FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION

NORTHEAST DISTRICT
8800 BAYMEADOWS WAY WEST, SUITE 100
JACKSONVILLE, FLORIDA 32256

RICK SCOTT
GOVERNOR

CARLOS LOPEZ-CANTERA
LT. GOVERNOR

JONATHAN P. STEVERSON
SECRETARY

Sent by Electronic Mail – Received Receipt Requested

PERMITTEE

Vulcan Renewables, LLC
2020 County Road 214
St. Augustine, Florida 32084

Authorized Representative:
Joseph Williams, Operations Manager

Air Permit No. 1090463-001-AC
Permit Expires: One year from issuance

Indianhead Biomass Services
Wood Pelletizing Plant
Initial Air Construction Permit

This is the final air construction permit, which authorizes the construction of a Wood Pelletizing Plant (Standard Industrial Classification No. 2493), which ~~will~~ shall consist of a wood receiving, storage and transfer area, a wood burner, a direct-fired triple-pass rotary dryer, two hammer mills, a wood screener, a storage bin, ~~twelve~~ thirteen pellet mills ~~(two of which will remain on standby)~~, a pellet cooler, a pellet screener, and a pellet product load-out and storage area. The proposed work ~~will~~ shall be conducted at Indianhead Biomass Services which is located in St. Johns County at 2020 County Road 214 (the rural site east of I-95 and north of SR 214), St. Augustine, Florida. The UTM coordinates of the facility are Zone 17, 462.47 km East, and 3304.84 km North.

This final permit is organized by the following sections.

Section 1. General Information

Section 2. Administrative Requirements

Section 3. Facility-Wide Conditions

Section 4. Emissions Unit Specific Conditions

Section 5. Appendices

Because of the technical nature of the project, the permit contains numerous acronyms and abbreviations, which are defined in Appendix A of Section 5 of this permit.

This air pollution construction permit is issued under the provisions of: Chapter 403 of the Florida Statutes (F.S.) and Chapters 62-4, 62-204, 62-210, 62-212, 62-296 and 62-297 of the Florida Administrative Code (F.A.C.). The permittee is authorized to conduct the proposed work in accordance with the conditions of this permit. This project is subject to the general preconstruction review requirements in Rule 62-212.300, F.A.C. and is not subject to the preconstruction review requirements for major stationary sources in Rule 62-212.400, F.A.C. for the Prevention of Significant Deterioration (PSD) of Air Quality.

Upon issuance of this final permit, any party to this order has the right to seek judicial review of it under Section 120.68 of the Florida Statutes by filing a notice of appeal under Rule 9.110 of the Florida Rules of Appellate Procedure with the clerk of the Department of Environmental Protection in the Office of General Counsel (Mail Station #35, 3900 Commonwealth Boulevard, Tallahassee, Florida, 32399-3000) and by filing a

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copy of the notice of appeal accompanied by the applicable filing fees with the appropriate District Court of Appeal. The notice must be filed within 30 days after this order is filed with the clerk of the Department.

Executed in Jacksonville, Florida

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Richard S. Rachal III, P.G.
Permitting Program Administrator

FILING AND ACKNOWLEDGEMENT & CERTIFICATE OF SERVICE

Filed on this date pursuant to § 120.52, Florida Statutes, with the designated Department Clerk, receipt of which is hereby acknowledged. The undersigned hereby certifies that this Air Construction Permit and all copies were sent before the close of business on _____ to the listed persons.

draft

_____ _____

Clerk Date

Christopher Kim, President, Vulcan Renewables, LLC (christopher@vulcanrenewables.com)
Joseph Williams, Operations Manager, Vulcan Renewables, LLC (wshecky@yahoo.com)
James Show, V.P. Engineering, Grove Scientific & Engineering Company (J_SSHOW@Bellsouth.net)
Bruno Ferraro, President, Grove Scientific & Engineering Company (bruno@grovescientific.com)
Sara Greivell, Environmental Scientist, Grove Scientific & Engineering Company (sara@grovescientific.com)

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FACILITY AND PROJECT DESCRIPTION

The proposed wood pelletizing plant ~~will~~ shall consist of a wood receiving, storage and transfer area, a wood burner, a direct-fired triple-pass rotary dryer, two hammer mills, a wood screener, a storage bin, ~~twelve~~ thirteen pellet mills ~~(two of which will remain on standby)~~, a pellet cooler, a pellet screener, and a pellet product load-out and storage area.

The facility ~~will~~ shall have a production capacity of no more than 62,000 tons per year in order to maintain its VOC emissions below a requested 208 ton per year emissions cap in order to avoid PSD major source classification and review.

EU001: Wood Receiving, Storage, Transfer and Processing:

The facility ~~will~~ shall receive yellow pine wood chips (green softwood). The chips are received from an outside source and delivered by truck delivery to a covered storage structure. The covered storage structure is open at both ends and allows the delivery truck to drive through and dump the load of chips. It is expected that the covered structure ~~will~~ shall act as a wind break to prevent unconfined particulate matter emissions from chip handling.

In addition to the received chips, the facility proposes to chip yellow pine received from land clearing activities with a 3 ton/hr electric chipper onsite.

EU002: Wood Cyclonic Burner/ Triple-pass Rotary Dryer

Wood chips ~~will~~ shall be removed from the storage piles by front-end loader and loaded into a feed hopper and conveyed to the primary hammer mill that operates at a maximum design rate of 10 tons per hour output, followed by a wood screener before being conveyed to the dryer. The primary hammer mill causes the pine chips to heat slightly and breaks up the wood fibers, releasing pinenes and terpenes (both high boiler point condensable VOC). The VOC and the wood dust are vented to the combustion air fan of the furnace to control the PM and VOC emissions. The oversized chips from the wood screener are collected in a bin before being added back into the wood chip supply for processing in the primary hammer mill.

From the screener, the wood chips are conveyed by auger to the triple-pass rotary dryer. The rotary dryer is a Baker-Rullman Model SD125-42 rated at 18 tons/hr; 36,000 pounds of green wood chips ~~will~~ shall be loaded per hour into the rotary dryer producing 20,000 lb/hr of dried wood (10 ton/hr) and 16,000 lb/hr of water vapor. This dryer ~~will~~ shall produce 10 tons/hr of oven dried wood chips (ODT) with a moisture content of approximately 10% by weight.

Heat for the dryer, which is direct-fired, ~~will~~ shall be provided by a wood cyclonic-type burner that is similar in design to a Dutch-style furnace with a maximum design heat input rate of 25 million British thermal units per hour (MMBtu/hr).

The burner is fired with clean woody biomass that is brought into the facility primarily as shredded material or as chips from contractors that trim trees along roads, transmission lines and easements. This wood is chipped by the contractors in-situ using a trailer mounted chipper and ~~will~~ shall be delivered directly to the pelletizing plant. This clean woody biomass ~~will~~ shall represent 90-95% of the fuel for the wood furnace and could be 99% of the fuel source. This is preferred by the applicant since it reduces the labor necessary to fuel the furnace.

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The facility receives clean wood waste in many forms, including whole trees, cut logs, branches, trimmings and root balls. Oak and other hardwoods are the desired source of supplemental fuel. These hard woods can be cut into logs using a handheld portable chainsaw then split using a portable hydraulic log splitter. Small (approximately 0.5-3 foot long) split logs are used to fire the furnace. These logs are used to start the furnace from a cold start and to supplement the fuel when more heat is desired.

The clean woody biomass used to fire the furnace is in two forms: chipped or split logs. No other processing was considered by the applicant or deemed necessary.

The log splitter is estimated to be used about 80 hours/year. It is equipped with a 72 hp diesel motor that operates a hydraulic pump and is subject to 40 CFR 63 Subpart ZZZZ – National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines.

