PERMIT AMENDMENT NO. 2499-025-0005-V-05-1
ISSUANCE DATE:

GEORGIA
DEPARTMENT OF NATURAL RESOURCES

ENVIRONMENTAL PROTECTION DIVISION

Air Quality - Part 70 Operating Permit Amendment

Facility Name:	**Archer Wood Products, LLC**
Facility Address:	**15333 US Highway 82 East**
	Nahunta, GA 31533 (Brantley County)
Mailing Address:	**15333 US Highway 82 East**
	Nahunta, GA 31533
Parent/Holding Company:	**FRAM Renewable Fuels, LLC**
Facility AIRS Number:	**04-13-025-00005**

In accordance with the provisions of the Georgia Air Quality Act, O.C.G.A. Section 12-9-1, et seq and the Georgia Rules for Air Quality Control, Chapter 391-3-1, adopted pursuant to and in effect under the Act, the Permittee described above is issued a construction and operation permit for:

The addition of a wet electrostatic precipitator (WESP) and regenerative thermal oxidizer (RTO) and replacement of all permit conditions in Section 2 to Section 6 of the existing permit. All previous Conditions in Sections 2, 3, 4 , 5, and 6 of the permit are replaced.

This Permit Amendment is conditioned upon compliance with all provisions of The Georgia Air Quality Act, O.C.G.A. Section 12-9-1, et seq, the Rules, Chapter 391-3-1, adopted and in effect under that Act, or any other condition of this Amendment and Permit No. **2499-025-0005-V-05-0**. Unless modified or revoked, this Amendment expires upon issuance of the next Part 70 Permit for this source. This Amendment may be subject to revocation, suspension, modification or amendment by the Director for cause including evidence of noncompliance with any of the above; or for any misrepresentation made in App No. **TV-406559** dated **July 5, 2019, February 3, 2020 and June 23, 2020**; any other applications upon which this Amendment or Permit No. **2499-025-0005-V-05-0** are based; supporting data entered therein or attached thereto; or any subsequent submittal or supporting data; or for any alterations affecting the emissions from this source.

This Amendment is further subject to and conditioned upon the terms, conditions, limitations, standards, or schedules contained in or specified on the attached **22** pages.

DRAFT

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Richard E. Dunn, Director
Environmental Protection Division

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PART 1.0 FACILITY DESCRIPTION

1.3 Process Description of Modification

Green wood and dry material are trucked to the facility and stored. Green wood may first pass through the green hammermill (GHM) prior to the dryer (WD02). Process heat is provided by a 50 million British thermal units per hour (MMBtu/hr) bark burner (HS02). Dryer output is combined with dry material and conveyed to two (2) dry hammermills (HAM01 and HAM02). After the dry hammermills (HAM01 and HAM02), the material is processed through the pellet mills (PM01 – PM07) and the pellet cooler (PC01). Various pellet handling and storage (PHS) operations take place prior to shipping. Particulate matter (PM), volatile organic compound (VOC), and hazardous air pollutant (HAP) emissions from the heat source (HS02), dryer (WD02), and pellet mills (PM01 – PM07) are controlled by a wet electrostatic precipitator (WESP) followed by a regenerative thermal oxidizer (RTO). Particulate matter (PM) emissions from the dry hammermills (HAM01 and HAM02) are controlled by a baghouse (BGH1). Finally, particulate matter (PM) emissions from the pellet cooler (PC01) are controlled with a cyclone (CYC1).

PART 2.0 REQUIREMENTS PERTAINING TO THE ENTIRE FACILITY

2.1 Facility Wide Emission Caps and Operating Limits

2.1.1 The Permittee shall not discharge or cause the discharge into the atmosphere from the entire facility, any emissions which contain volatile organic compounds (VOC) in an amount equal to or exceeding 249 tons during any twelve consecutive month period.
[Avoidance of 40 CFR 52.21]

2.1.2 The Permittee shall not discharge, or cause the discharge into the atmosphere from the entire facility, any single hazardous air pollutant (HAP) in an amount equal to or exceeding 10 tons during any twelve consecutive month period, or any combination of such listed pollutants in an amount equal to or exceeding 25 tons during any twelve consecutive month period.
[Avoidance of 40 CFR 63]

2.1.3 The Permittee shall not process more than 175,000 oven dried tons (ODT) of wood chips from the dryer (WD02) during any twelve consecutive months.

ODT = weight of wood in short tons at 11% moisture (nominal).

[391-3-1-.03(8)(a)]

2.1.4 The Permittee shall not process more than 300,000 tons (TONS) of wood through the dry hammermills (HAM1 and HAM2), the pellet mills (PM01-PM07), pellet cooler (PC01) and the pellet handling/storage (PHS) during any twelve consecutive months.

TONS = weight of wood in short tons at 5% moisture, nominal.

[391-3-1-.03(8)(a)]

2.2 Facility Wide Federal Rule Standards

None applicable.

2.3 Facility Wide SIP Rule Standards

None applicable.

2.4 Facility Wide Standards Not Covered by a Federal or SIP Rule and Not Instituted as an Emission Cap or Operating Limit

None applicable.

PART 3.0 REQUIREMENTS FOR EMISSION UNITS

Note: Except where an applicable requirement specifically states otherwise, the averaging times of any of the Emissions Limitations or Standards included in this permit are tied to or based on the run time(s) specified for the applicable reference test method(s) or procedures required for demonstrating compliance.

3.1.1 Emission Units

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

Generally applicable requirements contained in this permit may also apply to emission units listed above. The lists of applicable requirements/standards are intended as a compliance tool and may not be definitive.

3.2 Equipment Emission Caps and Operating Limits

3.2.1 The Permittee shall operate and maintain the WESP and the RTO during all periods in which the Heat Source (HS02), the Dryer (WD02), and the Pellet Mills (PM01-PM07) are in operation.
[391-3-1-.03(2)(c)]

3.2.2 The Permittee shall operate and maintain the baghouse (BGH1) and the cyclone (CYC1) during all periods in which the dry hammermills (HAM01 and HAM02) and pellet cooler (PC01) is in operation.
[391-3-1-.03(2)(c)]

3.2.3 The 3-hour rolling combustion temperature of the RTO shall be at least 1500°F or the temperature approved by the Division based upon the most recent destruction efficiency test.
[391-3-1-.03(2)(c)]

3.3 Equipment Federal Rule Standards

None Applicable.

