Florida Department of Environmental Protection
Northeast District
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Jacksonville, Florida 32256

Rick Scott
Governor

Jennifer Carroll
Lt. Governor

Herschel T. Vinyard Jr.
Secretary

**PERMITTEE**

RockTenn CP, LLC
North 8th Street
Fernandina Beach, FL 32034

Authorized Representative:
Mr. Scott Grimes, General Manager

Air Permit No. 0890003-034-AC
Permit Expires: December 31, 2014
Issue Date: DRAFT
Fernandina Beach Kraft Pulp Mill
ARMS ID No. 0890003

Project: No. 4 Lime Kiln and No. 7 Power Boiler Natural Gas Project

This is the final air construction permit which provides fuel flexibility to the facility by providing natural gas as an available fuel for the No. 4 Lime Kiln and the No. 7 Power Boiler. The No. 4 Lime Kiln will be capable of firing up to 100% used oil, any mixture of used oil and No. 6 fuel oil, 100% No. 6 fuel oil, 100% natural gas, or a mixture of natural gas and fuel oil (including used oil). In order to accomplish this operating scenario the applicant will require the replacement of the existing oil fired burner with a dual fuel burner (natural gas and/or fuel oil). The No. 7 Power Boiler will have the flexibility to fire natural gas in lieu of fuel oil or in addition to fuel oil. In order to accomplish this operating scenario the applicant will require installation of twelve natural gas igniters near each of the current coal igniters in the boiler. The project is not expected to have a significant impact on the emission rates of any pollutant. The proposed work will be conducted at the Fernandina Beach Pulp Mill, which is a Kraft Pulp Mill (Standard Industrial Classification No. 2611). The existing facility is located in Nassau County at North 8th Street in Fernandina Beach, Florida. The UTM coordinates are Zone 17: 456.2 km East; 3394.2 km North.

This final permit is organized by the following sections.

Section 1. General Information

Section 2. Administrative Requirements

Section 3. Emissions Unit Specific Conditions

Section 4. Appendices

Because of the technical nature of the project, the permit contains numerous acronyms and abbreviations, which are defined in Appendix A of Section 4 of this permit.

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.). The permittee is authorized to conduct the proposed work in accordance with the conditions of this permit. This project is subject to the general preconstruction review requirements in Rule 62-212.300, F.A.C. and is not subject to the preconstruction review requirements for major stationary sources in Rule 62-212.400, F.A.C. for the Prevention of Significant Deterioration (PSD) of Air Quality.

Upon issuance of this final permit, any party to this order has the right to seek judicial review of it under Section 120.68 of the Florida Statutes by filing a notice of appeal under Rule 9.110 of the Florida Rules of Appellate Procedure with the clerk of the Department of Environmental Protection in the Office of General Counsel (Mail Station #35, 3900 Commonwealth Boulevard, Tallahassee, Florida, 32399-3000) and by filing a copy of the notice of appeal accompanied by the applicable filing fees with the appropriate District Court of Appeal. The notice must be filed within 30 days after this order is filed with the clerk of the Department.

Executed in Jacksonville, Florida

DRAFT

_____
Khalid A. Al-Nahdy, P. E.
District Air Program Administrator

**CERTIFICATE OF SERVICE**

The undersigned duly designated deputy agency clerk hereby certifies that this Final Air Permit package (including the Final Determination and Final Permit) was sent by electronic mail (or a link to these documents made available electronically on a publicly accessible server) with received receipt requested before the close of business on _____ to the persons listed below.

Ms. Tammy McWade, DARM, Tallahassee tammy.mcwade@dep.state.fl.us
Ms. Kathleen Forney, EPA Region 4 forney.kathleen@epa.gov
Ms. Ana M. Oquendo, EPA Region 4 oquendo.ana@epa.gov
Mr. David Buff, P.E., Golder Associates, Inc.dbuff@golder.com
Mr. Scott Grimes, RockTenn CP, LLC sgrimes@rocktenn.com
Ms. Michelle Rundlett, RockTenn CP, LLC mrundlet@rocktenn.com

Clerk Stamp

**FILING AND ACKNOWLEDGMENT FILED**, on this date, pursuant to Section 120.52(7), Florida Statutes, with the designated agency clerk, receipt of which is hereby acknowledged.

DRAFT

_____ _____
(Clerk) (Date)

## FACILITY AND PROJECT DESCRIPTION

This facility is a fully integrated Kraft linerboard mill that consists of major activities areas such as: wood yard, pulp mill, recycle plant, chemical recovery, power house and paper mill. A corrugated containers plant is also located at the facility.