The facility proposes to also operate the 3 ton/hr electric wood chipper to provide wood chips as a fuel supplement for the wood cyclonic burner when the clean woody biomass described above is in low supply.

The clean woody biomass to fire the furnace ~~will~~ shall not come from or be sourced from residential waste pickup in order not to be considered municipal solid waste and subjecting the burner and dryer to regulations as a municipal waste combustion unit (40 CFR 60 Subpart AAAA- Standards of Performance for Small Municipal Waste Combustion Units for Which Construction is Commenced After August 30, 1999 or for Which Modification or Reconstruction is Commenced After June 6, 2001).

The furnace is refractory lined that combusts clean woody biomass with a high moisture on a sloped hearth with forced air being introduced tangentially into the combustion chamber to form a cyclonic air flow, similar in some ways to a Dutch oven. Hot air from the furnace is used as a source of direct heat for the triple-pass rotary dryer. The heat of combustion directly contacts the wood chips to drive off moisture at an inlet temperature of around 700 º F while the exit of the dryer is around 100º F.

Diesel ~~will~~ may be used as a supplemental fuel for initial start-up of the wood burner. The facility ~~will~~ shall not install any piping for any auxiliary fuel.

The exhaust gases from the dryer along with the dried wood chips ~~will~~ shall be blown into a product recovery cyclone that separates the wood chips and particulate matter.

The air from the burner, dryer and cyclone is released to the atmosphere through a blower rated at 72,000 acfm. Engineering design data indicate this fan ~~will~~ shall be operated at around 53,000 acfm. This air will contain PM, volatile organic compounds (VOC) and other combustion products from the burning of clean woody biomass.

EU 003: Secondary Hammer Mill and Ground Wood Storage Bin:

Wood chips from the dryer (dry wood chips) ~~will~~ shall be conveyed to ~~a~~ the secondary hammer mill at a rate of no more than ~~at~~ 10 tons per hour. The secondary hammer mill ~~will~~ shall be used to grind the wood chips into a particle size (2 mm or less) suitable for further processing in the pellet mills.

The ground dried wood particles are pneumatically conveyed to a 20 ton ground wood storage bin that ~~will~~ shall be equipped with a bin-vent dust collector via a 12,000 acfm blower. The applicant states that engineering design data indicates that this fan ~~will~~ shall operate at 5,000 acfm. The dust collector is cartridge-style consisting of a 5,000 acfm Camfil-Farr Gold Series® pulse-jet dust collector. Emissions of PM and possibly VOC may be released to the atmosphere from this emissions point.

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EU004: Pellet Mills, Pellet Cooler, and Pellet Screener.

Ground wood from the ground wood storage bin ~~will~~ shall be conveyed to the indoor pellet mills where the wood pellets are formed. There ~~will~~ shall be 12 pellet mills that are each rated at 1 ton per hour, and one rated at 6 tons per hour. ~~Ten~~ The pellet mills ~~will~~ shall be ~~in simultaneous operation~~ simultaneously operated in a manner such that ~~thus having~~ a maximum ~~design capacity~~ of no more than 10 tons per hour of pellet production is reached. The remaining ~~2~~ pellet mills ~~will~~ shall be used as standby units during periods of maintenance. In each pellet mill, the dry ground wood (2 mm or less in diameter) from the ground wood storage bin is pressed through forged alloy dies. The heat of friction generated by this process is sufficient to liquefy the lignin in the wood and bind the ground wood into a pellet without the addition of other binders. This heat also causes the some of the organic compounds in the wood to volatilize. The most common VOCs being pinene, terpene, benzaldehyde and the hazardous air pollutant, methanol.

The formed pellets ~~will~~ shall then pass through a pellet air-cooler where the temperature of the wood pellets are reduced. From the cooler, the formed pellets are sent to a pellet screener and then conveyed to the product storage area. The air from the pellet screener, containing particulate matter (wood dust), ~~will~~ shall be vented to the 20 ton ground wood storage bin.

The air from the pellet mills and the pellet cooler, which contains VOC emissions, ~~will~~ shall be vented to the furnace's combustion air blower where it ~~will~~ shall be combusted by the burner.

Reject material and pellets from the pellet screener ~~will~~ shall be transferred back to the ground wood storage bin and used to make pellets.

EU005: Product Storage Area

The final wood pellet product is pneumatically conveyed to a pellet storage (103 ton capacity) and truck loading area via a 12,000 acfm blower.

PROPOSED PROJECT

Initial Air construction permit which authorizes the construction of a Wood Pelletizing Plant.

The project ~~will~~ shall incorporate the following pollution control equipment and measures:

- Venting the Primary Hammer Mill to the combustion air of the wood cyclonic burner of the Triple-pass Rotary Dryer;
- Venting the Pelletizers and the Pellet Cooler to the combustion air of the wood cyclonic burner of the Triple-pass Rotary Dryer;
- Venting the Pellet Screener to the Ground Wood Storage Bin to recycle wood dust back into the dried feed stock;
- Equipping the Ground Wood Storage Bin with a dust collector to control PM emissions;
- Establishing a pellet production limitation of no more than 62,000 tons of pellets per any 12-month period in order to maintain VOC emissions below 208 ton per year;
- Parametric monitoring of the Triple-pass Rotary Dryer wood burning furnace temperature for assurance of continuous VOC combustion
- Reasonable precautions and best management practices to minimize fugitive PM emissions from receiving, handling, storage and processing of clean woody biomass.

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This project ~~will~~ shall include the following emissions units.

Facility ID No. 1090463	
ID No.	**Emission Unit Description**
001	Wood chip receiving and storage area
002	Wood Cyclonic Burner/ Triple-pass Rotary Dryer
003	Secondary Hammer mill and Ground Wood Storage Bin
004	Pellet Mills, Pellet Cooler, and Pellet Screener
005	Product Storage and Load-out Area

Emissions Units/Activities exempt from an air construction permit

The following emissions units/activities are exempt from the requirement to obtain an air construction permit:

ID No.	Emissions unit/Activity	Rule
006	Subaru. 6 HP Gasoline Engine, Model EX17, Family Number: 3FJXS.1691GA. *The engine is a four-stroke cycle, 1-cylinder, spark ignition, gasoline engine with a total displacement of 169 cubic centimeters. It is used to run a centrifugal water pump. The engine/pump is mounted on the back of a water truck. The truck remains on the property full-time and is used to water the roads. The model year is 2003.* *The engine is subject to 40 CFR 63 40 CFR 63 Subpart ZZZZ National Emissions Standards For Hazardous Air Pollutants For Stationary Reciprocating Internal Combustion Engines. In accordance with the definitions of this subpart, the engine is an existing, non-emergency, stationary RICE.*	62-210.300(3)(a)35., F.A.C.
007	Kohler. 23 HP Gasoline Engine, Model CH23S. *The engine is a four-stroke cycle, 2 cylinder, spark ignition, gasoline engine with a total displacement of 41.0 cubic inches. It is RICE welding machine/portable generator. It is used in the maintenance shop, stays on-site and is on wheels. The manufacture date is 12/04/2007.* *The engine is subject to 40 CFR 63 40 CFR 63 Subpart ZZZZ National Emissions Standards For Hazardous Air Pollutants For Stationary Reciprocating Internal Combustion Engines. In accordance with the definitions of this subpart, the engine is an existing, non-emergency, stationary RICE.*	62-210.300(3)(a)35., F.A.C.