3.4 Equipment SIP Rule Standards

3.4.1 The Permittee shall not cause, let, permit, suffer, or allow the rate of emissions of filterable particulate matter (FPM) from any process stack in total quantities equal to or exceeding the allowable rate calculated as follows:
[391-3-1-.02(2)(e)1.(i)]

$$E = 4.1P^{0.67}$$

for process input weight rate up to and including 30 tons per hour, or

$$E = 55P^{0.11}-40$$

for process input weight above 30 tons per hour, where

E = emission rate in pounds per hour
P = process input weight rate in tons per hour

3.4.2 The Permittee shall not cause, let, suffer, permit, or allow emissions from any process stack the opacity of which is equal to or greater than forty (40) percent.
[391-3-1-.02(2)(b)1]

3.4.3 The Permittee shall not combust any fuel with a sulfur content exceeding 2.5 weight percent, in any combustion equipment. The Permittee shall comply with this rule by only combusting wood, propane, or natural gas.
[391-3-1-.02(2)(g)2]

3.4.4 The Permittee shall take all reasonable precautions to prevent fugitive dust from becoming airborne from any operation, process, handling, and transportation or storage facility. The opacity from any fugitive dust source shall not equal or exceed twenty percent. Reasonable precautions that should be taken to prevent dust from becoming airborne include, but are not limited to, the following:
[391-3-1-.02(2)(n)]

a. Use, water, or chemicals for control of dust in the demolition of existing buildings or structures, construction operations, the grading of roads or the clearing of land;

b. Application of asphalt, water, or suitable chemicals on dirt roads, materials, stockpiles, and other surfaces that can give rise to airborne dusts;

c. Install hoods, fans, and fabric filters to enclose and vent the handling of dusty materials. Adequate containment methods can be employed during sandblasting or other similar operations;

d. Covering, at all times when in motion, open-bodied trucks, transporting materials likely to give rise to airborne dust; and

e. The prompt removal of earth or other material from paved streets onto which earth or other material has been deposited.

3.4.5 The Permittee shall not cause, let, permit, suffer or allow visible emissions from any fugitive source to equal or exceed 20 percent opacity.
[391-3-1-.02(2)(n)2]

3.5 Equipment Standards Not Covered by a Federal or SIP Rule and Not Instituted as an Emission Cap or Operating Limit

3.5.1 Routine maintenance shall be performed on all air pollution control equipment. Maintenance records shall be in a form suitable for inspection or submittal to the Division and shall be maintained for a period of five (5) years from date of entry.
[391-3-1-.02(6)(b)1(i)]

3.5.2 The Permittee shall maintain an inventory of baghouse filter bags such that an adequate supply of bags is on hand to replace any defective ones.
[391-3-1-.02(6)(b)1(i)]

3.5.3 The Permittee shall operate all air pollution control devices whenever the associated equipment is being operated.
[391-3-1-.03(8)(a)]

PART 4.0 REQUIREMENTS FOR TESTING

4.1 General Testing Requirements

4.1.1 The Permittee shall cause to be conducted a performance test at any specified emission unit when so directed by the Environmental Protection Division ("Division"). The test results shall be submitted to the Division within 60 days of the completion of the testing. Any tests shall be performed and conducted using methods and procedures that have been previously specified or approved by the Division.
[391-3-1-.02(6)(b)1(i)]

4.1.2 The Permittee shall provide the Division thirty (30) days (or sixty (60) days for tests required by 40 CFR Part 63) prior written notice of the date of any performance test(s) to afford the Division the opportunity to witness and/or audit the test, and shall provide with the notification a test plan in accordance with Division guidelines.
[391-3-1-.02(3)(a) and 40 CFR 63.7(b)(1)]

4.1.3 Performance and compliance tests shall be conducted and data reduced in accordance with applicable procedures and methods specified in the Division's Procedures for Testing and Monitoring Sources of Air Pollutants. The methods for the determination of compliance with emission limits listed under Sections 3.2, 3.3, 3.4 and 3.5 are as follows:

a. Method 1 shall be used for the determination of sample point locations.

b. Method 2 shall be used for the determination of stack gas flow rate.

c. Method 3 or 3A shall be used for the determination of stack gas molecular weight. Method 3B shall be used for the determination of emission rate correction factor or excess air. Method 3A may be used as an alternative.

d. Method 4 shall be used for the determination of stack gas moisture.

e. Method 5/Method 202 shall be used for determination of total PM emissions, to include condensable particulates for Condition 2.1.1 + filterable particulates for Rule (e).

f. Method 7 or 7E shall be used for determination of NOx emissions.

g. Method 9 and the procedures of the above referenced document shall be used to determine the opacity.

h. Method 10 shall be used for the determination of CO concentrations.

i. Method 19 shall be used when applicable; to convert particulate matter, carbon monoxide, and nitrogen oxides concentrations (i.e., grains/dscf for PM, ppm for gaseous pollutants), as determined using other methods specified in this section, to mass emission rates (i.e., lb/MM Btu, lb/hr).

j. Method 26 or 26A shall be used to determine Hydrogen Chloride emission concentrations.

k. Method 25A shall be used for the determination of VOC concentrations in the dryer exhaust stacks.

l. NCASI 105.1 shall be used for the determination of methanol, formaldehyde, and acetaldehyde concentrations.

m. Modified EPA OTM-26 Interim VOC Measurement Protocol for the Wood Products Industry (July 2007) or (WPP1) shall be used for the calculation and summation of VOC emissions.