### Existing Facility

**The existing facility consists of the following emissions unit(s).**

**Facility ID No. 0890003**

| ID No. | Emission Unit Description |
|---|---|
| 006 | No. 5 Power Boiler |
| 007 | No. 4 Recovery Boiler |
| 011 | No. 5 Recovery Boiler |
| 013 | No. 4 Smelt Dissolving Tank |
| 014 | No. 5 Smelt Dissolving Tank |
| 015 | No. 7 Power Boiler |
| 020 | Tall Oil Plant |
| 021 | No. 4 Lime Kiln |
| 024 | C-Line Brownstock Washer System |
| 033 | Pulping System MACT |
| 035 | Wide-Web Flexographic Printers |

### Proposed Project

The project provides fuel flexibility to the facility by providing natural gas as an available fuel for the No. 4 Lime Kiln and the No. 7 Power Boiler. The No. 4 Lime Kiln will be capable of firing up to 100% used oil[1], any mixture of used oil and No. 6 fuel oil, 100% No. 6 fuel oil, 100% natural gas, or a mixture of natural gas and fuel oil (including used oil). In order to accomplish this operating scenario the applicant will require the replacement of the existing oil fired burner with a dual fuel burner (natural gas and/or fuel oil). The No. 7 Power boiler will have the flexibility to fire natural gas in lieu of fuel oil or in addition to fuel oil in addition to combusting coal. In order to accomplish this operating scenario the applicant will require installation of twelve natural gas igniters near each of the current coal igniters in the boiler. The project is not expected to have a significant impact on the emission rates of any pollutant. This project will modify the following emissions unit:

[1]Subject to completion of the terms and conditions of Air Construction permit No. 0890003-029-AC.

| Facility ID No. 0890003 | |
|---|---|
| **ID No.** | **Emission Unit Description** |
| 015 | No. 7 Power Boiler |
| 021 | No. 4 Lime Kiln |

The project is not intended to increase the production capacity of the No. 4 Lime Kiln or the No. 7 Power Boiler. At the No. 4 Lime Kiln it is expected that a slightly higher heat input per ton of CaO produced will be required while burning natural gas due to differences in flame characteristics and other operational differences. This increase is expected to be less than 6 MMBtu per hour. No change in maximum heat input is expected at the No. 7 Power Boiler. Pursuant to Rule 62-212.400, F.A.C., RockTenn CP, LLC provided information to show that the project will not exceed the significant emissions rates that require preconstruction review for the Prevention of Significant Deterioration (PSD) of Air Quality. In accordance with Rule 62-212.300, F.A.C., the permit requires RockTenn CP, LLC to provide reports summarizing the actual emissions for each year during the 5-year period following completion of the project. This is to ensure that the project remains minor with respect to PSD preconstruction review.

**FACILITY REGULATORY CLASSIFICATION**

- The facility is a major source of hazardous air pollutants (HAP).
- The facility does not operate 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.

1. Permitting Authority: The permitting authority for this project is the Northeast District Office, Air Resources Section, Florida Department of Environmental Protection (Department). The Northeast District Office's mailing address is 7825 Baymeadows Way, Suite 200B, Jacksonville, Florida 32256-7590. All documents related to applications for permits to operate an emissions unit shall be submitted to the Northeast District Office. The Permitting Authority's telephone number is (904) 256-1700.
2. Compliance Authority: All documents related to compliance activities such as reports, tests, and notifications shall be submitted to the Northeast District Office. The mailing address and phone number of the District Office is: 7825 Baymeadows Way, Suite 200B, Jacksonville, Florida 32256. The Compliance Authority's telephone number is (904) 256-1700.
3. Appendices: The following Appendices are attached as 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. Common Testing 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: The permittee shall notify the Compliance Authority upon commencement of construction. No new emissions unit shall be constructed and no existing emissions unit shall be 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. 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.

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 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. Application for Title V Permit: This permit authorizes construction of the permitted emission unit and initial operation to determine compliance with Department rules. A Title V air operation permit is required for regular operation of the permitted emissions unit. The permittee shall apply for a Title V air operation permit revision at least 90 days prior to expiration of this permit; but no later than 180 days after start-up of combustion of natural gas. To apply for a Title V operation permit revision, the applicant shall submit the appropriate application form, required compliance test results, and such additional information as the Department may by law require. The application shall be submitted to the appropriate Permitting and Compliance Authority. [Rules 62-4.030, 62-4.050, 62-4.220 and Chapter 62-213, F.A.C.]

