

Facility Name: **Rayonier Performance Fibers, LLC**

City: Jesup

County: Wayne

AIRS #: 04-13-30500001

Application #: 883097

Date SIP Application Received: N/A

Date Title V Application Received: November 1, 2024

Permit No: 2611-305-0001-V-05-4

Program	Review Engineers	Review Managers
SSPP	Heather Brown	Wendy Troemel
SSCP	N/A	N/A
ISMU	N/A	N/A
TOXICS	N/A	N/A
Permitting Program Manager		Steve Allison

Introduction

This narrative is being provided to assist the reader in understanding the content of the referenced SIP permit to construct and draft operating permit amendment. Complex issues and unusual items are explained in simpler terms and/or greater detail than is sometimes possible in the actual permit. This permit is being issued pursuant to: (1) Sections 391-3-1-.03(1) and 391-3-1-.03(10) of the Georgia Rules for Air Quality Control, (2) Part 70 of Chapter I of Title 40 of the Code of Federal Regulations, and (3) Title V of the Clean Air Act Amendments of 1990. The following narrative is designed to accompany the draft permit and is presented in the same general order as the permit. This narrative is intended only as an adjunct for the reviewer and has no legal standing. Any revisions made to the permit in response to comments received during the public comment period and EPA review process will be described in an addendum to this narrative.

I. Facility Description**A. Existing Permits**

Table 1 below lists the current Title V permit, and all administrative amendments, minor and significant modifications to that permit, and 502(b)(10) attachments.

Table 1: Current Title V Permit and Amendments

Permit/Amendment Number	Date of Issuance	Description
2611-305-0001-V-05-0	December 16, 2019	Renewal permit.
2611-305-0001-V-05-1	August 25, 2020	Removal of the facility-wide pulp production limit.
2611-305-0001-V-05-2	February 24, 2022	Modification of the C Pulp Machine.
2611-305-0001-V-05-3	September 7, 2022	Modification to authorize the use of Toxchem modeling software in lieu of Water9 modeling software.

B. Regulatory Status**1. PSD/NSR/RACT**

Rayonier Performance Fibers, LLC (Rayonier) is a major source with regards to the prevention of significant deterioration of air quality (PSD) regulation. Rayonier's potential to emit (PTE) regulated pollutant(s) exceed the major source threshold of 100 tons per year (tpy). Note that Kraft Pulp Mills is one of the 28 named categories whose major source threshold is 100 tpy.

The facility has taken the following limits to avoid PSD review:

- Emissions of NO_x from the No. 4 Power Boiler are limited to 68.5 tpy.
- Emissions of NO_x from the No. 5 Power Boiler are limited to 68.5 tpy.
- Emissions of NO_x from the D Lime Kiln are limited to 252.93 tpy.
- Emissions of SO₂ from the D Lime Kiln are limited to 13.91 tpy.
- Emissions of NO_x from the NCG Incinerator are limited to 46.8 tpy.
- Emissions of SO₂ from the NCG Incinerator are limited to 15.8 tpy.
- Emissions NO_x, PM, SO₂, CO and TRS are limited to 1.29 lb/ton, 0.31 lb/ton, 20 ppm corrected to 8 percent oxygen, 300 ppm corrected to 8 percent oxygen, 3.2 ppm corrected to 8 percent oxygen, respectively, from the No. 5 Recovery Furnace.
- Emissions of NO_x, PM, SO₂, CO and TRS are limited to 1.29 lb/ton, 0.31 lb/ton, 20 ppm corrected to 8 percent oxygen, 300 ppm corrected to 8 percent oxygen, 3.2 ppm corrected to 8 percent oxygen, respectively, from the No. 6 Recovery Furnace.
- Emissions of VOC are limited to 3.3 pounds per short ton of unbleached ODP on a 12-month rolling average.

The facility is currently subject to the following PSD limit:

- Black liquor solids throughput for the No. 5 and No. 6 Recovery Furnaces is limited to 1,795,000 tons per any twelve consecutive months.