Minor changes in methodology may be specified or approved by the Director or his designee when necessitated by process variables, changes in facility design, or improvement or corrections that, in his opinion, render those methods or procedures, or portions thereof, more reliable.
[391-3-1-.02(3)(a)]

4.1.4 The Permittee shall submit performance test results to the US EPA's Central Data Exchange (CDX) using the Compliance and Emissions Data Reporting Interface (CEDRI) in accordance with any applicable NSPS or NESHAP standards (40 CFR 60 or 40 CFR 63) that contain Electronic Data Reporting Requirements. This Condition is only applicable if required by an applicable standard and for the pollutant(s) subject to said standard.
[391-3-1-.02(8)(a) and 391-3-1-.02(9)(a)]

4.2 Specific Testing Requirements

4.2.1 All monitoring systems and/or monitoring devices required by the Division shall be installed, calibrated and operational prior to conducting any performance test(s). For any performance test, the Permittee shall, using the monitoring systems and/or monitoring devices, acquire data during each performance test run. All monitoring system and/or monitoring device data acquired during the performance testing shall be submitted with the performance test results.
[391-3-1-.02(6)(b)1]

4.2.2 By no later than January 1, 2023, the Permittee shall conduct initial performance tests for heat source (HS02) and dryer (WD02) NOx and CO emissions at the WESP/RTO exhaust stack to establish emission factors (lb/ODT). During the performance testing, the Permittee shall continuously measure and record the amount of wood dried. These measurements shall be submitted along with the test reports. NOx and CO performance testing shall be conducted simultaneously with the equipment operating under normal conditions. Subsequent tests shall be conducted once every 48 months.
[391-3-1-.02(6)(b)1]

4.2.3 By no later than January 1, 2023, the Permittee shall conduct initial performance tests for heat source (HS02) and dryer (WD02) volatile organic compounds (VOC), formaldehyde, acetaldehyde and methanol emissions at the WESP/RTO exhaust stack to establish emission factors (lb/ODT). During the performance testing, the Permittee shall continuously measure and record the amount of wood dried and the RTO combustion temperature. These measurements shall be submitted along with the test reports. Subsequent tests shall be conducted once every 48 months.
[391-3-1-.02(6)(b)1]

4.2.4 By no later than January 1, 2023, the Permittee shall conduct an initial performance tests for volatile organic compounds (VOC), formaldehyde, acetaldehyde and methanol emissions from the dry hammermills (HM01 and HM02) and pellet cooler (PC01) exhaust stacks to establish emission factors (lb/TON). During the performance testing, the Permittee shall continuously measure and record the amount of wood hammermilled and wood pelletized. These measurements shall be submitted along with the test reports. Subsequent tests shall be conducted once every 48 months.
[391-3-1-.02(6)(b)1]

4.2.5 By no later than January 1, 2023, the Permittee shall conduct initial performance tests for heat source (HS02) and dryer (WD02) total particulate matter (TPM) emissions from the WESP/RTO exhaust stack to establish emission factors (lb/ODT). During the performance testing, the Permittee shall continuously measure and record the amount of wood dried and WESP total power. These measurements shall be submitted along with the test reports. Subsequent tests shall be conducted once every 48 months.
[391-3-1-.02(6)(b)1]

4.2.6 By no later than January 1, 2023, the permittee shall test for total particulate matter (TPM) emissions from the dry hammermills (HM01 and HM02) and pellet cooler (PC01) exhaust stacks to establish emission factors (lb/TON). During the performance testing, the Permittee shall continuously measure and record the amount of wood hammermilled and wood pelletized in addition to the pressure drops across BGH1 and CYC1. These measurements shall be submitted along with the test reports. Subsequent tests shall be conducted once every 48 months.
[391-3-1-.02(6)(b)1]

4.2.7 If any emission factor derived from the results of any testing required in Section 4.2 exceed the emission factors listed in Section 6, the Permittee shall, within 120 days after testing, (a) submit a permit application requesting the use of the newer emission factor or (b) demonstrate that the emission factor derived is not representative of normal emissions.
[391-3-1-.02(3) and 391-3-1-.03(2)(c)]

4.2.8 The Permittee shall not use 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. The Permittee shall 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.
[391-3-1-.02(3) and 391-3-1-.03(2)(c)]

PART 5.0 REQUIREMENTS FOR MONITORING (Related to Data Collection)

5.1 General Monitoring Requirements

5.1.1 Any continuous monitoring system required by the Division and installed by the Permittee shall be in continuous operation and data recorded during all periods of operation of the affected facility except for continuous monitoring system breakdowns and repairs. Monitoring system response, relating only to calibration checks and zero and span adjustments, shall be measured and recorded during such periods. Maintenance or repair shall be conducted in the most expedient manner to minimize the period during which the system is out of service.
[391-3-1-.02(6)(b)1]

5.2 Specific Monitoring Requirements

5.2.1 The Permittee shall install, calibrate, maintain, and operate systems to monitor the dried wood rate (ODT/hr) exiting the dryer (WD02) and the pellet production rate (ton/hr) through the dry hammermills (HAM01 and HAM02), pellet mills (PM01-07), and pellet cooler (PC01). The data shall be recorded hourly per Performance specification(s) of the Division's monitoring requirements.
[391-3-1-.02(6)(b)1]

5.2.2 The Permittee shall install, calibrate, maintain, and operate a system to continuously monitor and record the indicated parameters on the following equipment. Each system shall meet the applicable performance specification(s) of the Division's monitoring requirements.
[391-3-1-.02(6)(b)1]

a. The combustion temperature of RTO. The temperature monitoring device shall have an accuracy of ±2% (°F).

b. The secondary voltage for each field of the WESP. Such devices shall have a required accuracy of ±2%.

c. The secondary current for each field of the WESP. Such devices shall have a required accuracy of ±2%.