9. Actual Emissions Reporting: This permit is based on an analysis that compared baseline actual emissions with projected actual emissions and avoided the requirements of subsection 62-212.400(4) through (12), F.A.C. for several pollutants. Therefore, pursuant to Rule 62-212.300(1)(e), F.A.C., the permittee is subject to the following monitoring, reporting and recordkeeping provisions.

   a. The permittee shall monitor the emissions of any PSD pollutant that the Department identifies could increase as a result of the construction or modification and that is emitted by any emissions unit that could be affected; and, using the most reliable information available, calculate and maintain a record of the annual emissions, in tons per year on a calendar year basis, for a period of 5 years following resumption of regular operations after the change. Emissions shall be computed in accordance with the provisions in Rule 62-210.370, F.A.C., which are provided in Appendix C of this permit.

   b. The permittee shall report to the Department within 60 days after the end of each calendar year during the 5-year period setting out the unit's annual emissions during the calendar year that preceded submission of the report. The report shall contain the following:

      (1) The name, address and telephone number of the owner or operator of the major stationary source;

      (2) The annual emissions as calculated pursuant to the provisions of 62-210.370, F.A.C., which are provided in Appendix C of this permit;

      (3) If the emissions differ from the preconstruction projection, an explanation as to why there is a difference; and

      (4) Any other information that the owner or operator wishes to include in the report.

   c. The information required to be documented and maintained pursuant to subparagraphs 62-212.300(1)(e)1 and 2, F.A.C., shall be submitted to the Department, which shall make it available for review to the general public.

   d. The following Table A provides the PSD analysis for this project:

Table A. Annual Emissions Summary and PSD Applicability

| Pollutant | No. 4 Lime Kiln/No. 7 Power Boiler Annual Emissions Summary, Tons/Year | | | | | |
|---|---|---|---|---|---|---|
| | Baseline Actual Emissions | Projected Actual Emissions | Projected Increases | PSD Significant Emissions Rate | Demand Growth Excludable | Subject to PSD? |
| $SO_2$ | 3411.54 | 3433.72 | 22.18 | 40 | 372.25 | No |
| $NO_X$ | 1579.46 | 1596.97 | 17.51 | 40 | 172.64 | No |
| CO | 31.52 | 48.64 | 17.12 | 100 | 3.86 | No |
| PM | 119.8 | 125.87 | 6.07 | 25 | 16.06 | No |
| $PM_{10}$ | 82.2 | 86.37 | 4.17 | 15 | 11.21 | No |
| $PM_{2.5}$ | 47.97 | 51.46 | 3.49 | 10 | 7.34 | No |
| VOC | 9.96 | 13.43 | 3.47 | 40 | 1.2 | No |
| SAM | 151.72 | 152.53 | 0.81 | 7 | 16.37 | No |
| Pb | 5.83E-02 | 5.84E-02 | 1.0E-04 | 0.6 | 6.21E-03 | No |
| Hg | 1.15E-02 | 1.16E-02 | 1.0E-04 | 0.1 | 1.17E-02 | No |
| TRS | 2.86 | 3.33 | 0.47 | 10 | 0.55 | No |
| $CO_2$ | 800605 | 832095 | 31490[a] | - | 109,972 | - |
| $CH_4$ | 86.11 | 91.22 | 5.11 | - | 10.07 | - |
| $N_2O$ | 12.49 | 12.52 | 0.03 | - | 1.31 | - |
| $CO_2e$ | 806285 | 837892 | 31607[a] | 75000 | 110,589 | No |
| GHG | 800,704 | 832,199 | 31,495 | 0 | 109,983 | - |
| Fluorides | 20.42 | 20.46 | 0.04 | 3 | 2.11 | No |

e. The permittee shall compute and report annual emissions in accordance with Rule 62-210.370(2), F.A.C. as provided by Appendix C of this permit. For this project, the permittee shall use the following methods in reporting the actual annual emissions for the following **pollutants** emitted from the No. 4 Lime Kiln (identified as Emission Unit No. 021):

(1) The permittee shall use the data collected from the required stack tests to determine and report the actual annual emissions of **PM**, **$PM_{10}$, $PM_{2.5}$,** and **TRS.** The methodology for calculating $PM_{10}$, and $PM_{2.5}$ baseline emissions shall be used to calculate the actual annual emissions. The permittee shall follow the stack test methods, test procedures and test frequencies specified in the current Title V air operation permit.

(2) Unless otherwise approved by the Department, the permittee shall use the same emissions factors for reporting the actual annual emissions of **$SO_2$, CO, $NO_x$, Pb, Hg, SAM, VOC, $CO_2$, $CH_4$, $N_2O$, GHG, and $CO_2e$** as used in the application to establish baseline emissions.

f. The permittee shall compute and report annual emissions in accordance with Rule 62-210.370(2), F.A.C. as provided by Appendix C of this permit. For this project, the permittee shall use the following methods in reporting the actual annual emissions for the following **pollutants** emitted from the No. 7 Power Boiler (identified as Emission Unit No. 015):

(1) The permittee shall use the data collected from the required stack tests to determine and **report the actual annual emissions of PM, $PM_{10}$, $PM_{2.5}$, SO2, and NOx. The methodology** for calculating **$PM_{10}$**, and **$PM_{2.5}$** baseline emissions shall be used to calculate the actual annual emissions. The permittee shall follow the stack test methods, test procedures and test frequencies specified in the current Title V air operation permit.

