

Facility Name: **Archer Forest Products, LLC**
City: Nahunta
County: Brantley
AIRS #: 04-13-025-00005

Application #: TV-453087
Date Application Received: January 8, 2020
Permit No: 2499-025-0005-V-06-0

Program	Review Engineers	Review Managers
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ISMU	Marie Miller	Dan McCain
SSCP	Peter Nguyen	Steve Allison
Toxics	n/a	n/a
Permitting Program Manager		Eric Cornwell

Introduction

This narrative is being provided to assist the reader in understanding the content of referenced operating permit. Complex issues and unusual items are explained here in simpler terms and/or greater detail than is sometimes possible in the actual permit. The permit is being issued pursuant to: (1) Georgia Air Quality Act, O.C.G.A § 12-9-1, et seq. and (2) Georgia Rules for Air Quality Control, Chapter 391-3-1, and (3) Title V of the Clean Air Act. Section 391-3-1-.03(10) of the Georgia Rules for Air Quality Control incorporates requirements of Part 70 of Title 40 of the Code of Federal Regulations promulgated pursuant to the Federal Clean Air Act. The narrative is intended as an adjunct for the reviewer and to provide information only. It has no legal standing. Any revisions made to the permit in response to comments received during the public participation and EPA review process will be described in an addendum to this narrative.

I. Facility Description**A. Facility Identification**

1. Facility Name: Archer Forest Products, LLC

2. Parent/Holding Company Name

FRAM Renewable Fuels, LLC

3. Previous and/or Other Name(s)

SEGA Biofuels, LLC

4. Facility Location

15333 US Highway 82 East
Nahunta, GA 31533

5. Attainment, Non-attainment Area Location, or Contributing Area

Archer Forest Products, LLC (hereinafter "facility") is located in an attainment area for all pollutants.

B. Site Determination

There are no other facilities which could possibly be contiguous or adjacent and under common control.

C. Existing Permits

Table 1 below lists all current Title V permits, all amendments, 502(b)(10) changes, and off-permit changes, issued to the facility, based on a comparative review of form A.6, Current Permits, of the Title V application and the "Permit" file(s) on the facility found in the Air Branch office.

Table 1: List of Current Permits, Amendments, and Off-Permit Changes

Permit Number and/or Off-Permit Change	Date of Issuance/Effectiveness	Purpose of Issuance
2499-025-0005-V-05-0	January 23, 2019	Name and Ownership change.
2499-025-0005-V-05-1	April 30, 2021	Sig Mod with Construction (installation and operation of WESP and RTO to control dryer and pellet mill VOC, CO, PM, and HAP emissions.)

D. Process Description

1. SIC Codes(s)

2499 – Wood products not elsewhere classified

2. Description of Product(s)

The facility produces wood pellets from green and dry wood chips.

3. Overall Facility Process Description

Green wood and dry material are trucked to the facility and stored. Green wood first passes through the green hammermill (GHM1) prior to the dryer (WD02). Process heat is provided by a 50 MMBtu/hr bark burner (HS02). Dryer output is conveyed to two (2) dry hammermills (HAM01 and HAM02), combined with dry material, and processed through the pellet mills (PM01 – PM07) and the pellet cooler (PC01). Various pellet handling and storage (PHS) operations take place prior to shipping. Emissions from the heat source (HS02), dryer (WD02), and pellet mills (PM01 – PM07) would vent through the wet electrostatic precipitator (WESP) and regenerative thermal oxidizer (RTO). Dry hammermill (HAM01 and HAM02) PM emissions will be controlled by a baghouse (BGH1) while pellet cooler (PC01) PM emissions will be controlled with a cyclone (CYC1).

Existing sources WD01, HS01, RH01, and RH02 were removed from the facility in permit amendment 2499-025-0005-V-05-1. The refining hogs RH01 and RHO2 were replaced with two dry hammermills HM01 and HM02 in the same permit amendment. GHM1, PM07, PHS, WESP, and RTO were all added in Permit Amendment V-05-1.

4. Overall Process Flow Diagram

No process flow diagram was submitted with their in their Title V permit application.

E. Regulatory Status

1. PSD/NSR

The facility is a synthetic minor source with respect to VOC and PM for PSD. It is a PSD minor source for all other PSD pollutants. The facility is a minor source of HAP emissions.

