fuels*: When firing a combination of fuels, the $NO_X$ emissions standard shall be prorated based on the heat input rate from each fuel actually fired.

    These standards exclude authorized periods of startup, shutdown and malfunction. [Rules 62-212.400(BACT) and 62-4.070(3), F.A.C.]

13. PM Emissions:

    a. *PM Emissions*: When firing any authorized fuel or combination thereof, PM emissions shall not exceed 0.040 lb/MMBtu and 22.6 lb/hour as determined by tests conducted in accordance with EPA Method 5 or 29. This BACT standard was based on the vendor guarantee for the proposed equipment modifications. The Department believes that such equipment modifications will achieve a much lower emissions rate. Therefore:

        1. The permittee shall operate the PM control equipment to minimize emissions.

        2. After completing the proposed work and as specified in this permit, the permittee shall conduct at least one stack test during each of the first four calendar quarters that demonstrate compliance with the PM BACT emissions standards.

        3. The permittee shall submit reports summarizing the results for all quarterly stack tests. Each report shall also summarize operation of the PM controls.

        4. The permittee shall submit an application to modify this permit by reducing the PM BACT

emissions standard based on all quarterly stack tests demonstrating compliance with the current standard. The application shall detail the modifications made to the PM controls, provide the final design details, summarize the equipment capabilities and propose new PM BACT emissions standards. As deemed necessary by the Department, the permit will be modified to reduce the PM BACT emissions standards based on the application and all other relevant information available to the Department. The revised PM BACT emissions standards will be no lower than 0.030 lb/MMBtu and 16.9 lb/hour.

b. *Opacity*: When firing any authorized fuel or combination thereof, visible emissions shall not exceed 20% opacity based on a 6-minute average, except for one 6-minute period per hour that shall not exceed 27% opacity, as determined by COMS and/or EPA Method 9. This standard applies to each stack.

*{Permitting Note: Compliance with these standards ensures compliance with the applicable standards of Rule 62-296.410(1)(b), F.A.C. for Carbonaceous Fuel Burning Equipment.}* [Rules 62-212.400(BACT) and 62-296.410, F.A.C.]

14. VOC Emissions: When firing any authorized fuel or combination thereof, VOC emissions shall not exceed 0.02 lb/MMBtu and 11.3 lb/hour as determined by EPA Method 25A stack testing. Initial compliance shall be demonstrated while firing bark/wood at permitted capacity. Thereafter, compliance shall be assumed if the unit remains in compliance with the CO standards demonstrated by CEMS. [Rule 62-212.400(BACT), F.A.C.]

## CONTINUOUS EMISSIONS COMPLIANCE MONITORING

15. Compliance by CEMS: Compliance with the CO and $NO_X$ standards shall be demonstrated with data collected from the CEMS required by this permit. The permittee shall properly install, calibrate, operate and maintain CEMS to measure and record CO and $NO_X$ emissions in the terms of each applicable standard. The systems shall include continuous monitors to determine the flue gas oxygen or carbon dioxide 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 comply with the conditions in Appendix F (Standard Continuous Monitoring Requirements) of this permit. Each CEMS shall be installed, certified, fully operational and collecting compliance data within 90 days of achieving the new permitted capacity on bark/wood, but no later than 180 days after completing the work on the bark/wood fuel delivery system and the OFA system. If emissions are representative, the permittee may monitor only one of the two stacks to determine CO and $NO_X$ emissions based on an approved CEMS Operation Plan as required in Appendix F of this permit. [Rules 62-212.400(BACT) and 62-4.070(3), F.A.C.]

16. Compliance by COMS: Compliance with the opacity standards shall be demonstrated with data collected from the COMS required by this permit. The permittee shall properly install, calibrate, operate and maintain a COMS that achieves the requirements of Performance Specification 1 (PS-1) in Appendix B of 40 CFR 60 to measure and record opacity in the terms of the applicable standards. The system shall be installed such that representative measurements of opacity are obtained from each stack. Each COMS shall be installed, certified, fully operational and collecting compliance data within 90 days of achieving the new permitted capacity on bark/wood, but no later than 180 days after completing the work on the bark/wood fuel delivery system, PM controls and OFA system. [Rules 62-212.400(BACT) and 62-4.070(3), F.A.C.]

## COMPLIANCE TESTING REQUIREMENTS

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. [Rule 62-297.310, F.A.C.]

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: Compliance tests shall be conducted in accordance with the following EPA Reference Methods as described in Appendix A of 40 CFR 60, and adopted by reference in Rule 62-204.800, F.A.C.

| EPA Method | Description of Method and Comments |
|---|---|
| 1-4 | Methods for Determining Traverse Points, Velocity and Flow Rate, Gas Analysis, and Moisture Content: These methods shall be performed as necessary to support other methods. |
| 5 or 29 | Methods for Determining Particulate Matter Emissions |
| 7E | Method for Determining Nitrogen Oxides Emissions |
| 9 | Visual Determination of the Opacity of Emissions from Stationary Sources |
| 10 | Method for Determining Carbon Monoxide Emissions (Instrumental): The method shall be based on a continuous sampling train. |
| 18 | Method for Measuring Gaseous Organic Compound Emissions by Gas Chromatography<br>EPA Method 18 may be conducted simultaneously with EPA Method 25A to deduct non-regulated methane emissions from regulated VOC emissions. |
| 25A | Method for Determining Total Gaseous Organic Concentration using a Flame Ionization Analyzer |

No other methods may be used unless prior written approval is received from the Department. [Rules 62-212.400(BACT), 62-204.800 and 62-297.310, F.A.C.; and Appendix A of 40 CFR 60]

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.