5.2.3 The Permittee shall, using the data required to be recorded by Condition 5.2.1, determine the total power for each hour of operation. Total WESP power shall be calculated using the following equation:
[391-3-1-.02(6)(b)1]

$$P_t = \sum_{i=1}^{n} V_i I_i$$

Where:

Pt = Total Wet ESP power (watts)
Vi = Secondary voltage (kV) in wet ESP field i
Ii = Secondary current (ma) in ESP field i
n = Total number of fields in ESP
i = ith field in ESP (i =1 to n)

5.2.4 The Permittee shall calculate the rolling three-hour average RTO combustion temperature using the data collected per Condition 5.2.2. The Permittee shall ensure that temperature in the RTO combustion zone is maintained at or above the temperature required by Condition 3.2.3 or the temperature determined by the most recent performance test. If the three-hour average falls below the relevant minimum operating temperature, the Permittee shall record this as an excursion and take action to bring the temperature above the minimum temperature. This corrective action and the results shall be recorded in the log and this log shall be available for submission or inspection by Division personnel upon request.

5.2.5 The Permittee shall calculate three-hour average WESP secondary power using data collected per Condition 5.2.2 and calculated per Condition 5.2.3. The Permittee shall ensure that the total WESP power is maintained at or above the level determined by the most recent performance test. If the three-hour average falls below the relevant minimum operating power, the Permittee shall record this as an excursion and take action to bring the temperature above the minimum power. This corrective action and the results shall be recorded in the log and this log shall be available for submission or inspection by Division personnel upon request.
[391-3-1-.02(6)(b)1]

5.2.6 The Permittee shall install, calibrate, maintain, and operate pressure drop indicators on the dry hammermills baghouse (BGH1) and pellet cooler cyclone (CYC1). Where such performance specification(s) exist, each system shall meet the applicable performance specification(s) of the Division's monitoring requirements. The Permittee shall read and record the pressure drop at least once per day of operation. A logbook containing these records shall be available for inspection and/or submittal to the Division, upon request.
[391-3-1-.02(6)(b)1]

5.2.7 Within 60 days of permit issuance, the Permittee shall develop and implement a Preventive Maintenance Program for the dry hammermills baghouse (BGH1). All QA/QC practices and criteria shall be stated in the Preventative Maintenance Program. The program shall be subject to review and if necessary, to assure compliance, modification by the Division. At a minimum, the following operation, and maintenance checks shall be made on at least a weekly basis, and a record of the findings and corrective actions taken shall be kept in a maintenance log:
[391-3-1-.02(6)(b)1]

a. Check the system for proper operation. This may include checking for low pressure, leaks, proper lubrication, and proper operation of timer and valves.

b. Check dust collector hoppers and conveying systems for proper operation.

c. For baghouses equipped with compressed air cleaning systems, check the system for proper operation. This may include checking for low pressure, leaks, proper lubrication and proper operation of timer and valves.

d. For baghouses equipped with reverse air cleaning systems, check the system for proper operation. This may include checking damper, bypass, and isolation valves for proper operation.

e. For baghouses equipped with shaker cleaning systems, check the system for proper operation. This may include checking shaker mechanism for loose or worn bearings, drive components, mounting; proper operation of outlet/isolation valves; proper lubrication.

5.2.8 The Permittee shall perform the following applicable operation and maintenance checks on the pellet cooler cyclone (CYC1) and retain a record suitable for inspection or submittal for each week or portion of each week of operation. A checklist or other similar log may be used for this purpose:
[391-3-1-.02(6)(b)1]

a. Check exterior of the units for holes in the body or evidence of malfunction in interior of the cyclones.

b. Check hopper for bridging and plugging.

c. Check particulate transfer device for proper operation to ensure dust removal. Any adverse condition discovered by this inspection shall be corrected in the most expedient manner possible. The Permittee shall record the incident as an excursion and note the corrective action taken.

5.2.9 The Permittee shall perform checks of visible emissions of the exhaust from the WESP/RTO, dry hammermills baghouse (BGH1), and pellet cooler cyclone (CYC1) stacks while the equipment is operating at the normal expected operating rate. A check shall be conducted at least once each operating day, using the procedures below, except when atmospheric conditions or sun positioning prevent any opportunity to perform a VE check. The Permittee shall retain a record in a daily visible emissions (VE) log suitable for inspection or submittal to the Division, upon request.
[391-3-1-.02(6)(b)1]

a. Determine, in accordance with the procedures specified in paragraph c of this condition, if visible emissions are present at the discharge point to the atmosphere and record the results in the daily VE log. For sources that exhibit visible emissions, the Permittee shall comply with paragraph b of this condition.

b. For each occurrence of visible emissions, the Permittee shall determine the cause of the visible emissions and correct the problem in the most expedient manner possible. The Permittee shall note the cause of the visible emissions, the raw material feed rate, and any other pertinent operating parameters as well as the corrective action taken, in the maintenance log.

c. The person performing the determination shall stand at a distance of at least three stack heights, with a clear view of the plume against a contrasting background with the sun in the 140° sector at his/her back. Consistent with this requirement, the determination shall be made from a position such that the line of vision is approximately perpendicular to the plume direction. Only one plume shall be in the line of sight at any time when multiple stacks are in proximity to each other.

5.2.10 The Permittee shall conduct daily inspections of all sources of fugitive dust emissions, including but not limited to the units listed in Table 3.1.1 of this permit as subject to Georgia Rule 391-3-1-.02(2)(n). Records of each daily inspection shall be maintained and available for inspection or submittal to the Division, upon request. The inspection shall include, at a minimum:
[391-3-1-.02(6)(b)1 and 40 CFR 70.6(a)(3)(i)]

a. Check of the working condition of dust control measures such as loadout boots.

b. Verify that baghouses, filters, and cyclones used to minimize fugitive dust are operating

c. Documentation of any visible emissions present from any fugitive dust source, including but not limited to the green hammermill (GHM1), and the wood piles. Any adverse condition discovered by this inspection shall be corrected in the most expedient manner possible. The Permittee shall record the incident as an excursion and note the corrective action taken.

5.2.11 The following pollutant specific emission unit(s) (PSEU) are subject to the Compliance Assurance Monitoring (CAM) Rule in 40 CFR 64.

