

TITLE V MINOR MODIFICATION (without construction) APPLICATION REVIEW

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

City: Jesup

County: Wayne

AIRS #: 04-13-30500001

Application #: 573372

Date Title V Application Received: June 15, 2021

Permit No: 2611-305-0001-V-05-3

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Introduction

This narrative is being provided to assist the reader in understanding the content of the referenced SIP permit to construct and draft/proposed 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 proposed 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 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	Title V Renewal Permit
2611-305-0001-V-05-1	August 25, 2020	Amendment removing the facility-wide pulp limit
2611-305-0001-V-05-2	February 24, 2022	The 502(b)(10) modification of emissions unit PM97, the C Pulp Machine on the C-Line

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

Rayonier Performance Fibers, LLC (RPF) 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 (ton/yr). Note that Kraft Pulp Mills is one of the 28 named categories whose major source threshold is 100 ton/yr.

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

1. Emission of nitrogen oxides from the No. 4 Power Boiler is limited to 68.5 ton/yr. [Condition 3.2.1, V-05-0]
2. Emission of nitrogen oxides from the No. 5 Power Boiler is limited to 68.5 ton/yr. [Condition 3.2.2, V-05-0]
3. Emission of nitrogen oxides from the D Lime Kiln is limited to 252.93 ton/yr. [Condition 3.3.9, V-05-0]
4. Emission of sulfur dioxide from the D Lime Kiln is limited to 13.91 ton/yr. [Condition 3.3.9, V-05-0]
5. Emission of nitrogen oxides from the NCG Incinerator is limited to 46.8 ton/yr. [Condition 3.3.17, V-05-0]
6. Emission of sulfur dioxide from the NCG Incinerator is limited to 15.8 ton/yr. [Condition 3.3.17, V-05-0]
7. Emissions of NO_x, PM, SO₂, CO, and TRS is 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. [Condition 3.3.32, V-05-0]
8. Emissions of NO_x, PM, SO₂, CO, and TRS is 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

TITLE V MINOR MODIFICATION (without construction) APPLICATION REVIEW

oxygen, respectively, from the No. 6 Recovery Furnace. [Condition 3.3.33, V-05-0]

9. Emissions of volatile organic compounds is limited to 3.3 pounds per short ton of unbleached ODP on a 12-month rolling average. [Condition 3.3.34, V-05-0]

The facility is currently subject to the following PSD limits:

1. Black liquor solids throughput for the No. 5 and No. 6 Recovery Furnaces to is limited 1,795,000 tons per any twelve consecutive months. [Condition 3.3.11, V-05-0]
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	Yes	✓		
PM ₁₀	Yes	✓		
PM _{2.5}	Yes	✓		
SO ₂	Yes	✓		
VOC	Yes	✓		
NO _x	Yes	✓		
CO	Yes	✓		
TRS	Yes	✓		
H ₂ S	Yes	✓		
Individual HAP	Yes	✓		
Total HAPs	Yes	✓		

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

Rayonier Performance Fibers, LLC (RPF) is proposing to modify the development of emission factors currently used to determine the daily and 15-day average total hazardous air pollutant (HAP) or Methanol removal and daily and 12-month rolling average volatile organic compound (VOC) emissions from the Wastewater Treatment Plant (WWTP). Within the first 45 days of each calendar year, RPF conducts a characterization study of the WWTP to determine the total HAP emissions factors used to determine daily and 15-day average total HAP or methanol removal and to calculate daily and 12-month rolling average VOC emissions from this system. The characterization study is required by Title V Operating Permit 2611-305-0001-V-05-0, Condition Nos. 4.2.7 and 6.2.20.

RPF has historically used the Water9 model to develop emissions factors for total VOCs and HAPs, as described in the Clean Condensate Alternatives application dated August 31, 2004 for compliance with 40 CFR 63, Subpart S (National Emissions Standards for Hazardous Air Pollutants from the Pulp and Paper Industry). The annual characterization study calibrates the model by sampling in multiple distinct locations in each of the mixing zones in the aerated stabilization basins (ASBs). 40 CFR Part 63 Appendix C procedures are used to determine F_{bio} in non-thoroughly mixed biological treatment units, following U.S. EPA issued guidance in the July 1999 *Technical Support Document for the Evaluation of Aerobic Biological Treatment Units with Multiple Mixing Zones*.

Newer computers and operating systems no longer support the use of the Water9 modeling software, which is no longer being updated by U.S. EPA. To continue using the same methodology for estimating VOC and HAP emissions factors for the annual characterization studies of the WWTP, RPF proposed in December 2020 to use Toxchem® modeling software in lieu of Water9. Toxchem® is a newer modeling software that is supported by current operating systems. Toxchem® is included in Appendix C of 40 CFR Part 63 as an acceptable alternative to Water9 for estimation of wastewater treatment emissions.

The same sampling data used for Water9 will be used for calibration of Toxchem®. The use of Toxchem® will have no other impact on RPF's compliance method for 40 CFR Part 63, Subpart S other than for developing newer emission factors. RPF proposes to use the Toxchem® model F_{bio} factors for VOC and HAP emissions estimates beginning from the starting date of the current ASB-2 treatment trial.

B. Emissions Change

Table 3: Emissions Change Due to Modification

Pollutant	Is the Pollutant Emitted?	Net Actual Emissions Increase (Decrease) (tpy)	Net Potential Emissions Increase (Decrease) (tpy)
PM	Yes	0.0	0.0
PM ₁₀	Yes	0.0	0.0
PM _{2.5}	Yes	0.0	0.0
SO ₂	Yes	0.0	0.0
VOC	Yes	0.0	0.0
NO _x	Yes	0.0	0.0
CO	Yes	0.0	0.0
TRS	Yes	0.0	0.0
H ₂ S	Yes	0.0	0.0
Individual HAP	Yes	0.0	0.0
Total HAPs	Yes	0.0	0.0

C. PSD/NSR Applicability

There is no increase in the emission rate of any regulated pollutant. There is no change in the method of operation. Neither PSD, NSPS, or NESHAP is triggered.

IV. Regulated Equipment Requirements**A. Brief Process Description**

The emission unit in this permit amendment request is the wastewater treatment plant (Source Code: EN99).

B. Equipment List for the Process

Emission Units		Applicable Requirements/Standards	Air Pollution Control Devices	
ID No.	Description		ID No.	Description
EN99	Wastewater Treatment Plant (Including the Aeration Basin #1, Aeration Basin #2A, and Anaerobic System)	40 CFR 52.21 Avoidance 40 CFR 63 Subpart S	None	None

C. Equipment & Rule Applicability

The Wastewater Treatment Plant (Source Code: EN99)

The wastewater treatment plant is used to remove or destroy the HAPs in the wastewater stream. The treatment plant is subject to the following regulations:

40 CFR 52.21 Avoidance

40 CFR 63, Subpart S – “National Emission Standards for Hazardous Air Pollutants from the Pulp and Paper Industry”

D. Permit Conditions

Condition 6.2.20.c. is modified by replacing the Water9 modeling software used to develop emission factors for VOCs (HAPs) with the Toxchem® modeling software.

Addendum to Narrative

The 45-day EPA review started on month day, year and ended on month day, year. Comments were/were not received by the Division.

//If comments were received, state the commenter, the date the comments were received in the above paragraph. All explanations of any changes should be addressed below.//