(2) Unless otherwise approved by the Department, the permittee shall use the same emissions factors for reporting the actual annual emissions of **CO**, **Pb**, **Hg**, **SAM**, **VOC, $CO_2$, $CH_4$, $N_2O$, GHG, and $CO_2e$, and Fluoride** as used in the application to establish baseline emissions.

g. As defined in Rule 62-210.370(2), F.A.C., the permittee shall use a more accurate methodology if it becomes available.

[Application No. 0890003-034-AC; Rules 62-212.300(1)(e), and 62-210.370, F.A.C.]

## No. 4 Lime Kiln (EU 021)

**This section of the permit addresses the following emissions unit.**

| ID No. | Emission Unit Description |
|---|---|
| 021 | No. 4 Lime Kiln with an electrostatic precipitator to control particulate matter.<br><br>• NCG (Non-Condensable Gases) from the Kamyr digester system, batch digester system, No. 5 Multi-Effect Evaporators system and No. 6 Multi-Effect Evaporators system are combusted in this kiln as a control of the TRS (Total Reduced Sulfur) compounds in the NCG.<br>• Low volume, high concentration (LVHC) Noncondensible gases (NCG) from the batch digester system, continuous digester system, turpentine recovery system, evaporator systems, and foul condensate collection tank are collected and burned in the No. 4 Lime Kiln with the No. 5 Power Boiler as the backup for compliance with 40 CFR 63, Subpart S. |

{Permitting note(s): The No. 4 Lime Kiln, the Batch Digester System, and the Kamyr Digester System are regulated under: NSPS - 40 CFR 60, Subpart BB - Standards of Performance for Kraft Pulp Mills adopted and incorporated by reference in Rule 62-204.800, F.A.C. The Kamyr digester system, batch digester system, No. 5 Multi-Effect Evaporators system and No. 6 Multi-Effect Evaporators system are regulated under Rule 62-296.404, F.A.C. – Kraft Pulp Mills. The No. 4 Lime Kiln is regulated under 40 CFR 63 - Subpart S, adopted and incorporated by reference in Rule 62-204.800, F.A.C. The No. 4 Lime Kiln is also regulated under 40 CFR 63- Subpart MM - National Emission Standards for Hazardous Air Pollutants for Chemical Recovery Combustion Sources at Kraft, Soda, Sulfite, and Stand-Alone Semichemical Pulp Mills, adopted and incorporated by reference in Rule 62-204.800, F.A.C.}

### PROPOSED WORK

1. No. 4 Lime Kiln: The permittee will install a dual fuel burner (natural gas and fuel oil capable) to accommodate the firing of natural gas and/or fuel oil (including used oil).

   Appurtenances necessary to combust natural gas will also be constructed which may include but are not limited to natural gas lines, headers, fuel management devices, and monitors.

   [Application No. 0890003-034-AC]

### PERFORMANCE RESTRICTIONS

2. Capacities and Fuels: The proposed fuel addition may result in an increase in the No. 4 Lime Kiln maximum heat input rate of 170.63 MMBtus per hour. At the No. 4 Lime Kiln it is expected that a slightly higher heat input per ton of CaO produced will be required while burning natural gas due to differences in flame characteristics and other operational differences. This increase is expected to be less than 6 MMBtu per hour. The estimated maximum firing rate of No. 6 fuel oil [1] is 1176.8 gallons per hour or 1228 gallons per hour of on-spec used oil[2] based upon the maximum heat input rate of 170.63 MMBtu per hour. The maximum firing rate of natural gas[3] is expected to

**Condition No. 8 Continued:**

be 171,206 cubic feet per hour based upon a maximum heat input rate of 176 MMBtu per hour. The maximum CaO production rate will remain at 630 Tons Per Day (TPY).

[1] Based upon a heat content of 145,000 Btus per gallon

[2] Based upon a heat content of 139,000 Btus per gallon

3 Based upon a heat content of 1028 Btus per cubic foot

[Rule 62-4.070(3), F.A.C. and Application No. 0890003-034-AC]

3. Restricted Operation: The hours of operation are limited to 8736 hours per year.

   [Permit 0890003-028-AV, Rules 62-4.070(3) and 62-210.200(PTE), F.A.C.]

**EMISSION LIMITING STANDARDS (ADDITIONAL TO TITLE V AIR OPERATION PERMIT)**

4. Particulate Matter – Gaseous Fossil Fuel. Particulate Matter emissions shall not exceed 0.15 g/dscm (0.066 gr/dscf) corrected to 10 percent oxygen, when gaseous fossil fuel is burned during times other than startup, shutdown, or malfunction.