Emission Unit	**Control**	**Pollutant**
Heat Source/dryer (HS02/WD02) and pellet mills (PM01-07)	WESP/RTO	PM, CO, VOC
Dry hammermills (HAM01, 02)	BGH1	PM
Pellet cooler (PC01)	CYC1	PM

Permit conditions in this permit for the PSEU(s) listed above with regulatory citation 40 CFR 70.6(a)(3)(i) are included for the purpose of complying with 40 CFR 64. In addition, the Permittee shall meet the requirements, as applicable, of 40 CFR 64.7, 64.8, and 64.9.
[40 CFR 64]

5.2.12 The Permittee shall comply with the performance criteria listed in the table below for the PM emissions from the heat Source/dryer (HS02/WD02) and pellet mills (PM01-07). [40 CFR 64.6(c)(1)(iii)]

Performance Criteria [64.4(a)(3)]	**Indicator No. 1 WESP Secondary Power**
A. Representativeness [64.3(b)(1)]	Total power greater than or equal to 80% of the power during the most recent filterable PM performance test for three consecutive readings
B. Verification [64.3(b)(2)]	N/A
C. QA/QC Criteria [64.3(b)(3)]	Routine maintenance and annual calibration checks
D. Frequency [64.3(b)(4)]	Continuous
E. Data Collection [64.3(b)(4)]	Data Logger
F. Averaging Period [64.3(b)(4)]	3 hours

5.2.13 The Permittee shall comply with the performance criteria listed in the table below for the PM emissions from the dry hammermills (HAM01, 02) and the pellet cooler (PC01). [40 CFR 64.6(c)(1)(iii)]

Performance Criteria [64.4(a)(3)]	**Indicator No. 1 Visible Emission**	**Indicator No. 2 Pressure Drop**
A. Representativeness [64.3(b)(1)]	Daily VE check	1” to 10” W.C.
B. Verification [64.3(b)(2)]	N/A	N/A
C. QA/QC Criteria [64.3(b)(3)]	N/A	Pressure gauges are calibrated and maintained per manufacturer specs.
D. Frequency [64.3(b)(4)]	Daily	Daily
E. Data Collection [64.3(b)(4)]	VE log	Pressure drops are recorded electronically by a Data logger
F. Averaging Period [64.3(b)(4)]	6 minutes	N/A

5.2.14 The Permittee shall comply with the performance criteria listed in the table below for the VOC emissions from the heat Source/dryer (HS02/WD02) and pellet mills (PM01-07). [40 CFR 64.6(c)(1)(iii)]

Performance Criteria [64.4(a)(3)]	**Indicator No. 1 RTO Combustion temperature**
A. Representativeness [64.3(b)(1)]	Combustion zone temperature; not less than 1500 F
B. Verification [64.3(b)(2)]	n/a
C. QA/QC Criteria [64.3(b)(3)]	Temperature ranges and minimum temperature are established during performance testing. Thermocouples replaced per manufacturer suggested intervals
D. Frequency [64.3(b)(4)]	Continuous
E. Data Collection [64.3(b)(4)]	Temperature are recorded electronically using a data logger
F. Averaging Period [64.3(b)(4)]	3 hour average

PART 6.0 OTHER RECORD KEEPING AND REPORTING REQUIREMENTS

6.1 General Record Keeping and Reporting Requirements

6.1.1 Unless otherwise specified, all records required to be maintained by this Permit shall be recorded in a permanent form suitable for inspection and submission to the Division and to the EPA. The records shall be retained for at least five (5) years following the date of entry. [391-3-1-.02(6)(b)1(i) and 40 CFR 70.6(a)(3)]

6.1.2 In addition to any other reporting requirements of this Permit, the Permittee shall report to the Division in writing, within seven (7) days, any deviations from applicable requirements associated with any malfunction or breakdown of process, fuel burning, or emissions control equipment for a period of four hours or more which results in excessive emissions.

The Permittee shall submit a written report that shall contain the probable cause of the deviation(s), duration of the deviation(s), and any corrective actions or preventive measures taken.
[391-3-1-.02(6)(b)1(iv), 391-3-1-.03(10)(d)1(i) and 40 CFR 70.6(a)(3)(iii)(B)]

6.1.3 The Permittee shall submit written reports of any failure to meet an applicable emission limitation or standard contained in this permit and/or any failure to comply with or complete a work practice standard or requirement contained in this permit which are not otherwise reported in accordance with Conditions 6.1.4 or 6.1.2. Such failures shall be determined through observation, data from any monitoring protocol, or by any other monitoring which is required by this permit. The reports shall cover each semiannual period ending June 30 and December 31 of each year, shall be postmarked by August 29 and February 28, respectively following each reporting period, and shall contain the probable cause of the failure(s), duration of the failure(s), and any corrective actions or preventive measures taken. [391-3-1-.03(10)(d)1.(i) and 40 CFR 70.6(a)(3)(iii)(B)]

6.1.4 The Permittee shall submit a written report containing any excess emissions, exceedances, and/or excursions as described in this permit and any monitor malfunctions for each semiannual period ending June 30 and December 31 of each year. All reports shall be postmarked by August 29 and February 28, respectively following each reporting period. In the event that there have not been any excess emissions, exceedances, excursions or malfunctions during a reporting period, the report should so state. Otherwise, the contents of each report shall be as specified by the Division's Procedures for Testing and Monitoring Sources of Air Pollutants and shall contain the following:
[391-3-1-.02(6)(b)1 and 40 CFR 70.6(a)(3)(iii)(A)]

a. A summary report of excess emissions, exceedances and excursions, and monitor downtime, in accordance with Section 1.5(c) and (d) of the above referenced document, including any failure to follow required work practice procedures.

b. Total process operating time during each reporting period.

c. The magnitude of all excess emissions, exceedances and excursions computed in accordance with the applicable definitions as determined by the Director, and any

conversion factors used, and the date and time of the commencement and completion of each time period of occurrence.

d. Specific identification of each period of such excess emissions, exceedances, and excursions that occur during startups, shutdowns, or malfunctions of the affected facility. Include the nature and cause of any malfunction (if known), the corrective action taken or preventive measures adopted.

e. The date and time identifying each period during which any required monitoring system or device was inoperative (including periods of malfunction) except for zero and span checks, and the nature of the repairs, adjustments, or replacement. When the monitoring system or device has not been inoperative, repaired, or adjusted, such information shall be stated in the report.

f. Certification by a Responsible Official that, based on information and belief formed after reasonable inquiry, the statements and information in the report are true, accurate, and complete.