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ID No.	Emissions unit/Activity	Rule
008	Kubota. 72 HP Diesel Engine, Model V3300-ES. *The engine is a four-stroke cycle, 4-cylinder, compression ignition, gasoline engine with a total displacement of 202 cubic inches. It is on a log splitter that remains on-site and supports the pellet plant. The manufacture date is 2004.* *The engine is subject to 40 CFR 63 40 CFR 63 Subpart ZZZZ National Emissions Standards For Hazardous Air Pollutants For Stationary Reciprocating Internal Combustion Engines In accordance with the definitions of this subpart, the engine is an existing, non-emergency, stationary RICE.*	62-210.300(3)(a)35., F.A.C.
---	Liquid storage tanks/vessels for diesel fuel for heavy equipment	62-210.300(3)(b)1., F.A.C.
---	Portable gas powered emergency generators and other small self-powered equipment	62-210.300(3)(b)1., F.A.C.
---	Fire and safety equipment to include fire extinguishers and water tanker gas driven pump	62-210.300(3)(a)15., F.A.C.
---	Welding equipment	62-210.300(3)(a)13., F.A.C.
---	Surface coating operations using less than 3 gallons per year	62-210.300(3)(a)27., F.A.C.
---	Equipment used for surface coating	62-210.300(3)(a)27., F.A.C.
---	Lubrication operations of equipment on a semi-annual basis	62-210.300(3)(a)16., F.A.C.
---	Plant maintenance and upkeep activities (e.g., grounds keeping, general repairs, cleaning, welding).	62-210.300(3)(b)1., F.A.C.
---	Application of herbicide and or pesticide	62-210.300(3)(a)17., F.A.C.
---	Vehicle refueling operations for diesel operated equipment	62-210.300(3)(a)19., F.A.C.
---	Air compressors and pneumatically operated hand tools	62-210.300(3)(b)1., F.A.C.
---	Use of environmentally safe degreasers for parts cleaning	62-210.300(3)(a)23., F.A.C.
---	Air-conditioning and ventilating units used for human comfort that do not exhaust air pollutants into the ambient air from any industrial process	62-210.300(3)(b)1., F.A.C.
---	Consumer use of office equipment and products	62-210.300(3)(b)1., F.A.C.
---	Janitorial services and consumer use of janitorial products	62-210.300(3)(b)1., F.A.C.
---	Bathroom/toilet vents emissions	62-210.300(3)(b)1., F.A.C.
---	Electric Wood Chipper *(associated potential PM emissions)*	62-210.300(3)(b)1., F.A.C.

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ID No.	Emissions unit/Activity	Rule
009	**Tub Grinder RICE – 500 HP Diesel Engine** *Applicant believes the engine is subject to 40 CFR 63 and 40 CFR 63 Subpart ZZZZ National Emissions Standards For Hazardous Air Pollutants For Stationary Reciprocating Internal Combustion Engines In accordance with the definitions of this subpart, the engine is an existing, non-emergency, stationary RICE.* ***Indianhead Exploration LLC, (d.b.a., Indianhead Biomass Services) owns and operates a diesel powered tub grinder at the wood recycling operation that is on the same contiguous property as Vulcan Renewables, LLC. This tub grinder does not support the pellet production operation, but because the two businesses share common ownership, the potential HAP emissions were included in the facility-wide emissions for Vulcan Renewables for Part 63 and Title V applicability. Vulcan Renewables, LLC ~~will~~ shall include this emissions unit in the future Title V Operation Permit (refer to the Technical Evaluation)***	62-210.300(3)(a)35., F.A.C.

FACILITY REGULATORY CLASSIFICATION

- The facility **is not** a major source of hazardous air pollutants (HAP).
- The facility **has no** units subject to the acid rain provisions of the Clean Air Act (CAA).
- The facility **is** a Title V major source of air pollution in accordance with Chapter 213, F.A.C.
- The facility **is not** a major stationary source in accordance with Rule 62-212.400(PSD), F.A.C.
- This facility contains emissions units that are subject to Chapter 62-204.800, F.A.C. for National Emissions Standards for Hazardous Air Pollutants (NESHAP) under Section 112 of the Clean Air Act.

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SECTION 2. ADMINISTRATIVE REQUIREMENTS

1. Permitting Authority: The permitting authority for this project is the Northeast District, Permitting Program, Florida Department of Environmental Protection (Department). The Northeast District's mailing address is 8800 Baymeadows Way West, Suite 100, Jacksonville, Florida 32256, 904) 256-1700. All documents related to applications for permits to operate an emissions unit shall be submitted to the Northeast District Office.

2. Compliance Authority: All documents related to compliance activities such as reports, tests, and notifications shall be submitted to the Northeast District Office, Compliance Assurance. The mailing address and phone number of the Northeast District Office is: 8800 Baymeadows Way West, Suite 100, Jacksonville, Florida 32256, 904) 256-1700.

3. Appendices: The following Appendices are attached as part of this permit:

   a. Appendix A. Citation Formats and Glossary of Common Terms;

   b. Appendix B. General Conditions;

   c. Appendix C. Common Conditions; and

   d. Appendix D. Common Testing Requirements.

   e. Appendix BMP. Best Management Practices

   f. Appendix SSM. Startup, Shutdown, Malfunction, and Operation & Maintenance Plan

4. Applicable Regulations, Forms and Application Procedures: Unless otherwise specified in this permit, the construction and operation of the subject emissions units shall be in accordance with the capacities and specifications stated in the application. The facility is subject to all applicable provisions of: Chapter 403, F.S.; and Chapters 62-4, 62-204, 62-210, 62-212, 62-213, 62-296 and 62-297, F.A.C. Issuance of this permit does not relieve the permittee from compliance with any applicable federal, state, or local permitting or regulations.

5. New or Additional Conditions: For good cause shown and after notice and an administrative hearing, if requested, the Department may require the permittee to conform to new or additional conditions. The Department shall allow the permittee a reasonable time to conform to the new or additional conditions, and on application of the permittee, the Department may grant additional time. [Rule 62-4.080, F.A.C.]

6. Modifications: The permittee shall notify the Compliance Authority upon commencement of construction. No new emissions unit shall be constructed and no existing emissions unit shall be modified without obtaining an air construction permit from the Department. Such permit shall be obtained prior to beginning construction or modification. [Rules 62-210.300(1) and 62-212.300(1)(a), F.A.C.]

7. Source Obligation:

(a) At such time that a particular source or modification becomes a major stationary source or major modification (as these terms were defined at the time the source obtained the enforceable limitation) solely by virtue of a relaxation in any enforceable limitation which was established after August 7, 1980, on the capacity of the source or modification otherwise to emit a pollutant, such as a restriction on hours of operation, then the requirements of subsections 62-212.400(4) through (12), F.A.C., shall apply to the source or modification as though construction had not yet commenced on the source or modification.

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(b) At such time that a particular source or modification becomes a major stationary source or major modification (as these terms were defined at the time the source obtained the enforceable limitation) solely by exceeding its projected actual emissions, then the requirements of subsections 62-212.400(4) through (12), F.A.C., shall apply to the source or modification as though construction had not yet commenced on the source or modification.

[Rule 62-212.400(12), F.A.C.]

8. Application for Title V Permit: This permit authorizes construction of the permitted emissions units and initial operation to determine compliance with Department rules. A Title V air operation permit is required for regular operation of the permitted emissions unit. The permittee shall apply for a Title V air operation permit at least 90 days prior to expiration of this permit, but no later than 180 days after commencing operation. To apply for a Title V operation permit, the applicant shall submit the appropriate application form, compliance test results, and such additional information as the Department may by law require. The application shall be submitted to the appropriate Permitting Authority with copies to the Compliance Authority.

[Rules 62-4.030, 62-4.050, 62-4.220 and Chapter 62-213, F.A.C.]

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1. Volatile Organic Compounds (VOC) Emissions Cap:

   The total maximum allowable site wide VOC emissions from all operations at the Indianhead Biomass Services site shall not exceed 208.0 tons per any consecutive 12-month rolling period. This limitation is requested by the applicant.