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	✓	✓		
Individual HAP	✓		✓	
Total HAPs	✓		✓	

3. MACT Standards

The facility is a minor source of HAPs and no MACTs are applicable.

4. Program Applicability (AIRS Program Codes)

Program Code	Applicable (y/n)
Program Code 6 - PSD	no
Program Code 8 – Part 61 NESHAP	no
Program Code 9 - NSPS	no
Program Code M – Part 63 NESHAP	no
Program Code V – Title V	yes

Regulatory Analysis

II. Facility Wide Requirements

A. Emission and Operating Caps:

The facility is subject facility wide emissions limits for VOC for PSD avoidance. HAPs continue to be limited to 10 tpy for single HAP and 25 tpy for Total HAPs. These are MACT avoidance conditions.

B. Applicable Rules and Regulations

Not applicable.

C. Compliance Status

The facility is expected to be in compliance after installation and operation of the WESP and RTO for controlling the dryer and pellet mill emissions.

D. Permit Conditions

Conditions 2.1.1 limits facility wide VOC emissions to 249 tons per year.

Condition 2.1.2 limit individual HAPs to less than 10 tons per year and total HAPs to less than 25 tons per year.

Condition 2.1.3 limits the drying from processing more than 175,000 oven dried tons (ODT) of wood chips annually for compliance with Georgia Air Toxics Guideline.

Condition 2.1.4 limits the dryer downstream units (dry hammermills, pellet mills, pellet cooler and pellet handling and storage system) from processing more than 300,000 tons (TONS) of wood annually for compliance with Georgia Air Toxics Guideline.

III. Regulated Equipment Requirements

A. Equipment List for the Process

Emission Units		Applicable Requirements/Standards	Air Pollution Control Devices	
ID No.	Description		ID No.	Description
GHM1	Green Hammermill	391-3-1-.02(2)(n)	N/A	N/A
WD02/HS02	Dryer / Heat Source	391-3-1-.02(2)(b) 391-3-1-.02(2)(e) 391-3-1-.02(2)(g)(2)	WESP/RTO	Wet Electrostatic Precipitator / Regenerative Thermal Oxidizer
HAM01 HAM02	Dry Hammermill 1 Dry Hammermill 2	391-3-1-.02(2)(b) 391-3-1-.02(2)(e)	BGH1	Baghouse
PM01-PM07	Pellet Mills 1 - 7	391-3-1-.02(2)(b) 391-3-1-.02(2)(e)	WESP/RTO	Wet Electrostatic Precipitator / Regenerative Thermal Oxidizer
PC01	Pellet Cooler	391-3-1-.02(2)(b) 391-3-1-.02(2)(e)	CYC1	Cyclone
PHS	Pellet Handling and Storage	391-3-1-.02(2)(n)	N/A	N/A

B. Equipment & Rule Applicability

Georgia Rule (e) applies to PM emissions from the dryer, dry hammermills, pellet mills, pellet cooler and the pellet handling system.

Georgia Rule (b) applies to opacity of visible emissions from the dryer, pellet mills and the pellet cooler.

Georgia Rule (g) applies to sulfur content of fuel (bark, sawdust and natural gas) fired in the heat source and the RTO burners.

Georgia Rule (n) applies to all fugitive sources at the facility including the green hammermill and pellet handling and storage.

Emission and Operating Caps:

Wood Dryer (WD02) will be limited to producing 175,000 ODT/yr of dried wood for VOC PSD avoidance purpose. The Dry Hammermills, Pellet mills, Pellet Cooler and the Handling and Storage system will be limited to handling 300,000 tons of wood pellets for VOC and PM PSD avoidance purposes.

C. Permit Conditions

Condition 3.2.1 requires operation of the WESP and RTO whenever the burner/dryer and pellet mills operate for the purpose of PSD avoidance for VOC and PM.

Condition 3.2.2 requires operation of the baghouse BGH1 whenever the dry Hammermills operate. It also requires the cyclone (CYC1) to operate during all periods in which pellet cooler (PC01) is in operation for the purpose of PSD avoidance for PM.

Condition 3.2.3 limits the three-hour rolling average temperatures in the RTO to 1500 °F or the temperatures that are established during the most recent source tests for CO and VOC emissions for the purpose of PSD avoidance for VOC.