6.1.5 Where applicable, the Permittee shall keep the following records:
[391-3-1-.03(10)(d)1(i) and 40 CFR 70.6(a)(3)(ii)(A)]

a. The date, place, and time of sampling or measurement;

b. The date(s) analyses were performed;

c. The company or entity that performed the analyses;

d. The analytical techniques or methods used;

e. The results of such analyses; and

f. The operating conditions as existing at the time of sampling or measurement.

6.1.6 The Permittee shall maintain files of all required measurements, including continuous monitoring systems, monitoring devices, and performance testing measurements; all continuous monitoring system or monitoring device calibration checks; and adjustments and maintenance performed on these systems or devices. These files shall be kept in a permanent form suitable for inspection and shall be maintained for a period of at least five (5) years following the date of such measurements, reports, maintenance, and records.
[391-3-1-.03(10)(d)1(i) and 40 CFR 70.6 (a)(3)(ii)(B)]

6.1.7 For the purpose of reporting excess emissions, exceedances or excursions in the report required in Condition 6.1.4, the following excess emissions, exceedances, and excursions shall be reported:
[391-3-1-.02(6)(b)1 and 40 CFR 70.6(a)(3)(i)]

a. Excess emissions: (means for the purpose of this Condition and Condition 6.1.4, any condition that is detected by monitoring or record keeping which is specifically defined, or stated to be, excess emissions by an applicable requirement)

None required to be reported in accordance with Condition 6.1.4.

b. Exceedances: (means for the purpose of this Condition and Condition 6.1.4, any condition that is detected by monitoring or record keeping that provides data in terms of an emission limitation or standard and that indicates that emissions (or opacity) do not meet the applicable emission limitation or standard consistent with the averaging period specified for averaging the results of the monitoring)

i. Any twelve consecutive month period for which the total amount of wood dried in the dryer (WD02) exceeds 175,000 ODT.

ii. Any twelve consecutive month period for which the total amount of wood processed in the dry hammermills (HAM01, 02), pellet mills (PM01-07), pellet cooler (PC01), and pellet handling and storage (PHS) exceeds 300,000 TONS.

iii. Any rolling twelve consecutive month total of VOC emissions from the entire facility that exceeds 249 tons.

iv. Any rolling twelve consecutive month total emissions of a single HAP or total HAP that exceeds 10 tons or 25 tons, respectively.

c. Excursions: (means for the purpose of this Condition and Condition 6.1.4, any departure from an indicator range or value established for monitoring consistent with any averaging period specified for averaging the results of the monitoring)

i. Any three-hour average RTO combustion temperature (measured in accordance with Condition 5.2.2 and calculated in accordance with Condition 5.2.4) below 1,500°F (or the combustion temperature established during the most recent Division-approved performance test).

ii. Any three-hour average WESP total power (measured in accordance with Condition 5.2.2 and calculated in accordance with Conditions 5.2.3 and 5.2.5) below 80 percent of the value determined during the most recent performance test.

iii. Any instance in which the dry hammermills baghouse (BGH1) and pellet cooler cyclone (CYC1) daily pressure drop readings (measured in accordance with Condition 5.2.6) is outside of normal operating range for two consecutive days.

iv. Any failure to perform the weekly dry hammermills baghouse (BGH1) or pellet cooler cyclone (CYC1) inspections (monitored in accordance with Conditions 5.2.7 and 5.2.8).

v. Any failure to perform the daily determinations of point source visible emissions from the WESP/RTO, hammermills baghouse (BGH1), or pellet cooler cyclone (CYC1) (monitored in accordance with Conditions 5.2.9).

vi. Any two consecutive daily determinations of point source visible emissions requiring action under Condition 5.2.9 from the same source.

vii. Any failure to perform the daily inspections of all sources of fugitive dust emissions (monitored in accordance with Condition 5.2.10).

viii. Any two consecutive daily determinations of fugitive source visible emissions requiring action under Condition 5.2.10 from the same source.

6.2 Specific Record Keeping and Reporting Requirements

6.2.1 The Permittee shall keep operating records to determine the total amount of wood processed through the green hammermill (GHM), dryer (WD02), dry hammermills (HAM01, 02), pellet mills (PM01-07), pellet cooler (PC01), and the pellet handling and storage (PHS) system. These records shall be maintained in a form suitable for inspection and/or submittal to the Division, upon request.
[PSD Avoidance per 40 CFR 52.21]

6.2.2 The Permittee shall calculate the monthly NOX and CO emissions from the heat source (HS02) and dryer (WD02) (measured at the WESP/RTO stack) using the records from Condition 6.2.1 and the emission factors and equations below. All emission factors and calculations shall be kept as part of the monthly records, available for inspection or submittal. Until the testing required in Section 4.2 is complete, the permittee shall calculate NOX and CO emissions by using the emission factors and the equation provided in this condition. If the emissions testing required in Section 4.2 reveals emission factors higher than these listed below, the Permittee shall comply with Condition 4.2.8
[391-3-1-.02(6)(b)1, and 40 CFR 70.6(a)(3)(i)]

$NOX = (WD02 \times EF_{01}) / 2000$
$CO = (WD02 \times EF_{02}) / 2000$

Where:

NOX = *NOX emissions (tons/month)*
CO = *CO emissions (tons/month)*
$WD02$ = *Dryer (WD02) production (ODT/month)*
EF_{01} = *NOX emission factor (lb/ODT)*
EF_{02} = *CO emission factor (lb/ODT)*

Emission Unit	Exhaust Point	Pollutant	Factor[1]
Heat Source (HS02) + Dryer (WD02)	WESP/RTO	NOX	0.28 lb/ODT
		CO	1.42 lb/ODT

[1] ODT = weight of wood in short tons at 11% moisture (nominal)