   Compliance with the VOC emissions cap shall be demonstrated with the actual VOC emissions from EU 002, EU 003, and EU 005 (from emissions testing), determined on a 12-month rolling basis,

   $[(EF_{002}\text{ lbs VOC/Ton})(Wood_{002})] + [(EF_{003}\text{ lbs VOC/Ton})(Wood_{003})] + [(EF_{005}\text{ lbs VOC/Ton})(Wood_{005})] \leq 208.0\text{ TPY, VOC}$

   Where:

   $Wood_{002}$ = Rolling 12-month total of wood chips dried in the triple-pass dryer (EU-002), tons

   EF_{002} = VOC emission rate from most recent performance test[1] (EU 002), lbs/ton wood dried

   $Wood_{003}$ = Rolling 12-month total of wood loaded into the ground wood storage bin (EU-003), tons

   EF_{003} = VOC emission rate from most recent performance test[1] (EU 003), lbs/ton wood loaded

   $Wood_{005}$ = Rolling 12-month total of pellets produced and stored in load-out silo (EU-005), tons

   EF_{005} = VOC emission rate from most recent performance test[1] (EU 005), lbs/ton pellet produced

   [1]*Or DEP approved emission factor determined pursuant to the specific conditions of this permit.*

   [Application No. 1090463-001-AC; Applicant Requested Emission Limitation; PSD Major Source Applicability Avoidance; Rule 62-4.070(3), F.A.C; Rule 62-210.200(PTE)], F.A.C.]

2. Facility Wide VOC Emissions Cap – Recordkeeping and Reporting: The owner or operator shall maintain a record of the facility-wide VOC emissions as specified in Facility-Wide Condition 1 on monthly basis and a 12 month rolling basis.

   All supporting information, documentation, and records used to compute emissions shall be maintained onsite at the facility in a permanent form suitable for Department inspection for at least five years from the date the data is recorded. This includes, but it not limited to performance test results, emission unit hours of operation, methods, calculations, and formulas. These records and materials shall be made available to the Department or federal air pollution agency upon request.

   The facility-wide VOC emissions on a 12-month rolling average shall be reported to the Department at least every six (6) months with the required Title V operating permit Semi-Annual Monitoring Reports pursuant Rule 62-213.440(1)(b)3.a., F.A.C.).

   [Rule 62-4.070(3), F.A.C., Rule 62-4.160(14)(b), F.A.C., Rule 62-210.370(1), F.A.C.]

3. Wood Pellet Production Limitation: The wood pellet production from the facility shall not exceed 62, 000 tons per any consecutive 12-month period.

   [Application No. 1090463-001-AC; Applicant Requested Emission Limitation; PSD Major Source Applicability Avoidance; Rule 62-4.070(3), F.A.C; Rule 62-210.200(PTE)], F.A.C.]

4. Wood Pellet Production - Recordkeeping: The owner or operator shall maintain a record of the wood pellet production as specified in Facility-Wide Condition 3 on monthly basis and a 12 month rolling basis.

   All supporting information, documentation, and records used to compute emissions shall be maintained onsite at the facility in a permanent form suitable for Department inspection for at least five years from the date the data is recorded. This includes, but it not limited to emission unit hours of operation, methods, calculations, and formulas. These records and materials shall be made available to the Department or federal air pollution agency upon request.

   [Rule 62-4.070(3), F.A.C., Rule 62-4.160(14)(b), F.A.C., Rule 62-210.370(1), F.A.C.]

5. Unconfined Emissions of Particulate Matter: No person shall cause, let, permit, suffer or allow the emissions of unconfined particulate matter from any activity, including vehicular movement; transportation of materials; construction; alteration; demolition or wrecking; or industrially related activities such as loading, unloading, storing or handling; without taking reasonable precautions to prevent such emissions. Reasonable precautions to prevent emissions of unconfined particulate matter at this facility include:

   a. Maintain a buffer between on-site activities and the property line;
   b. Application of water as necessary to minimize particulate emissions from vehicle traffic, wood debris storage and handling, and miscellaneous activities onsite;
   c. Use of landscaping and regular maintenance of vegetation;
   d. Establish 15 mph speed limits on unpaved roads;
   e. Conveyor systems and associated drop points for material shall be covered or partially enclosed;
   f. All areas for chip material handling ~~will~~ shall be on concrete or in partially enclosed buildings;
   g. All drying line equipment is mounted on concrete and ~~will~~ shall be washed off and/or swept up daily if there is any dust or spillage during the work day;
   h. All pellet machines are in an enclosed building and ~~will~~ shall be monitored throughout the work day for dust and spillage. If there is any spillage or emitting dust during operation the machine ~~will~~ shall be shut down. The spill ~~will~~ shall be cleaned up and machine repaired,
   i. Periodic equipment maintenance shall be performed to maintain conveyor systems and drop point integrity;
   j. Daily observations of conveyor systems and associated drop point integrity ~~will~~ shall be conducted to identify equipment abnormalities;
   k. Plant personnel shall be trained on identification of warning signs of equipment malfunction;
   l. Ash from the furnace ~~will~~ shall be removed manually by rake or come-along into the ash bin;
   m. The ash bin is equipped with an ash auger to transfer the cold ash. Water spray ~~will~~ shall be used to wet the ash to prevent fugitive dust;
   n. Wet ash ~~will~~ shall be used as a soil amendment by being mixed into soil.
   o. Operators ~~will~~ shall clean up dust, material spillage or other materials on and around all equipment at the end of the day and/or during their shift

   In determining what constitutes reasonable precautions for a particular facility, the Department shall consider the cost of the control technique or work practice, the environmental impacts of the technique or practice and the degree of reduction of emissions expected from a particular technique or practice.

   [See also Appendix BMP; Rule 62-296.320(4)(c), F.A.C.; Application No. 1090463-001-AC]

6. BMP Plan: A BMP plan shall be utilized to minimize fugitive PM emissions from receiving, handling, storage and processing of clean woody biomass. Best management practices shall be utilized to reduce the potential for spontaneous combustion of stored woody biomass and odors. A preliminary BMP plan is contained in Appendix BMP of this permit. This plan also includes quality control and assurance (Q&A) procedures to ensure woody biomass delivered by vendors and suppliers to the Indianhead Biomass Services facility meets the requirements given in **Condition A.4**. No later than 60 days before the Indianhead Biomass Services facility becomes operational, a final BMP plan shall be filed with the Compliance Authority for approval by the Department to reflect the final engineering designs of the biomass receiving, handling, storage and processing systems. The final approved BMP plan ~~will~~ shall also be incorporated into the Title V operating permit.

   [Application No. 1090463-001-AC; and Rules 62-4.070(3), 62-210.200(PTE)]

7. Excess Emissions: Except as required by specific conditions of this permit dealing with excess emissions with regard to individual emission units, the following conditions apply to excess emissions.
   a. Allowed: Excess emissions resulting from startup, shutdown or malfunction of any emissions unit shall be permitted providing best operational practices to minimize emissions are adhered to and the duration of excess emissions shall be minimized but in no case exceed two hours in any 24 hour period unless specifically authorized by the Department for longer duration.
   b. Malfunction: Excess emissions which are caused entirely or in part by poor maintenance, poor operation or any other equipment or process failure which may reasonably be prevented during startup, shutdown or malfunction shall be prohibited.
   c. Department Discretion: Considering operational variations in types of industrial equipment operations affected by this rule, the Department may adjust maximum and minimum factors to provide reasonable and practical regulatory controls consistent with the public interest.
   d. Department Notification: In case of excess emissions resulting from malfunctions, each owner or operator shall notify the Department in accordance with Rule 62-4.130, F.A.C. A full written report on the malfunctions shall be submitted in a quarterly report, if requested by the Department.

   [Rule 62-210.700, F.A.C.]