Condition 3.4.1 is the Georgia Rule (e) PM emission limit for the dryer, hammermills, pellet press and the pellet cooler.

Condition 3.4.2 is the Georgia Rule (b) opacity limit for the dryer and the pellet cooler.

Condition 3.4.3 is the sulfur content limit of the bark, sawdust, propane and natural gas fired in the dryer bark burner and RTO burner.

Condition 3.4.4 lists some of the measure the Permittee may adopt to minimize fugitive dust emissions per Georgia Rule (n).

Condition 3.4.5 limits fugitive emission opacity to 20% per Georgia Rule (n)2.

Condition 3.5.1 and 3.5.2 requires maintenance of all pollution control equipment and requiring the Permittee to maintain an inventory of baghouse filter bags to promptly replace and defective bags in the baghouse.

Condition 3.5.3 requires operation of all air pollution equipment whenever the corresponding sources operate.

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

A. General Testing Requirements

The permit includes a requirement that the Permittee conduct performance testing on any specified emission unit when directed by the Division. Additionally, a written notification of any performance test(s) is required 30 days (or sixty (60) days for tests required by 40 CFR Part 63) prior to the date of the test(s) and a test plan is required to be submitted with the test notification. Test methods and procedures for determining compliance with applicable emission limitations are listed and test results are required to be submitted to the Division within 60 days of completion of the testing.

B. Specific Testing Requirements

Condition 4.2.2 requires testing of NO_x and CO emissions simultaneously from the dryer exhaust by January 1, 2023 and subsequent tests every four years. The WESP and RTO operating parameters are required to be monitored and recorded during the testing.

Condition 4.2.3 requires testing of VOC, formaldehyde, acetaldehyde and methanol using EPA OTM-26 for the wood dryer (WD02), e by January 1, 2023 and subsequent tests every four years. The WESP and RTO operating parameters are required to be monitored and recorded during the testing.

Condition 4.2.4 requires testing of VOC, formaldehyde, acetaldehyde and methanol using EPA OTM-26 for the dry hammermills (HAM01 and HAM02) and pellet cooler (PC01) exhaust stacks, by January 1, 2023 and subsequent tests every four years. The WESP and RTO operating parameters are required to be monitored and recorded during the testing.

Condition 4.2.5 requires testing of total PM emissions from the burner/dryer by January 1, 2023 and subsequent tests every four years. The WESP and RTO operating parameters are required to be monitored and recorded during the testing.

Condition 4.2.6 require testing of total PM emissions from the dry hammermill's baghouse exhaust and the pellet cooler cyclone exhaust by January 1, 2023 and every four years thereafter. The pressure drop readings of the baghouse and cyclone needs to be monitored and recorded during the source tests.

Condition 4.2.7 requires that if the tested emission factors exceed the emission factors listed in Section 6 conditions, then the Permittee shall use the higher tested emission factor starting on the test date and in addition, the Permittee shall submit a permit amendment application within 120 days seeking approval to use the new emission factor or to demonstrate why the tested emission factors are not representative of normal operations.

Condition 4.2.8 of amendment 2499-025-0005-V-05-1 prohibits the use of monitors or test equipment during performance tests that are not used in normal day to day operations of the facility, to adjust/fine tune the burners prior to performance testing. It also requires the Permittee to record and submit all preliminary test data conducted within the period of one day prior to and one day after the performance test if so, requested by the Division. This is Condition 4.2.10 in the permit 2499-025-0005-V-05-0.

Existing Condition 4.2.7 of Permit 2499-025-0005-V-05-0 was deleted as the dryer emissions will no longer be recycled to the wood burner.

Existing Condition 4.2.9 of Permit 2499-025-0005-V-05-0 was deleted in amendment 2499-025-0005-V-05-1 since the option of adjusting the throughput based on the source testing emission factor is no longer used.

V. Monitoring Requirements

A. General Monitoring Requirements

Condition 5.1.1 requires that all continuous monitoring systems required by the Division be operated continuously except during monitoring system breakdowns and repairs. Monitoring system response during quality assurance activities is required to be measured and recorded. Maintenance or repair is required to be conducted in an expeditious manner.

B. Specific Monitoring Requirements

Condition 5.2.1 requires Permittee to maintain records of the amount of wood/chips processed through the dryer WD02, Dry Hammermills, pellet mills and the pellet cooler.