6.2.3 The Permittee shall notify the Division in writing if any monthly NOX or CO emissions (calculated per Condition 6.2.2) exceed 20.7 tons. This notification shall be postmarked by the fifteenth day of the following month.
[391-3-1-.02(6)(b)1]

6.2.4 The Permittee shall use the monthly NOX or CO emissions (calculated per Condition 6.2.2) to calculate rolling 12-month total NOX and CO emissions for each calendar month in the reporting period. These records shall be kept available for inspection or submittal, upon request.
[391-3-1-.03(2)(c)]

6.2.5 The Permittee shall notify the Division in writing if any rolling 12-month rolling total NOX or CO emissions (calculated per Condition 6.2.3) exceeds 250 tons. This notification shall be postmarked by the fifteenth day of the following month.
[391-3-1-.03(2)(c)]

6.2.6 The Permittee shall calculate the monthly PM emissions from the facility using the records from Condition 6.2.1 and the emission factors and equations below. All emission factors and calculations shall be kept as part of the monthly records, available for inspection or submittal. Until the testing required in Section 4.2 is complete, the permittee shall calculate PM emissions by using the emission factors and the equation provided in this condition. If the emissions testing required in Section 4.2 reveals emission factors higher than these listed below, the Permittee shall comply with Condition 4.2.8
[391-3-1-.02(6)(b)1, and 40 CFR 70.6(a)(3)(i)]

$$PM = [(WD02 \times EF_{01}) + (HAM \times EF_{02}) + (COOL \times EF_{03})] / 2000$$

Where:

PM = *Total PM emissions (tons/month)*
WD02 = *Dryer (WD02) production (ODT/month)*
HAM = *Dry Hammermills (HAM01, 02) production (TON/month)*
COOL = *Pellet Cooler (COOL) production (TON/month)*
EF_{01} = *Total PM emission factor (lb/TON) from WESP/RTO*
EF_{02} = *Total PM emission factor (lb/TON) from BGH1*
EF_{03} = *Total PM emission factor (lb/TON) from CYC1*

Emission Unit	Exhaust Point	Pollutant	Factor[1][2]
Heat Source (HS02) + Dryer (WD02)	WESP/RTO	Total PM	0.06 lb/ODT
Dry Hammermills (HAM01, 02)	BGH1		0.03 lb/TON
Pellet Cooler (COOL)	CYC1		0.09 lb/TON

[1] ODT = weight of wood in short tons at 11% moisture (nominal)
[2] TON = weight of wood in short tons at 5% moisture (nominal)

6.2.7 The Permittee shall notify the Division in writing if any monthly total PM emissions (calculated per Condition 6.2.6) exceed 20.7 tons. This notification shall be postmarked by the fifteenth day of the following month.
[391-3-1-.02(6)(b)1]

6.2.8 The Permittee shall use the monthly total PM emissions (calculated per Condition 6.2.6) to calculate rolling 12-month total PM emissions for each calendar month in the reporting period. These records shall be kept available for inspection or submittal, upon request.
[391-3-1-.03(2)(c)]

6.2.9 The Permittee shall notify the Division in writing if any rolling 12-month total PM emissions (calculated per Condition 6.2.8) exceeds 250 tons. This notification shall be postmarked by the fifteenth day of the following month.
[391-3-1-.03(2)(c)]

6.2.10 The Permittee shall calculate the monthly VOC emissions from the facility using the records from Condition 6.2.1 and the emission factors and equations below. All emission factors and calculations shall be kept as part of the monthly records, available for inspection or submittal. Until the testing required in Section 4.2 is complete, the permittee shall calculate VOC emissions by using the emission factors and the equation provided in this condition. If the emissions testing required in Section 4.2 reveals emission factors higher than these listed below, the Permittee shall comply with Condition 4.2.8
[PSD Avoidance per 40 CFR 52.21]

$$VOC = [(WD02 \times EF_{01}) + (HAM \times EF_{02}) + (COOL \times EF_{03})] / 2000$$

Where:

VOC = *VOC emissions (tons/month)*

WD02 = *Dryer (WD02) production (ODT/month)*
HAM = *Dry Hammermills (HAM01, 02) production (TON/month)*
COOL = *Pellet Cooler (COOL) production (TON/month)*

EF_{01} = *VOC emission factor (lb/TON) from WESP/RTO*
EF_{02} = *VOC emission factor (lb/TON) from BGH1*
EF_{03} = *VOC emission factor (lb/TON) from CYC1*

Emission Unit	Exhaust Point	Pollutant	Factor[1][2][3]
Heat Source (HS02) + Dryer (WD02)	WESP/RTO	VOC	0.10 lb/ODT
Dry Hammermills (HAM01, 02)	BGH1		0.48 lb/TON
Pellet Cooler (COOL)	CYC1		0.43 lb/TON

[1] ODT = weight of wood in short tons at 11% moisture (nominal)
[2] TON = weight of wood in short tons at 5% moisture (nominal)
[3] The Dryer (DRY) VOC emission factors (EF01) shall be multiplied by 50 any time the three (3) hour average RTO combustion temperature falls below 1500 F or the temperature from the most recent test, whichever is lower.

6.2.11 The Permittee shall calculate VOC emissions in accordance with EPA OTM-26 via the following equation: VOC = Method 25A VOC (as C3) + Methanol (as MeOH) + Formaldehyde (as HCHO) + Acetaldehyde (as ACET) – 0.65 x Methanol (as C3).