   [40 CFR 60.283(a)(3)(i)]

**SPECIFIC TESTING REQUIREMENTS**

5. No. 4 Lime Kiln: Within 180 days after initially firing the new burner system (dual fuel burner) the permittee shall conduct performance testing for particulate matter, total reduced sulfur compounds, and opacity with the test methods and procedures outlined in the Title V Air Operation permit. Testing shall be conducted while using natural gas as the sole fuel. Each test run shall be conducted at a minimum of 90% of the maximum rated heat input to the lime kiln. Successful compliance testing and demonstration under this operating scenario shall satisfy the No. 4 Lime Kiln annual testing requirements (for the Federal Fiscal Year in which the testing is conducted) required by current Title V Air Operation Permit.
   [Rule 62-4.070(3), F.A.C.]

**RECORDKEEPING AND REPORTING REQUIREMENTS**

6. The permittee shall maintain the following records:
   a. Approval of capital expenditure (date) to add natural gas as an additional fuel for the No. 4 Lime Kiln.
   b. Commencement and completion of construction dates for installation of the natural gas igniters and necessary appurtenances. If construction is done in phases please indicate dates for each phase.
   c. Commencement of combustion of natural gas in the No. 4 Lime Kiln
   d. Determination of maximum percentage of natural gas to be fired in the lime kiln (based upon a three hour average) determined from operational testing

   [Rule 62-4.070, F.A.C.]

7. The permittee shall submit to the permitting authority within a reasonable time (not to exceed 60 days) the completion date of each recorded item in Specific Condition No. 6.a. through 6.d. Submission may be in writing or sent to the following email addresses: merrilee.l.palcic@dep.state.fl.us; rita.felton-smith@dep.state.fl.us; and jerry.woosley@dep.state.fl.us.

   [Rule 62-4.070, F.A.C.]

## No. 7 Power Boiler (EU 015)

**This section of the permit addresses the following emissions unit.**

| ID No. | Emission Unit Description |
|---|---|
| 015 | No. 7 Power Boiler, a coal, oil and natural gas fired boiler that is capable of generating 825,000 pounds of steam per hour at 825 °F and 850 psig.<br><br>Auxiliary equipment includes an economizer, fans and drives, air preheater, instrumentation, breaching and duct work, and related piping.<br><br>In addition, the Coal Handling System (EP 01) and the Ash Handling System (EP 02) are identified under this emissions unit. PM emissions from the Ash Handling System are controlled by fabric filters.<br><br>CAM applies to this emission unit for particulate matter. |

**Permitting note(s):** {The No. 7 Power Boiler is regulated under NSPS - 40 CFR 60, Subpart D, Standards of Performance for Fossil-Fuel-Fired Steam Generators for Which Construction Is Commenced After August 17, 1971**,** adopted and incorporated by reference in Rule 62-204.800, F.A.C. and Rule 212.400(5), F.A.C., Prevention of Significant Deterioration (PSD): Permit(s) No(s). PSD-FL-062; Rule 62-212.400(6), F.A.C., Best Available Control Technology (BACT) Determination, dated October 11, 1980 and amended in 1984, and Compliance Assurance Monitoring (CAM), adopted and incorporated by reference in Rule 62-204.800, F.A.C.}

{The Coal Handling System (EP 01) is regulated under Rule 62-212.400(5), F.A.C., Prevention of Significant Deterioration (PSD): Permit No. PSD-FL-062 and 40 CFR 60 Subpart Y – Standards of Performance for Coal Preparation Plants.}

{The Ash Handling System (EP02) is regulated under Rule 212.400(5), F.A.C., Prevention of Significant Deterioration (PSD): Permit(s) No(s). PSD-FL-062.}

### PROPOSED WORK

1. No. 7 Power Boiler: The permittee will install twelve natural gas igniters, wind boxes and combustion air fans near each of the existing twelve coal injectors in the boiler.

   Appurtenances necessary to combust natural gas will also be constructed which may include but are not limited to natural gas lines, headers, fuel management devices, and monitors.

   [Application No. 0890003-034-AC]

### PERFORMANCE RESTRICTIONS

2. Capacities and Fuels: The maximum heat input rate shall not exceed 1,021 MMBtu/hr.

   [Rules 62-4.160(2) and 62-210.200(PTE), F.A.C.]

3. Methods of Operation - This emissions unit is fired primarily with coal. Nos. 2 and 6 Fuel Oil, and natural gas may be fired during startup, shutdown, and malfunction, and at other times as needed for flame stabilization and to maintain steam production but the emissions during these periods must be minimized to the extent practicable pursuant to 40 CFR 60.11(d). The sulfur content in the fuel oil shall not exceed 2.5% by weight. The emissions standards of NSPS Subpart D do not apply during startup, shutdown, and malfunction.