    a. *Initial Tests*: The permittee shall conduct initial tests to demonstrate compliance with the emissions standards for opacity, PM and VOC. After completing modifications of the bark/wood feeder, PM controls and OFA systems, the permittee shall conduct initial tests within 90 calendar days of achieving permitted capacity, but no later than 180 calendar days after initial startup. After satisfactorily demonstrating compliance with the PM emissions standards in this permit, the permittee shall also conduct at least one test for PM emissions during each of the next three subsequent calendar quarters that demonstrates compliance with the PM emissions standards in this permit.

    b. *Annual Tests*: During each federal fiscal year (October 1st to September 30th), the permittee shall conduct tests to determine compliance with the emissions standards for shall be conducted for opacity, PM and VOC. If initial tests show satisfactory compliance with the VOC standards, compliance with the CO standards will serve as a surrogate for demonstrating compliance with the VOC standards and annual VOC tests will not be required unless requested by the Department as a special test pursuant to Rule 62-297.310(7)(b), F.A.C.

    c. *Test Fuel*: All tests shall be conducted when firing only bark/wood at permitted capacity.

    d. *Simultaneous PM Stack Testing*: Exhaust from the No. 4 Combination Boiler is split into two streams with separate PM control devices. Therefore, the permittee shall conduct simultaneous stack tests on the two stacks to determine compliance with the PM emissions standard. Each performance test shall consist of three runs. [Rules 62-4.070(3) and 62-221.400(BACT), F.A.C.]

    e. *Operational Data for Tests*: For each test run, the permittee shall monitor and record the following information: fuel feed rate; the heat input rate; the secondary power input to each ESP; the flue gas oxygen or carbon dioxide content (%); exhaust flow rates; the number of ESP fields in operation; the

rapping frequency; the COMS opacity data; comments on the ash removal and handling system; and CO and $NO_X$ CEMS data (when available).

Compliance with the CO and $NO_X$ standards shall be demonstrated by data collected from the required CEMS. [Rules 62-212.400(BACT) and 62-297.310, F.A.C.]

**EXCESS EMISSIONS**

21. Excess Emissions: Pursuant to Rules 62-210.700(5) and 62-212.400, F.A.C., the Department establishes the following conditions related to excess emissions.

    a. Compliance with the CO and $NO_X$ standards are determined by data collected with required CEMS excluding authorized periods of startup, shutdown and malfunction. The permittee may exclude CEMS data collected during the following authorized periods as limited by this condition.

        1. *Startup*: No more than eight hours of CEMS data may be excluded for any startup.
        2. *Shutdown*: No more than eight hours of CEMS data may be excluded for any shutdown.
        3. *Malfunction*: No more than two hours of CEMS data in any 24-hour period may be excluded for malfunction.

    Appendix F of this permit defines the terms "startup, shutdown and malfunction" and specifies other continuous monitoring requirements.

    b. The No. 4 Combination Boiler shall comply with the opacity standards once the ESP is placed in service during a startup in accordance with the manufacturer's recommendations. If best operational practices are used to minimize the magnitude and duration of emissions, excess opacity resulting from malfunction is allowed for no more than two hours in any 24-hour period.

    The above requirements are established in lieu of the provisions in Rule 62-210.700(1), F.A.C. [Rules 62-210.700 and 62-212.400(BACT), F.A.C.]

**MONITORING REQUIREMENTS**

22. Fuel Monitoring: The permittee shall continuously monitor the following:

    a. *Bark/Wood*: The permittee shall monitor and record the amount of bark/wood (tons) fired and the equivalent heat input rate (MMBtu) to demonstrate compliance with the conditions of this permit.

    b. *Fuel Oil*: The permittee shall install, operate and maintain an oil flow monitoring system to demonstrate compliance with the conditions of this permit.

    c. *On-Specification Used Oil*: The permittee shall monitor and record the amount of on-specification used oil fired. The permittee shall comply with the requirements in Appendix G (On-Specification Used Oil Requirements) of this permit.

    d. *Natural Gas*: The permittee shall install, operate and maintain a natural gas flow monitoring system to demonstrate compliance with the conditions of this permit.

    e. *Heat Input Rate*: The permittee shall record the total equivalent heat input rate (MMBtu) to demonstrate compliance with the conditions of this permit.

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

23. Fuel Oil Sulfur Records: The sulfur content of the No. 6 fuel oil used by the facility for all of the fuel sources shall not exceed 2.35% by weight based on a 3-barge rolling average. A record of analysis of each fuel oil shipment received shall be maintained and an annual report submitted. In order to demonstrate compliance with this condition, the permittee shall calculate and maintain a log of the rolling 3-barge

average sulfur content (i.e., the average of three consecutive barge deliveries based on the certified fuel oil analysis receipt). Fuel oil analysis shall be conducted using ASTM Methods D-129, D-1552, D-2622, D-4294, or equivalent methods approved by the Department. The Annual Report is due by April 1st for the previous year. [Rules 62-212.400(BACT), 62-4.070(3) and 62-297.440, F.A.C.]

24. Steam Records: The permittee shall continuously monitor and record the following steam parameters: steam production rate (lb/hour), steam pressure (psig) and steam temperature (° F). [Rules 62-212.400(BACT) and 62-4.070(3), F.A.C.]

**RECORDS AND REPORTS**

25. 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 amount of fuel fired and the equivalent heat input rate. [Rules 62-4.070(3) and 62-297.310(8), F.A.C.]

26. Semiannual Monitoring Reports: The permittee shall submit a written report to the Compliance Authority summarizing the following for each calendar quarter: CO and $NO_X$ emissions; CEMS monitor availability; bark/wood fuel fired; gallons of fuel oil fired; cubic feet of natural gas 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. [Rules 62-4.070(3) and 62-213.440(1)(b)3., F.A.C.; and 1070005-045-AC/PSD-FL-393]