Condition 5.2.2 requires continuous monitoring of RTO combustion temperature, the secondary voltage, and the secondary current of each field of the WESP.

Condition 5.2.3 contains the equation for calculating the total power of the WESP with the secondary voltage and secondary current data.

Condition 5.2.4 requires calculation of three-hour rolling average of RTO combustion temperature using data from Condition 5.2.2 and maintenance of the RTO combustion temperature in accordance with Condition 3.2.3.

Condition 5.2.5 requires the Permittee to calculate the three-hour average total WESP power using the total WESP power for each hour of operation using Condition 5.2.3.

Condition 5.2.6 requires daily monitoring of the dry hammermill baghouse (BGH1) and the pellet cooler cyclone (CYC1) pressure drops.

Condition 5.2.7 requires implementation of a Preventive Maintenance Program (PMP) for the dry hammermill baghouse.

Condition 5.2.8 requires weekly checks of the pellet cooler cyclone.

Condition 5.2.9 requires daily VE checks of the dryer RTO exhaust, dry hammermill baghouse and the pellet cooler cyclone.

Condition 5.2.10 is the daily fugitive dust emission inspections.

C. Compliance Assurance Monitoring (CAM)

Condition 5.2.11 states that the Dryer and Pellet mills are subject to CAM for PM and VOC, the Dry Hammer mills and Pellet Cooler are subject to CAM for PM.

Condition 5.2.12 is the CAM performance indicator for PM emissions from the Dryer and the Pellet mills consisting of WESP secondary power. WESP is needed for compliance with Georgia Rule (e).

Condition 5.2.13 is the CAM indicator for PM emissions from the dry Hammer mills and the Pellet Cooler consisting of daily VE checks on the Hammermill baghouse and Pellet Cooler cyclone stacks and pressure drop monitoring across the Hammermill baghouse and the Pellet cooler cyclone. CAM is applicable to the Hammermill and the Pellet cooler since these are subject to PM emission limit of Georgia Rule (e) and pre control PM emissions from these sources exceed Title V major source limit of 100 tons per year.

Condition 5.2.14 is the CAM indicator for VOC emissions from the Dryer (WD02) and the Pellet mills (PM01-PM07) consisting of the RTO combustion temperature. VOC emissions from the facility is limited to 249 tons per year for PSD avoidance purpose.

VI. Record Keeping and Reporting Requirements

A. General Record Keeping and Reporting Requirements

The Permit contains general requirements for the maintenance of all records for a period of five years following the date of entry and requires the prompt reporting of all information related to deviations from the applicable requirements. Records, including identification of any excess emissions, exceedances, or excursions from the applicable monitoring triggers, the cause of such occurrence, and the corrective action taken, are required to be kept by the Permittee and reporting is required on a semiannual basis.

B. Specific Record Keeping and Reporting Requirements

Emission factors used in estimating facility emissions in Section 6.2 are based, in part, on recent stack test data. For the dryer, OHAP represents all HAP that is not MeOH, HCHO, or acetaldehyde, including phenol, acrolein, propionaldehyde, and HCl. This OHAP factor is derived from AP-42 for OSB for all but HCl, which is based on stack testing at a similar facility.

The exceedances and excursions in Condition 6.1.7 have been updated in the proposed Title V renewal permit.

Condition 6.2.1 requires the Permittee to maintain monthly records of the total amount of wood processed through the green hammermill (GHM1), dryer (WD02), dry hammermills (HAM01, 02), pellet mills (PM01-07), pellet cooler (PC01), and the pellet handling and storage (PHS) system.

Condition 6.2.2 requires calculation of monthly NO_x and CO emissions from the Wood Dryer (WD02) using the latest source tested emission factor. Based on current test data, the facility does not have potential to exceed major source levels of CO and NO_x. This condition also lists the NO_x and CO emissions factors to be used till dryer emissions are source tested.

Condition 6.2.3 requires notification if the monthly NO_x and or CO emissions exceed 20.7 tons.

Condition 6.2.4 requires calculation of 12-month rolling total NO_x and CO emission from the Wood Dryer (WD02) using monthly emissions data from Condition 6.2.3.