2. Title V Major Source Status by Pollutant

Table 2: Title V Major Source Status

Pollutant	Is the Pollutant Emitted?	If emitted, what is the facility's Title V status for the Pollutant?		
		Major Source Status	Major Source Requesting SM Status	Non-Major Source Status
PM	✓	✓		
PM ₁₀	✓	✓		
PM _{2.5}	✓	✓		
SO ₂	✓	✓		
VOC	✓	✓		
NO _x	✓	✓		
CO	✓	✓		
TRS	✓	✓		
H ₂ S	✓	✓		
Individual HAP	✓	✓		
Total HAPs	✓	✓		

II. Proposed Modification**A. Description of Modification**

The No. 3 Power Boiler (Source Code PB03) is an existing boiler at the Rayonier Plant with a heat input capacity of 485 MMBtu/hr. The boiler burns biomass and natural gas to provide steam to the Kraft pulp process. Altamaha Green Energy, LLC (AGE) proposes to construct a new circulating fluidized bed (CFB) biomass cogeneration boiler on the Rayonier property. The CFB Boiler (Source Code BO1) and its auxiliary equipment will generate power for the electrical grid and supply supplemental steam to the Rayonier plant that is currently supplied by the No. 3 Power Boiler. Following 60 days after the shakedown period of AGE's CFB Boiler, the No. 3 Power Boiler, the existing biomass storage pile, bark hog systems, and two steam turbines will be permanently decommissioned. Neither pulp production volumes nor the steam demand and balance for operation of the Rayonier plant will be affected by the project.

The AGE facility will be located on Rayonier property that will be leased to AGE and will supply steam to the Rayonier plant. Thus, the facilities are considered a single major stationary source under Title V and PSD. However, each operation will have separate ownership and management and each owner will be responsible for compliance and reporting requirements accountable for the emissions units it operates for compliance purposes. Therefore, AGE will obtain its own Title V operating permit.

B. Emissions Change

The shutdown of the No. 3 Power Boiler is occurring in conjunction with the startup of the AGE CFB Boiler. Because the two facilities are one site under PSD, AGE presented a detailed PSD analysis for the project under a separate application. Please see Air Quality Application No. 29489 and the narrative for Air Quality Permit No. 4911-305-0039-E-01-0 for the emission calculations.

C. PSD/NSR Applicability

The Rayonier/AGE project does not trigger PSD applicability. Please see Air Quality Application No. 29489 and the narrative for Air Quality Permit No. 4911-305-0039-E-01-0 for the complete PSD analysis calculations.

III. Facility Wide Requirements

- A. Emission and Operating Caps – None applicable to this permitting action.
- B. Applicable Rules and Regulations – None applicable to this permitting action.
- C. Compliance Status – Not applicable to this permitting action.
- D. Permit Conditions – None applicable to this permitting action.

IV. Regulated Equipment Requirements

A. Brief Process Description

Rayonier operates three pulp mills at the Jesup facility. The mills produce bleached dissolving Kraft and fluff Kraft pulps, along with a variety of other wood derived by-products.

Rayonier's processes begin with softwood and hardwood chips that are supplied to the plant from offsite producers and stored onsite in storage piles. The stored wood chips are sent to the plant's digesters via silos and transfer conveyors. The wood chips are "cooked" under elevated pressure and temperature in a solution of sodium sulfide and sodium hydroxide called "white liquor". The cooking process takes place in one of the Plant's 36 batch digesters within Digester Systems A, B, and C.

During the cooking process, the caustic in the white liquor causes fragmentation of the lignin in the chips, and the lignin dissolves in the white liquor. When the cooking process is complete, the contents of the batch digesters are "blown" into a blow tank. The abrupt pressure change causes the cooked chips to break apart into fibers. These fibers make up the pulp that is subsequently refined, screened, and washed in one of three brownstock washing systems within the Brownstock Washing Area operations. The brownstock washing systems clean the pulp and recover the spent cooking liquor, referred to as "weak black liquor", which contains valuable cooking chemicals. Pulping conditions are varied to produce many grades of pulp designed to meet individual customer specifications.