Alternative Methods of Operation are described below:

| Alternative Method | Fuel Options[1] | Maximum Heat Input Rate (MMBtu/hr) | Maximum Operating Rate |
|---|---|---|---|
| 1 | Coal only (24-hr) | 1,021 MMBtu/hr | 81,680 lb/hr[2] |
| 2 | No. 6 fuel oil only[3] (24-hr) | 1,021 MMBtu/hr | 6,800 gal/hr |
| 3 | No. 2 fuel oil only (24-hr) | 1,021 MMBtu/hr | 7,293 gal/hr[4] |
| 4 | Natural Gas (24 hr average) | 240 MMBtu/hr | 233,463 $ft^3$/hr[5] |
| 5 | Any combination of the alternative methods listed above | 1,021 MMBtu/hr | Individual rates listed above |
| 6 | Any combination of the alternative methods listed above with No. 5 Power Boiler ash | 1,021 MMBtu/hr | Up to individual rates listed above + up to 10 tons (bark ash)[6]/hr |

[1] Fly ash from the No. 5 Power Boiler may be injected with any alternate method of operation.
[2] Based on coal heating value of 12,500 Btu/lb. Operating rate is not measured; instead, this value is calculated. See Condition title V Air Operation Permit.
[3] Fuel oil may contain on-spec used oil. Based on No. 6 Fuel Oil heating value of 150mmBtu/1000 gallons.
[4] Based on No. 2 Fuel Oil heating value of 140 MMBtu/1000 gallons.
[5] Based upon natural gas heating value of 1028 Btu per cubic foot
[6] Heating value associated with bark ash is included in 1,021 MMBtu/hr.

[Rule 62-213.410, F.A.C., AO45-169854; EPA Modification to PSD-FL-062 dated 4/13/81; Construction Permit No. AC45-35532; Construction Permit No. 0890003-019-AC; 40 CFR 60.11(d), Rule 62-4.070(3), F.A.C. and Application No. 0890003-034-AC]

4. Hours of Operation. The hours of operation for this emissions unit shall not exceed 8760 hours/year.

[Rules 62-4.160(2) and 62-210.200(PTE), F.A.C.; AC45-35532 Modification dated 1/22/85]

## EMISSION LIMITING STANDARDS (ADDITIONAL TO TITLE V AIR OPERATION PERMIT)

5. Nitrogen Oxides – Gaseous Fossil Fuel. Nitrogen Oxides Emissions, expressed as $NO_2$, shall not exceed 0.2 lb per MMBTU of heat input when the boiler is fired with gaseous fossil fuel during times other than startup, shutdown, or malfunction.

   Nitrogen Oxides – Combination of Fuels[1]. When different fossil fuels are burned simultaneously in any combination, the applicable standard (in ng/J) is determined by proration using the following formula:

   $$PS_{NOx} = \frac{x(86)+y(130)+z(300)}{x+y+z}$$

   where:

   $PS_{NOx}$ = is the prorated standard for nitrogen oxides when burning different fuels simultaneously, in nanograms per joule heat input derived from all fossil fuels fired or from all fossil fuels and wood residue fired;
   x= is the percentage of total heat input derived from gaseous fossil fuel; and
   y = is the percentage of total heat input derived from liquid fossil fuel; and,
   z = is the percentage of total heat input derived from solid fossil fuel (except lignite).

   [1] Applicable when the boiler is fired with fuel oil and/or natural gas during times other than startup, shutdown, or malfunction.

   [40 CFR 60.44(a)(1), 40 CFR 60.44(b)]

## SPECIFIC TESTING REQUIREMENTS

6. No. 7 Power Boiler: Within 180 days after initially firing the new burner system (natural gas igniters) the permittee shall conduct performance testing for particulate matter, sulfur dioxide[1], oxides of nitrogen, carbon monoxide[2], and opacity with the test methods and procedures outlined in the Title V Air Operation permit and below. Testing shall be conducted while co-firing natural gas and coal. Natural gas shall provide from 200 MMBtu/hr to 240 MMBtu/hr of the total heat input to the boiler during each test run. Each test run shall be conducted at a minimum of 90% of the maximum rated heat input to the boiler.

   [1] *Compliance shall be based on the total heat input from all fossil fuels burned, including gaseous fuels.*

   [2] *Pursuant to Condition F.19. of Title V Operation Permit No. 0890003-028-AV, the carbon monoxide compliance test results shall also be used to verify the minimum and maximum set points for the flue gas oxygen meter. The carbon monoxide compliance testing shall be conducted during the Nitrogen Oxides emission compliance testing.*

   [40 CFR 60.43(c); Title V Operation Permit No. 0890003-028-AV]

7. When combinations of fossil fuels or fossil fuel and wood residue are fired, the owner or operator (in order to compute the prorated standard as shown in 40 CFR 60.43(b) and 60.44(b)) shall determine the percentage (w, x, y, or z) of the total heat input derived from each type of fuel as follows:

   (1) The heat input rate of each fuel shall be determined by multiplying the gross calorific value of each fuel fired by the rate of each fuel burned.