8. Objectionable Odors Prohibited: No person shall cause, suffer, allow or permit the discharge of air pollutants which cause or contribute to an objectionable odor. A preliminary Objectionable Odor Plan is contained in Appendix SSM -Startup, Shutdown, Malfunction, and Operation & Maintenance Plan of this permit. No later than 60 days before the Indianhead Biomass Services facility becomes operational, a final Objectionable Odor Plan shall be filed with the Compliance Authority that addresses the procedures and practices that ~~will~~ shall be used to control facility wide odors. The final Objectionable Odor Plan ~~will~~ shall also be incorporated into the Title V operating permit.

   {Permitting Note: An objectionable odor is defined in Rule 62-210.200(Definitions), F.A.C., as any odor present in the outdoor atmosphere which by itself or in combination with other odors, is or may be harmful or injurious to human health or welfare; which unreasonably interferes with the comfortable use and enjoyment of life or property; or which creates a nuisance.}

   [Rule 62-296.320(2), F.A.C. and Rule 62-4.070, F.A.C. Reasonable Assurance]

9. Open Burning Prohibited: No person shall ignite, cause to be ignited or permit to be ignited any material which will result in any prohibited open burning as regulated by Chapter 62-256, F.A.C.; nor shall any person suffer, allow, conduct or maintain any prohibited open burning.

   [Rule 62-256.300, F.A.C.]

10. Accuracy of Equipment: Equipment or instruments used to directly or indirectly determine process variables, including devices such as belt scales, weight hoppers, flow meters, and tank scales, shall be calibrated and adjusted to indicate the true value of the parameter being measured with sufficient accuracy to allow the applicable process variable to be determined within 10% of its true value.

    [Rule 62-297.310(5)(b), F.A.C.]

11. Commencement/Completion of Construction Records: The Permittee shall maintain a record of the commencement and completion of construction dates for installation of the emission units and points of the Wood Pelletizing Plant.

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

12. Commencement/Completion of Construction Reporting: The Permittee shall submit to the Compliance Authority within a reasonable time (not to exceed 15 days following) the completion date of each recorded item in Facility-Wide Condition No. 11. Submission may be in writing or sent electronically to the Compliance Authority: Christopher.Kirts@dep.state.fl.us.

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

13. Annual Operating Report. The Permittee shall submit an annual report, as specified in Appendix C – Common Conditions of this permit, which summarizes the actual operating rates and emissions from this facility. The Annual Operating Report for Air Pollutant Emitting Facility (DEP form number 62-210.900(5)) shall be completed each year and shall be submitted to the Compliance Authority by April 1 of the following year.

    [Rule 62-210.370(3), F.A.C.]

14. Application for Title V Operation Permit. This permit authorizes construction of the permitted emissions units as well as initial operation to determine compliance with conditions of this permit. A Title V operation permit is required for regular operation of the permitted emissions unit. The permittee shall apply for an air operation permit at least 90 days prior to expiration of this permit, but no later than 180 days after commencing operation of the emissions unit in accordance with the authorizations of this construction permit. To apply for a Title V operation permit, the applicant shall submit the appropriate application form, compliance test results, and such additional information as the Department may by law require. The application shall be submitted to the appropriate Permitting Authority.

    [Rules 62-4.030, 62-4.050, and Chapter 62-213, F.A.C.]

A. EU001 Wood Chip Receiving and Storage Area

This section of the permit addresses the following emissions unit.

ID No.	Emission Unit Description
001	Wood Chip Receiving and Storage area *Wood Pelletizing Plant Feedstock*: Yellow pine wood chips (green softwood) ~~will~~ shall be delivered by trucks to the Vulcan Renewables, LLC facility. The receiving area is a covered storage structure that is open at both ends which allows the delivery truck to drive through and dump the load of chips. The wood chips ~~will~~ shall be removed from the storage piles by front-end loader and loaded into a feed hopper and conveyed to the primary hammer mill. ~~In addition to the purchased chips,~~ The facility also proposes to chip yellow pine received from land clearing activities with a 3 ton/hr electric chipper onsite. *Wood Cyclonic Burner Fuel*: Clean woody biomass ~~will~~ shall be the fuel for the wood cyclonic burner for the Triple-pass Rotary Dryer. The clean woody biomass ~~will~~ shall be brought into the facility primarily as shredded material or as chips from contractors that trim trees along roads, transmission lines and easements. Clean woody biomass that is received in a chipped form ~~will~~ shall be stored in a storage pile under the covered storage structure. Oak and other hardwood logs from land clearing may also be a source of supplemental fuel when more heat is desired or to start the furnace from a cold start. The facility proposes to also operate the 3 ton/hr electric wood chipper to provide wood chips as a fuel supplement when the received clean woody biomass described above is in low supply. The clean woody biomass to fire the furnace ~~will~~ shall not come from or be sourced from residential waste pickup in order to avoid being considered municipal solid waste and subjecting the burner and dryer to regulation as a municipal waste combustion unit.

{Permitting note: This emissions unit is regulated under: Rule 62-296.320(4)(b)1., F.A.C.- General Visible Emissions Standard}

EQUIPMENT

A.1. **Wood Chip Receiving and Storage Area Equipment**: The permittee is authorized to construct the Wood chip receiving and storage area equipment such as:

- Clean woody biomass receiving area storage structure/covering
- Clean woody biomass metering devices,
- Any ancillary equipment as necessary.

The construction shall be in accordance with the application and associated documents provided to the Permitting Authority for the issuance of this permit. Any changes to the project that are contrary to these documents and permit shall be reported in writing to the Permitting Authority by the P.E. of Record.

[Application No. 1090463-001-AC]

A.2. **Air Pollution Control Equipment**: To minimize fugitive particulate matter (PM), PM with a mean diameter of 10 micrometers (µm) or less (PM_{10}) and PM with a mean diameter of 2.5 µm or less ($PM_{2.5}$); henceforth called PM, the permittee shall install, operate, and maintain a cover above the wood chip receiving and storage area.

[Application No. 1090463-001-AC; Rule 62-4.070, Reasonable Assurance]

REVISED DRAFT

A. EU001 Wood Chip Receiving and Storage Area

PERFORMANCE RESTRICTIONS

A.3. **Hours of Operation**: The hours of operation for this emissions unit are not restricted, i.e. 8,760 hours/year.

[Rules 62-4.160(2), 62-210.200(PTE), and 62-4.070, Reasonable Assurance F.A.C.; Application No. 1090463-001-AC]

A.4. **Clean Woody Biomass**: The fuel to be received, handled, and stored for burning in the wood cyclonic burner and triple-pass rotary dryer furnace (Emissions Unit 002), shall consist of clean, untreated woody biomass as defined below. The permittee is specifically prohibited from accepting biomass in the form of construction and demolition (C&D) debris. The BMP plan referenced in **Facility-Wide Condition 6** shall be as followed.

Fuel Type	Description
In-forest residue and slash	Tops, limbs, whole tree material and other residues from soft and hardwoods that result from traditional silvicultural harvests.
Mill residue	Saw dust, bark, shavings and kerf waste from cutting/milling whole green trees; fines from planning kiln-dried lumber; wood waste material generated by primary wood products industries such as roundoffs, end cuts, sticks, pole ends; and reject lumber as well as residue material from the construction of wood trusses and pallets.
Pre-commercial tree trimmings and understory clearings	Tops, limbs, whole tree material and other residues that result from the cutting or removal of certain, smaller trees from a stand to regulate the number, quality and distribution of the remaining commercial trees; and forest understory which includes smaller trees, bushes and saplings.
Storm, fire and disease debris	Tops, limbs, whole tree material and other residues that are damaged due to storms, fires or infectious diseases.
Urban wood waste	Trees and other clean, woody matter generated by landscaping contractors or power line/roadway clearance contractors that have been cut down for land development, right-of-way clearing or general landscape management purposes.
Recycled industrial Wood	Wood derived from used pallets packing crates; and clean wood dunnage (not chemically treated) disposed by commercial or industrial users
Supplementary fuel material	Clean agricultural residues (i.e., rice hulls, straw, etc.; no animal wastes or manure); and whole tree chips and pulpwood chips.