6.2.12 The Permittee shall notify the Division in writing if any monthly VOC emissions (calculated per Condition 6.2.6) exceed 20.7 tons. This notification shall be postmarked by the fifteenth day of the following month.
[391-3-1-.02(6)(b)1]

6.2.13 The Permittee shall use the monthly VOC emissions (calculated per Condition 6.2.10) to calculate the rolling 12-month total VOC emissions for each calendar month in the reporting period. These records shall be kept available for inspection or submittal, upon request.
[391-3-1-.03(2)(c)]

6.2.14 The Permittee shall notify the Division in writing if any rolling 12-month VOC emissions (calculated per Condition 6.2.13) exceeds 250 tons. This notification shall be postmarked by the fifteenth day of the following month.
[391-3-1-.03(2)(c)]

6.2.15 The Permittee shall calculate the monthly HAP emissions from the facility using the records from Condition 6.2.1 and the emission factors and equations below. All emission factors and calculations shall be kept as part of the monthly records, available for inspection or submittal. Until the testing required in Section 4.2 is complete, the permittee shall calculate HAP emissions by using the emission factors and the equation provided in this condition. If the emissions testing required in Section 4.2 reveals emission factors higher than these listed below, the Permittee shall comply with Condition 4.2.8
[Title III Major Source Avoidance and 391-3-1-.02(6)(b)1]

$$HAP\_1 = [(WD02 \times EF_{01}) + (HAM \times EF_{02}) + (COOL \times EF_{03}) + (PHS \times EF_{04}] / 2000$$
$$HAP\_2 = [(WD02 \times EF_{05}) + (HAM \times EF_{06}) + (COOL \times EF_{07}) + (PHS \times EF_{08}] / 2000$$
$$HAP\_3 = [(WD02 \times EF_{09}) + (HAM \times EF_{10}) + (COOL \times EF_{11}) + (PHS \times EF_{12}] / 2000$$
$$HAP\_4 = [(WD02 \times EF_{13})] / 2000$$

Where:

HAP_1 = *Methanol (MeOH) emissions (tons/month)*
HAP_2 = *Formaldehyde (HCHO) emissions (tons/month)*
HAP_3 = *Acetaldehyde (ACET) emissions (tons/month)*
HAP_4 = *Other HAP (OHAP) emissions (tons/month)*

WD02 = *Dryer (WD02) production (ODT/month)*
HAM = *Dry Hammermills (HAM01, 02) production (TON/month)*
COOL = *Pellet Cooler (COOL) production (TON/month)*
PHS = *Pellet Handling & Storage (PHS) production (TON/month)*

EF_{01} = *Methanol (MeOH) emission factor (lb/TON) from WESP/RTO*
EF_{02} = *Methanol (MeOH) emission factor (lb/TON) from BGH1*
EF_{03} = *Methanol (MeOH) emission factor (lb/TON) from CYC1*
EF_{04} = *Methanol (MeOH) emission factor (lb/TON) from PHS*
EF_{05} = *Formaldehyde (HCHO) emission factor (lb/TON) from WESP/RTO*
EF_{06} = *Formaldehyde (HCHO) emission factor (lb/TON) from BGH1*
EF_{07} = *Formaldehyde (HCHO) emission factor (lb/TON) from CYC1*
EF_{08} = *Formaldehyde (HCHO) emission factor (lb/TON) from PHS*
EF_{09} = *Acetaldehyde (ACET) emission factor (lb/TON) from WESP/RTO*
EF_{10} = *Acetaldehyde (ACET) emission factor (lb/TON) from BGH1*

EF_{11} = *Acetaldehyde (ACET) emission factor (lb/TON) from CYC1*
EF_{12} = *Acetaldehyde (ACET) emission factor (lb/TON) from PHS*
EF_{13} = *Other HAP (OHAP) emission factor (lb/TON) from WESP/RTO*

Emission Unit	Exhaust Point	Pollutant	Factor[1][2][3]
Heat Source (HS02) + Dryer (WD02)	WESP/RTO	MeOH	0.008 lb/ODT
Dry Hammermills (HAM01, 02)	BGH1		0.002 lb/TON
Pellet Cooler (COOL)	CYC1		0.003 lb/TON
Pellet Handling & Storage (PHS)	Fugitive		0.001 lb/TON
Heat Source (HS02) + Dryer (WD02)	WESP/RTO	HCHO	0.005 lb/ODT
Dry Hammermills (HAM01, 02)	BGH1		0.0004 lb/TON
Pellet Cooler (COOL)	CYC1		0.0008 lb/TON
Pellet Handling & Storage (PHS)	Fugitive		0.002 lb/TON
Heat Source (HS02) + Dryer (WD02)	WESP/RTO	ACET	0.002 lb/ODT
Dry Hammermills (HAM01, 02)	BGH1		0.0004 lb/TON
Pellet Cooler (COOL)	CYC1		0.0008 lb/TON
Pellet Handling & Storage (PHS)	Fugitive		0.001 lb/TON
Heat Source (HS02) + Dryer (WD02)	WESP/RTO	OHAP	0.0044 lb/ODT

[1] ODT = weight of wood in short tons at 11% moisture (nominal)
[2] TON = weight of wood in short tons at 5% moisture (nominal)
[3] OHAP = all other organic HAPs, plus HCl
[4] The Dryer (DRY) HAP emission factors shall be multiplied by 50 any time the three (3) hour average RTO combustion temperature falls below 1500F or the target set in the most recent performance test.

6.2.16 The Permittee shall notify the Division in writing if monthly total MeOH, HCHO, or ACET emissions (calculated per Condition 6.2.15) exceed 0.83 tons during any calendar month. This notification shall be postmarked by the fifteenth day of the following month. [391-3-1-.02(6)(b)1]

6.2.17 The Permittee shall use the monthly total HAP emissions (calculated per Condition 6.2.15) to calculate the 12-month rolling total individual and combined MeOH, HCHO, ACET, and OHAP emissions for each calendar month in the reporting period. These records shall be kept available for inspection or submittal, upon request. [391-3-1-.03(2)(c)]

6.2.18 The Permittee shall notify the Division in writing if any 12-month rolling total individual MeOH, HCHO, ACET, or OHAP emissions (calculated per Condition 6.2.17) exceeds 10 tons. This notification shall be postmarked by the fifteenth day of the following month. [391-3-1-.03(2)(c)]

6.2.19 The Permittee shall notify the Division in writing if any 12-month rolling total combined MeOH, HCHO, ACET, and OHAP emissions (calculated per Condition 6.2.17) exceeds 25 tons. This notification shall be postmarked by the fifteenth day of the following month. [391-3-1-.03(2)(c)]