Once the pulp has been washed to recover the cooking chemicals, the stock is sent to be processed in one of three bleach systems. The bleach systems utilize chlorine dioxide to whiten the pulp. The bleached pulp is further processed in Pulp Machines A, B, or C, where moisture is driven off to produce rolls of pulp. The pulp is finished to customer specification, packaged, and is shipped by rail and truck to customers worldwide.

B. Equipment List for the Process

Not applicable

C. Equipment & Rule Applicability

There are no equipment or rule applicability changes associated with this modification. The only change is the removal of the No. 3 Power Boiler from the permit.

D. Permit Conditions

Per new Condition 7.14.1, conditions 3.3.36 through 3.3.39, 3.4.1 through 3.4.3, and 3.4.30 will become null and void upon shutdown of the No 3 Power Boiler.

V. Testing Requirements (with Associated Record Keeping and Reporting)

Conditions 4.2.1 and 4.2.2 was modified by removing references to the No. 3 Power Boiler for performance testing requirements.

New Conditions 4.2.15 and 4.2.16 were added to the Permit to outline the No. 3 Power Boiler performance testing requirements until such time it is shut down.

Per new Condition 7.14.1, Conditions 4.2.9 and 4.2.10 and new Conditions 4.2.15 and 4.2.16 will become null and void upon shutdown of the No. 3 Power Boiler.

VI. Monitoring Requirements (with Associated Record Keeping and Reporting)

Condition 5.2.9 was modified by removing references to the No. 3 Power Boiler in the CAM requirements for the facility.

New Condition 5.2.20 was added to the Permit to outline the CAM requirements for the No. 3 Power Boiler until such time it is shut down. The performance criteria continue to be outlined in Condition 5.2.16.

Per new Condition 7.14.1, Conditions 5.2.2.f, 5.2.14 through 5.2.16, and new Condition 5.2.20 will become null and void upon shutdown of the No. 3 Power Boiler.

VII. Other Record Keeping and Reporting Requirements

Per new Condition 7.14.1, Conditions 6.1.7.b.xxiv and 6.1.7.c.ix will become null and void upon shutdown of the No. 3 Power Boiler.

Per new Condition 7.14.1, Condition 6.2.2 will become null and void upon shutdown of the No. 3 Power Boiler.

Conditions 6.2.31 and 6.2.32 were modified by removing references to the No. 3 Power Boiler in the recordkeeping and reporting requirements for 40 CFR 63 Subpart DDDDD.

New Conditions 6.2.51 and 6.2.52 were added to the Permit to outline the 40 CFR 63 Subpart DDDDD recordkeeping and reporting requirements for No. 3 Power Boiler until such time it is shut down.

New Condition 6.2.53 has been added to the permit to specify when the No. 3 Power Boiler must be shut down.

VIII. Specific Requirements

- A. Operational Flexibility – None associated with this amendment.
- B. Alternative Requirements – None associated with this amendment.
- C. Insignificant Activities – None associated with this amendment.
- D. Temporary Sources – None associated with this amendment.
- E. Short-Term Activities – None associated with this amendment.
- F. Compliance Schedule/Progress Reports – None associated with this amendment.
- G. Emissions Trading – Not associated with this amendment.
- H. Acid Rain Requirements/CAIR/CSPAR – None associated with this amendment.
- I. Prevention of Accidental Releases – Not associated with this amendment.
- J. Stratospheric Ozone Protection Requirements – None associated with this amendment.
- K. Pollution Prevention – Not associated with this amendment.
- L. Specific Conditions – As noted above, New Condition 7.14.1 outlines the various conditions that will become null and void upon successful shakedown of the new AGE CFB boiler and the decommissioning of the No. 3 Power Boiler boiler.

Addendum to Narrative

The 30-day public review started on month day, year and ended on month day, year. Comments were/were not received by the Division.