[Rules 62-4.160(2), 62-210.200(PTE), and Rule 62-4.070(3), F.A.C. Reasonable Assurance F.A.C.; Application No. 1090463-001-AC]

EMISSIONS STANDARDS

{Permitting Note: Unless otherwise specified, the averaging time for this Specific Condition A.5. is based on the specified averaging time of the applicable test method.}

REVISED DRAFT

A.5. **Visible Emissions**: Visible emissions from this each transfer or drop point that is located outdoors and uncovered shall not exceed 10% opacity. Compliance shall be demonstrated ~~by initial and annual compliance tests~~ upon Department request in accordance with Rule 62-297.310(7)(b), F.A.C. – Special Compliance Tests.

[Rules 62-296.320(4)(b)1., F.A.C.; 62-4.070, Reasonable Assurance]

A.6. **Best Operating Practices for Wood Chip Receiving and Storage Area:** The permittee shall utilize reasonable precautions to control fugitive PM emissions from this emission unit. At a minimum, the Permittee shall implement the following best operating practices (BMP). The Title V air operation permit shall also include the submitted BMP plan.

a. All areas for chip material handling ~~will~~ shall be on concrete or in partially enclosed buildings;

b. Operators ~~will~~ shall clean up dust, material spillage or other materials on and around all equipment at the end of the day and/or during their shift.

A control plan to control PM emissions from wood chip and clean woody biomass delivery, the handling and preparation of these materials is given in Appendix BMP and shall be followed at all times by the permittee. This plan also includes Q&A measures for these materials delivered to the Indianhead Exploration, LLC d/b/a/ Indianhead Biomass Services facility.

The permittee shall also comply with additional precautions listed **Facility-Wide Condition 5** of this permit.

[Rules 62-4.070, Reasonable Assurance and 62-210.200(PTE), F.A.C.; Application No. 1090463-001-AC]

A.7. **Circumvention:** The permittee shall not circumvent the air pollution control equipment or allow the emission of air pollutants without this equipment operating properly.

[Rule 62-210.650, F.A.C.]

TESTING REQUIREMENTS

A.8. **Visible Emissions - Initial Compliance Tests:** Representative emission points shall be tested to demonstrate ~~initial~~ compliance with the VE emissions limit specified in **Specific Condition A.5.** of this subsection upon Department request in accordance with Rule 62-297.310(7)(b), F.A.C. – Special Compliance Tests. ~~The initial test shall be conducted no later than 180 days after initial operation.~~

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

~~**A.9. Visible Emissions - Annual Compliance Tests:** During each federal fiscal year (October 1st to September 30th), representative emission points shall be tested to demonstrate compliance with the VE emissions limit specified in **Specific Condition A.5.** of this subsection.~~

~~[Rule 62-4.070, F.A.C. Reasonable Assurance]~~

A.10. **Visible Emissions- Test Method:** The test method for visible emissions shall be EPA Method 9, as described at 40 CFR 60, Appendix A-4, incorporated and adopted by reference in Rule 62-204.800, F.A.C.

[Rule 62-296.320(4)(b)4.a., F.A.C.]

REVISED DRAFT

A.11. <u>Visible Emissions- EPA Method 9- Required Sampling Time</u>: The required minimum period of observation for each compliance test shall be thirty (30) minutes or, if the operation is normally completed in less than 30 minutes and does not recur within that time, the period of observation shall be equal to the duration of the batch cycle or operation completion time. The opacity test observation period shall include the period during which the highest opacity emissions can reasonably be expected to occur.

[Rules 62-297.310(4)(a)2., and 2.a., F.A.C.]

A.12. <u>Visible Emissions- Test Notification Requirements</u>: The permittee shall notify the Compliance Authority in writing at least 15 days prior to any required tests. Tests shall be conducted in accordance with the applicable requirements specified in Appendix D (Common Testing Requirements) of this permit.

[Rule 62-297.310(7)(a)9., F.A.C.]

A.13. <u>Visible Emissions – Test Reporting Requirements</u>: The permittee shall prepare and submit reports for all required tests in accordance with the requirements specified in Appendix D (Common Testing Requirements) of this permit.

[Rule 62-297.310(8), F.A.C.]

REVISED DRAFT

B. EU 002 Wood Cyclonic Burner/ Triple-pass Rotary Dryer

This section of the permit addresses the following emissions unit.

ID No.	Emission Unit Description
002	Wood Cyclonic Burner/ Triple-pass Rotary dryer. *Description:* Wood chips ~~will~~ shall be removed from the storage piles in the Wood Chip Receiving Area by front-end loader and loaded into a hopper then conveyed to the Primary Hammer Mill followed by a wood screener before being conveyed by auger to a triple-pass rotary dryer. The rotary dryer is manufactured by Baker-Rullman, Model SD125-42. Heat for the dryer, which is direct-fired, ~~will~~ shall be provided by a wood cyclonic-type burner. The furnace is refractory lined and combusts clean woody biomass with a high moisture on a sloped hearth with forced air being introduced tangentially into the combustion chamber to form a cyclonic air flow, similar in some ways to a Dutch oven. Hot air from the furnace is used as a source of direct heat for the triple-pass rotary dryer. The heat of combustion directly contacts the wood chips to drive off moisture at an inlet temperature of around 700 º F while the exit of the dryer is around 100º F. The wood chips exiting the dryer ~~will~~ shall have a moisture content of approximately 10% by weight. The exhaust gases from the dryer along with the dried wood chips ~~will~~ shall be blown into a cyclone used for product recovery (i.e. separates the wood chips and particulate matter). The air from the burner, dryer and cyclone is released to the atmosphere through a blower. This air will contain PM, VOC, and other combustion products from the burning of clean woody biomass. *Capacities:* The triple-pass rotary dryer is rated at 18 tons/hr: 36,000 pounds of green wood chips ~~will~~ shall be loaded per hour into the rotary dryer producing 20,000 lb/hr of dried wood (10 ton/hr) and 16,000 lb/hr of water vapor. The burner is rated at a maximum design heat input rate of 25 million British thermal units per hour (MMBtu/hr). The primary hammer mill is rated at a maximum output of 10 tons per hour of wood. *Fuels:* The burner ~~will~~ shall be fired with clean woody biomass that is brought into the facility primarily as shredded material or as chips from contractors that trim trees along roads, transmission lines and easements (i.e. not from or sourced from residential waste pickup which would subject the dryer to federal municipal waste combustor standards). This wood is chipped by the contractors in-situ using a trailer mounted chipper and ~~will~~ shall be delivered directly to the pelletizing plant. This clean woody biomass ~~will~~ shall represent 90-95% of the fuel for the wood furnace and can be 99% of the fuel source. Oak and other hardwoods are the desired source of supplemental fuel. Small (approximately 0.5-3 foot long) split logs are used to start the furnace from a cold start and to supplement the fuel when more heat is desired. Diesel ~~will~~ shall be used as a supplemental fuel for initial start-up. The facility ~~will~~ shall not install any piping for any auxiliary fuel. The facility proposes to also operate the 3 ton/hr electric wood chipper to provide wood chips as a fuel supplement when the purchased clean woody biomass described above is in low supply. *Controls:* The Primary Hammer Mill and the Wood Screener ~~will~~ shall be vented into the combustion air of the Wood Cyclonic Burner to control the PM and VOC emissions from these sources. In addition, the air from the pellet mills and the pellet cooler (EU 004), which contains VOC and HAP emissions, ~~will~~ shall also be vented to into the combustion air of the Wood Cyclonic Burner. *Stack Parameters:* The rotary dryer stack has a design height of 50 feet and a diameter of 3.5 feet. The exit temperature ~~will~~ shall be approximately 140º F and approximately 15 percent moisture, with a design flow rate of 72,000 actual cubic feet per minute (acfm).