Condition 6.2.5 requires notification if any 12-month rolling total NO_x and/or CO emissions exceed 250 tons.

Condition 6.2.6 gives the equation to perform monthly calculation of the PM emissions from the wood dryer, pellet cooler and dry hammermills using the production data and latest source tested emission factors. The PM emissions factor to be used are specified in this condition till the next source test. GHM1 and PHS are fugitive sources and are not included in this equation.

Condition 6.2.7 requires notification if the monthly facility wide total PM emissions exceed 20.7 tons.

Condition 6.2.8 requires calculation of the 12-month rolling total PM emissions using the monthly PM emission data from Condition 6.2.6.

Condition 6.2.9 requires the facility to notify EPD, if any 12-month rolling total PM emissions exceed 250 tons during any month.

Condition 6.2.10 requires calculation of monthly VOC emissions from the dryer, hammermill, pellet cooler and pellet handling and storage systems using the latest source tested emission factors for these sources. The VOC emission factors for dryer, dry hammermills and the pellet cooler is given for use in the monthly VOC emission calculation till the next source tested results are available. GHM1 and PHS are fugitive sources and are not included in this equation. The RTO destruction and removal efficiency shall not be considered when (a) the RTO combustion zone temperature falls below the set point or (b) emissions bypasses the RTO.

Condition 6.2.11 requires calculation of the VOC emissions using EPA OTM-26.

Condition 6.2.12 requires notification if the monthly facility-wide VOC emissions exceed 20.7 tons.

Condition 6.2.13 requires calculation of the 12-rolling total VOC emissions using the monthly VOC emission data from Condition 6.2.10.

Condition 6.2.14 requires the facility to notify EPD, if any 12-month rolling total VOC emissions exceed 250 tons.

Condition 6.2.15 requires calculation of monthly acetaldehyde, formaldehyde, methanol and other HAP emissions from the wood dryer, dry hammer mills, pellet cooler and storage and handling emissions using the respective production data and the latest source tested emission factors. The HAP emission factors listed in this condition are to be used till the source tested HAP emission factors are available from the next source test. Likewise, the RTO destruction and removal efficiency shall not be considered when (a) the RTO combustion zone temperature falls below the set point or (b) emissions bypasses the RTO.

Condition 6.2.16 requires EPD to be notified if the monthly emission of any single HAP exceeds 0.83 tons and/or total HAPs emissions exceed 2.08 tons.

Condition 6.2.17 requires calculation of the 12-month rolling total for each individual HAP and combined HAP emissions using data from Condition 6.2.15.

Condition 6.2.18 requires the facility to notify EPD if any 12-month rolling total of any individual HAP emission exceed 10 tons using data from Condition 6.2.17.

Condition 6.2.19 requires the facility to notify EPD in writing if any 12-month rolling total combined HAP emissions (calculated using Condition 6.2.17) exceeds 25 tons.

VII. Specific Requirements**A. Operational Flexibility**

None

B. Alternative Requirements

Not applicable.

C. Insignificant Activities

See Attachment B of the permit.

D. Temporary Sources

None

E. Short-Term Activities

None

F. Compliance Schedule/Progress Reports

Not applicable

G. Emissions Trading

Not applicable

H. Acid Rain Requirements

Not applicable

I. Stratospheric Ozone Protection Requirements

The standard permit condition pursuant to 40 CFR 82 Subpart F is included in this Title V Renewal Permit. According to Application No. TV-453087, the facility has stated that it is not subject to Title VI of the 1990 Clean Air Act Amendments.

J. Pollution Prevention

Not applicable

K. Specific Conditions

Not applicable

VIII. General Provisions

Generic provisions have been included in this permit to address the requirements in 40 CFR Part 70 that apply to all Title V sources, and the requirements in Chapter 391-3-1 of the Georgia Rules for Air Quality Control that apply to all stationary sources of air pollution.

Template Condition 8.14.1 was updated in September 2011 to change the default submittal deadline for Annual Compliance Certifications to February 28.

Template Condition Section 8.27 was updated in August 2014 to include more detailed, clear requirements for emergency generator engines currently exempt from SIP permitting and considered insignificant sources in the Title V permit.

Template Condition Section 8.28 was updated in August 2014 to more clearly define the applicability of the Boiler MACT or GACT for major or minor sources of HAP.

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.

//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.//