   (2) ASTM Methods D2015, or D5865 (solid fuels), D240 (liquid fuels), or D1826 (gaseous fuels) (all of these methods are incorporated by reference, see 40 CFR 60.17) shall be used to determine the gross calorific values of the fuels. The method used to determine the calorific value of wood residue must be approved by the Administrator.

   (3) Suitable methods shall be used to determine the rate of each fuel burned during each test period, and a material balance over the steam generating system shall be used to confirm the rate.

   [40 CFR 60.46(c)]

8. The owner or operator may use the following as alternatives to the reference methods and procedures in this section or in other sections as specified:

   (1) The emission rate (E) of PM, SO and $NO_X$ may be determined by using the Fc factor, provided that the following procedure is used:

   (i) The emission rate (E) shall be computed using the following equation:

$$E = CF_c\left(\frac{100}{\%CO_2}\right)$$

   Where:

   E = Emission rate of pollutant, ng/J (lb/MMBtu);

   C = Concentration of pollutant, ng/dscm (lb/dscf);

   $\%CO_2$= $CO_2$ concentration, percent dry basis; and

   $F_c$= Factor as determined in appropriate sections of Method 19 of appendix A of 40 CFR 60.

**Condition No. 8 Continued:**

(ii) If and only if the average Fc factor in Method 19 of appendix A of 40 CFR 60 is used to calculate E and either E is from 0.97 to 1.00 of the emission standard or the relative accuracy of a continuous emission monitoring system is from 17 to 20 percent, then three runs of Method 3B of appendix A of 40 CFR 60 shall be used to determine the $O_2$ and $CO_2$ concentration according to the procedures in paragraph (b)(2)(ii), (4)(ii), or (5)(ii) of this section. Then if $F_o$ (average of three runs), as calculated from the equation in Method 3B of appendix A of 40 CFR 60, is more than ±3 percent than the average $F_o$ value, as determined from the average values of $F_{.D.}$ and $F_c$ in Method 19 of appendix A of 40 CFR 60, *i.e.* , $F_{oa} = 0.209\ (F_{da}/F_{ca})$, then the following procedure shall be followed:

(A) When $F_o$ is less than 0.97 $F_{oa}$, then E shall be increased by that proportion under 0.97 $F_{oa}$, *e.g.* , if $F_o$ is 0.95 $F_{oa}$, E shall be increased by 2 percent. This recalculated value shall be used to determine compliance with the emission standard.

(B) When $F_o$ is less than 0.97 $F_{oa}$ and when the average difference (d) between the continuous monitor minus the reference methods is negative, then E shall be increased by that proportion under 0.97 $F_{oa}$, *e.g.* , if $F_o$ is 0.95 $F_{oa}$, E shall be increased by 2 percent. This recalculated value shall be used to determine compliance with the relative accuracy specification.

(C) When $F_o$ is greater than 1.03 $F_{oa}$ and when the average difference d is positive, then E shall be decreased by that proportion over 1.03 $F_{oa}$, *e.g.* , if $F_o$ is 1.05 $F_{oa}$, E shall be decreased by 2 percent. This recalculated value shall be used to determine compliance with the relative accuracy specification.

(2) For Method 5 or 5B of appendix A–3 of 40 CFR 60, Method 17 of appendix A–6 of 40 CFR 60 may be used at facilities with or without wet FGD systems if the stack gas temperature at the sampling location does not exceed an average temperature of 160 °C (320 °F). The procedures of sections 8.1 and 11.1 of Method 5B of appendix A–3 of 40 CFR 60 may be used with Method 17 of appendix A–6 of 40 CFR 60 only if it is used after wet FGD systems. Method 17 of appendix A–6 of 40 CFR 60 shall not be used after wet FGD systems if the effluent gas is saturated or laden with water droplets.

(3) Particulate matter and $SO_2$ may be determined simultaneously with the Method 5 of appendix A of 40 CFR 60 train provided that the following changes are made:

(i) The filter and impinger apparatus in sections 2.1.5 and 2.1.6 of Method 8 of appendix A of 40 CFR 60 is used in place of the condenser (section 2.1.7) of Method 5 of appendix A of this part.

(ii) All applicable procedures in Method 8 of appendix A of 40 CFR 60 for the determination of $SO_2$(including moisture) are used:

**Condition No. 8 Continued:**

(4) For Method 6 of appendix A of 40 CFR 60, Method 6C of appendix A of 40 CFR 60 may be used. Method 6A of appendix A of 40 CFR 60 may also be used whenever Methods 6 and 3B of appendix A of 40 CFR 60 data are specified to determine the $SO_2$ emission rate, under the conditions in paragraph (d)(1) of this section.