{Permitting note: The Wood Cyclonic Burner is regulated under: Rule 62-296.410, F.A.C. - Carbonaceous Fuel Burning Equipment. The Primary Hammer Mill and the Wood Screener are regulated under: Rule 62-296.320(4)(b), F.A.C. – General Visible Emissions Standards}

REVISED DRAFT

EQUIPMENT

B.1. **Wood Burner and Triple-pass Rotary Dyer Equipment**: The permittee is authorized to install:

- Wood cyclonic burner
- Triple-pass Rotary Dryer (Baker-Rullman, Model SD125-42),
- 10 TPH Hammer Mill known as the Primary Hammer Mill,
- Wood chip screener
- Cyclone (wood chip product recovery),
- 3 ton/hr electric wood chipper (*as described in Project Description*),
- Hydraulic Log Splitter (*as described in Project Description*),
- Hoppers, metering bin, conveyors, blowers, ductwork, and any ancillary equipment as necessary.

[Application No. 1090463-001-AC]

B.2. **Air Pollution Control Equipment**: To comply with the emission limits of this permit, the permittee shall install, operate, and maintain the following air pollution control equipment to achieve the pollutant limits specified within this permit subsection:

a. Enclosed conveyors
b. The Primary Hammer Mill and Wood Screener shall be vented into the combustion air of the Wood Cyclonic Burner for the control of PM and VOC emissions. The Wood Cyclonic Burner shall be in operation at all times that the Primary Hammer Mill and/or Wood Screener is in operation.
c. The Pellet Mills and the Pellet Cooler shall be vented into the combustion air of the Wood Cyclonic Burner for the control of VOC and HAP emissions. The Wood Cyclonic Burner shall be in operation at all times that the Pellet Cooler and/or the Pellet Mills are in operation.

The construction shall be in accordance with the application and associated documents provided to the Permitting Authority for the issuance of this permit. Any changes to the project that are contrary to these documents and permit shall be reported in writing to the Permitting Authority by the P.E. of Record.

{Permitting Note: Enclosed conveyors means that the conveyance belt for the wood chips is totally enclosed from above and below thus preventing wind from causing fugitive dust emissions. However, the conveyance belt shall have access panels that can be opened for maintenance and repairs.}

[Application No. 1090463-001-AC; Rule 62-4.070, F.A.C. Reasonable Assurance]

B.3. **Circumvention:** The permittee shall not circumvent the air pollution control equipment or allow the emission of air pollutants without this equipment operating properly.

[Rule 62-210.650, F.A.C.]

REVISED DRAFT

MONITORING REQUIREMENTS

B.4. **Furnace- Combustion Temperature**: The Permittee shall install, calibrate, operate, and maintain a device which continuously measures and records the combustion temperature of the Triple-Pass Rotary Dryer wood burning furnace. The temperature monitoring device shall have an accuracy of ±5 (°F), and be installed, calibrated and properly functioning within 60 calendar days of achieving permitted capacity as defined in Rule 62-297.310(2), F.A.C. (**Specific Condition B.5.**), but no later than 180 calendar days after initial startup and prior to the initial performance tests. The Permittee shall verify the calibration of the temperature sensors at least on an annual basis.

[Application No. 1090463-001-AC, Rule 62-4.070, F.A.C. Reasonable Assurance]

PERFORMANCE RESTRICTIONS

B.5. **Permitted Capacity- Wood Cyclonic Burner**: The maximum operation capacity for the Wood Cyclonic Burner, as determined by its physical design, shall not exceed 25 MMBtu per hour heat input.

[Rules 62-4.070(3) and 62-210.200(PTE), F.A.C., and Permit Application No. 1090463-001-AC]

B.6. **Permitted Capacity- Triple-pass Rotary Dryer**: The maximum operation rate for the Triple-pass Rotary Dryer shall not exceed 20,000 lb/hr of dried wood (10 ton/hr).

[Rules 62-4.070(3) and 62-210.200(PTE), F.A.C., and Permit Application No. 1090463-001-AC]

B.7. **Furnace Combustion Temperature:** The Permittee shall operate the Triple-pass Rotary Dryer such that the combustion temperature of the furnace is not less than the temperature established during the initial VOC performance tests that demonstrate compliance with the emission limits in **Specific Condition B.13.**, except during periods of startup and shutdown of the Triple-Pass Rotary Dryer.

The minimum temperature value shall be determined from the arithmetic average of the temperatures measured during the three runs of the initial VOC performance tests using the temperature monitoring device required by **Specific Condition No. B.4.**

- The hourly average temperatures shall be calculated for each run of the performance test
- The run average temperature shall be calculated for each run, and the average of the run average temperatures shall be determined

The Permittee shall maintain the combustion temperature at or above this minimum temperature value, averaged over any three-hour period. Records shall be maintained on site and made available upon request.

[Rule 62-4.070(3) F.A.C., and Permit Application No. 1090463-001-AC]

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B.8. **Authorized Fuel- Wood Cyclonic Burner**: The burner shall be fired with clean woody biomass as defined in **Condition A.4**. Vulcan Renewables, LLC d/b/a/ Indianhead Biomass Services shall be prohibited from firing yard trash that meets the **40 CFR 60 Subpart AAAA** (40 CFR 60.1465) definition of municipal solid waste in order to not be subject to the requirements of this Subpart. The wood material fired in the wood cyclone burner shall not be from or sourced from residential yard pick up. The permittee shall keep records onsite of the source of the clean woody biomass received at the facility. These records shall be available to the Department upon request. Oak and other hardwoods, as described by this permit, are authorized for use to start the furnace from a cold start and to supplement the fuel when more heat is desired. Diesel shall be used only for initial startup of the burner.

Municipal solid waste means household, commercial/retail, or institutional waste; and household, commercial/retail, and institutional waste includes yard waste and refuse-derived fuel.

Yard waste means grass, grass clippings, bushes, shrubs, and clippings from bushes and shrubs. They come from residential, commercial/retail, institutional, or industrial sources as part of maintaining yards or other private or public lands. Yard waste does not include two items:

(1) Construction, renovation, and demolition wastes that are exempt from the definition of "municipal solid waste" in this section.

(2) Clean wood that is exempt from the definition of "municipal solid waste" in this section

[40 CFR 60.1465, Application No. 1090463-001-AC; Rule 62-4.070(3), F.A.C. Reasonable Assurance]

B.9. **Hours of Operation**: The hours of operation of the Primary Hammer Mill, the Wood Cyclonic Burner, and the Triple-pass Rotary Dryer ~~shall not exceed 6,200 hours/ year~~ are not restricted, i.e. 8,760 hours/year.

[Rules 62-4.160(2), 62-210.200(PTE), and 62-4.070, Reasonable Assurance F.A.C.; Application No. 1090463-001-AC]

EMISSIONS STANDARDS

{Permitting Note: Unless otherwise specified, the averaging times for these Conditions B.10. and/thru B.15. are based on the specified averaging time of the applicable test method.}

B.10. **Visible Emissions- Wood Cyclonic Burner**: Visible emissions from the Wood Cyclonic Burner shall not exceed 10 percent opacity. Compliance shall be demonstrated by initial and annual compliance tests.

[Rule 62-296.410(2)(b)1., F.A.C.; Rule 62-4.070(3), F.A.C. Reasonable Assurance]

B.11. **Nitrogen Oxides (NO_x) – Triple-pass Rotary Dryer:** NO_x emissions from the Triple-pass Rotary Dryer shall not exceed 27 lbs/hr and equivalent emissions of 83.7 tons per any consecutive twelve-month period. Compliance shall be demonstrated by initial and annual compliance tests.