(5) For Method 7 of appendix A of 40 CFR 60, Method 7A, 7C, 7D, or 7E of appendix A of 40 CFR 60 may be used. If Method 7C, 7D, or 7E of appendix A of 40 CFR 60 is used, the sampling time for each run shall be at least 1 hour and the integrated sampling approach shall be used to determine the $O_2$ concentration (%$O_2$) for the emission rate correction factor.

(6) For Method 3 of appendix A of 40 CFR 60, Method 3A or 3B of appendix A of 40 CFR 60 may be used.

(7) For Method 3B of appendix A of 40 CFR 60, Method 3A of appendix A of 40 CFR 60 may be used.

[40 CFR 60.46(d), Rule 62-4.070(3), F.A.C.]

**RECORDKEEPING AND REPORTING REQUIREMENTS**

9. The permittee shall maintain the following records:
   a. Approval of capital expenditure (date) to add natural gas as an additional fuel for the No. 7 Power Boiler.
   b. Commencement and completion of construction dates for installation of the natural gas igniters and necessary appurtenances. If construction is done in phases please indicate dates for each phase.
   c. Commencement of combustion of natural gas in the No. 7 Power Boiler
   d. Determination of maximum firing rate of natural gas in the No. 7 Power Boiler (based upon a three hour average) determined from operational testing

   [Rule 62-4.070, F.A.C.]

10. The permittee shall submit to the permitting authority within a reasonable time (not to exceed 60 days) the completion date of each recorded item in Specific Condition No. 9.a. through 9.d. Submission may be in writing or sent to the following email addresses: merrilee.l.palcic@dep.state.fl.us; rita.felton-smith@dep.state.fl.us; and jerry.woosley@dep.state.fl.us.

    [Rule 62-4.070, F.A.C.]

**MONITORING REQUIREMENTS**

11. The permittee shall install, calibrate, certify and operate a Continuous Emission Monitor in accordance with the requirements of 40 CFR 60.45 for oxides of nitrogen within one year of the initial performance test required by this permit unless exempted by the requirements in 40 CFR 60.45(b)(3) and (b)(4).

    [40 CFR 60.45(a); 40 CFR 60.45(b)(3)]

12. Nitrogen Oxides. Combustion conditions shall be optimized to minimize $NO_X$ formation in accordance with the following:

    a. The provisions of "Use of Flue Gas Oxygen Meter as BACT for Combustion Controls".
    b. The set point for the oxygen continuous monitoring system at the location of the monitor (Economizer) shall not be greater than 7.7% as the high limit point at which the allowable $NO_X$ emissions rate shall not be exceeded.
    c. A 3-hour averaging time shall be used for the Oxygen set point.
    d. Alarms shall be set to sound when flue gas oxygen levels exceed the 7.7% set point.
    e. Any operation above the 7.7% set point will constitute noncompliance with this condition and shall be recorded and reported as stated in Condition F.35. of the Title V Air Operation permit.
    **f. Should any combustion equipment modifications be made such as different type burners, combustion air relocation, fuel conversion, tube removal or addition, etc., emissions correlations as described above shall be conducted within 90 days of attaining full operation after such modification. Results of all emission determinations shall be sent to the permitting authority within 90 days after completion of the tests.**

[40 CFR 60.45(b)(3); Permit No. AO45-169854; EPA Modification to PSD-FL-062 dated 4/13/81; DEP 10/30/02 Modification of PSD-FL-062A; Title V Operation Permit No. 0890003-028-AV]

13. Carbon Monoxide**.** Combustion conditions shall be optimized to minimize CO formation in accordance with the following:

    a. The provisions of "Use of Flue Gas Oxygen Meter as BACT for Combustion Controls".
    b. The set point for the oxygen continuous monitoring system at the location of the monitor (Economizer) shall not be lower than 2.7% as the low limit point at which the allowable CO emissions rate shall not be exceeded.
    c. A 3-hour averaging time shall be used for the Oxygen set point.
    d. Alarms shall be set to sound when flue gas oxygen levels are below the 2.7% set point.
    e. Any operation below the 2.7% set point will constitute noncompliance with this condition and shall be recorded and reported as stated in Condition F.35 of the Title V Air Operation permit.
    **f. Should any combustion equipment modifications be made such as different type burners, combustion air relocation, fuel conversion, tube removal or addition, etc., emissions correlations as described above shall be conducted within 90 days of attaining full operation after such modification. Results of all emission determinations shall be sent to the permitting authority within 90 days after completion of the tests.**

[Permit No. AO45-169854; EPA Modification to PSD-FL-062 dated 4/13/81; DEP 10/30/02 Modification of PSD-FL-062A; Title V Operation Permit No. 0890003-028-AV]