[Application No. 1090463-001-AC; Rule 62-4.070(3), F.A.C. Reasonable Assurance; PSD Review Avoidance]

REVISED DRAFT

B.12. **Particulate Matter – Triple-pass Rotary Dryer:** Particulate matter emissions from the Triple-pass Rotary Dryer shall not exceed 22 lbs/hr and equivalent emissions of 68.2 tons per any consecutive twelve-month period. Compliance shall be demonstrated by initial and annual compliance tests.

[Application No. 1090463-001-AC; Rule 62-4.070(3), F.A.C. Reasonable Assurance]

B.13. **Volatile Organic Compounds (VOC) – Triple-pass Rotary Dryer Stack:** VOC emissions from Triple-pass Rotary Dryer stack shall not exceed 63.0 lbs/hr and equivalent emissions of 195.3 tons per any consecutive twelve-month period. Compliance shall be demonstrated by initial and quarterly compliance tests.

[Application No. 1090463-001-AC; Rule 62-4.070(3), F.A.C. Reasonable Assurance; PSD Review Avoidance]

B.14. **Carbon Monoxide (CO) – Triple-pass Rotary Dryer:** CO emissions from the Triple-pass Rotary Dryer shall not exceed 53.0 lbs/hr and equivalent emissions of 164.3 tons per any consecutive twelve-month period. Compliance shall be demonstrated by initial and annual compliance tests.

[Application No. 1090463-001-AC; Rule 62-4.070(3), F.A.C. Reasonable Assurance]

B.15. **Best Operating Practices for Primary Hammer Mill, Wood Screener, Wood Cyclonic Burner, and Triple-pass Rotary Dryer:** The permittee shall utilize reasonable precautions to control fugitive PM emissions from this emission unit. At a minimum, the permittee shall implement the following best operating practices (BMP). The Title V air operation permit shall also include the submitted BMP plan.

a. All areas for chip material handling ~~will~~ shall be on concrete or in partially enclosed buildings;

b. Operators ~~will~~ shall clean up dust, material spillage or other materials on and around all equipment at the end of the day and/or during their shift;

The permittee shall also comply with additional precautions listed **Facility-Wide Condition 5** of this permit.

[Rules 62-4.070, Reasonable Assurance and 62-210.200(PTE), F.A.C.; Application No. 1090463-001-AC]

TESTING REQUIREMENTS

B.16. **Visible Emissions - Wood Cyclonic Burner -Initial Compliance Tests:** The wood cyclonic burner shall be tested, using the test method and procedures specified in **Specific Conditions B.18**. and **B.19.**, to demonstrate initial compliance with the VE emissions limit specified in **Specific Condition B.10.** of this subsection. The initial test shall be conducted within 60 days after achieving permitted capacity, but not later than 180 days after initial operation of the unit.

[Rule 62-4.070, F.A.C. Reasonable Assurance; Rule 62-297.310(7)(a)1., F.A.C.]

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B.17. **Visible Emissions - Wood Cyclonic Burner -Annual Compliance Tests:** During each federal fiscal year (October 1st to September 30th), the wood cyclonic burner shall be tested, using the test method specified in **Specific Conditions B.18. and B.19.**, to demonstrate compliance with the VE emissions limit specified in **Specific Condition B.10.** of this subsection.

[Rule 62-4.070, F.A.C. Reasonable Assurance; Rule 62-297.310(7)(a)4., F.A.C.]

B.18. **Visible Emissions- Wood Cyclonic Burner -Test Method:** The test method for visible emissions shall be EPA Method 9, as described at 40 CFR 60, Appendix A-4, incorporated and adopted by reference in Rule 62-204.800, F.A.C.

[Rule 62-296.410(3)(a), F.A.C.]

B.19. **Visible Emissions- Wood Cyclonic Burner -EPA Method 9- Required Sampling Time:** The required minimum period of observation for each compliance test shall be thirty (30) minutes or, if the operation is normally completed in less than 30 minutes and does not recur within that time, the period of observation shall be equal to the duration of the batch cycle or operation completion time. The opacity test observation period shall include the period during which the highest opacity emissions can reasonably be expected to occur.

[Rules 62-297.310(4)(a)2., and 2.a., F.A.C.]

B.20. **Nitrogen Oxides (NO_x) – Triple-pass Rotary Dryer -Initial Compliance Tests:** The triple-pass Rotary Dryer shall be tested, using the test method specified in **Specific Condition B.22.**, to demonstrate initial compliance with the NO_x emissions limit specified in **Specific Condition B.11.** of this subsection. The initial test shall be conducted within 60 days after achieving permitted capacity, but not later than 180 days after initial operation of the unit.

[Rule 62-4.070, F.A.C. Reasonable Assurance; Rule 62-297.310(7)(a)1., F.A.C.]

B.21. **Nitrogen Oxides (NO_x) – Triple-pass Rotary Dryer -Annual Compliance Tests:** During each federal fiscal year (October 1st to September 30th), the triple-pass Rotary Dryer shall be tested, using the test method specified in **Specific Condition B.22.**, to demonstrate compliance with the NO_x emissions limit specified in **Specific Condition B.11.** of this subsection.

If the results of the first annual performance test along with the initial test required by **Specific Condition B.20.** indicate compliance with the emission limit stated in **Specific Condition B.11.**, the owner or operator may forego a performance test for NO_x emissions for the subsequent 3 years. A performance test shall then be conducted in year 5 prior to applying for an operation permit renewal. Performance tests shall thereafter be conducted on a five year basis during the federal fiscal year (October 1st to September 30th), prior to operation permit renewal.

If either the initial or the first annual performance test indicate noncompliance with the emissions limit specified in **Specific Condition B.11**., performance tests shall be conducted on annual basis during each federal fiscal year (October 1st to September 30th).

[Rule 62-4.070, F.A.C. Reasonable Assurance; Rule 62-297.310(7)(a)3., F.A.C.]

REVISED DRAFT

B.22. Nitrogen Oxides (NO_x) – Triple-pass Rotary Dryer -Test Method: The test method for NO_x emissions shall be EPA Method 7E, as described at 40 CFR 60, Appendix A-4, incorporated and adopted by reference in Rule 62-204.800, F.A.C.

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

B.23. Particulate Matter – Triple-pass Rotary Dryer -Initial Compliance Tests: The triple-pass Rotary Dryer shall be tested, using the test method specified in **Specific Condition B.25.**, to demonstrate initial compliance with the PM emissions limit specified in **Specific Condition B.12.** of this subsection. The initial test shall be conducted within 60 days after achieving permitted capacity, but not later than 180 days after initial operation of the unit.

[Rule 62-4.070, F.A.C. Reasonable Assurance; Rule 62-297.310(7)(a)1., F.A.C.]

B.24. Particulate Matter – Triple-pass Rotary Dryer -Annual Compliance Tests: During each federal fiscal year (October 1st to September 30th), the triple-pass Rotary Dryer shall be tested, using the test method specified in **Specific Condition B.25.**, to demonstrate compliance with the PM emissions limit specified in **Specific Condition B.12.** of this subsection.

If the results of the first annual performance test along with the initial test required by **Specific Condition B.23.** indicate compliance with the emission limit stated in **Specific Condition B.12.**, the owner or operator may forego a performance test for PM emissions for the subsequent 3 years. A performance test shall then be conducted in year 5 prior to applying for an operation permit renewal. Performance tests shall thereafter be conducted on a five year basis during the federal fiscal year (October 1st to September 30th), prior to operation permit renewal.

If either the initial or the first annual performance test indicate noncompliance with the emissions limit specified in **Specific Condition B.12**., performance tests shall be conducted on annual basis during each federal fiscal year (October 1st to September 30th).

[Rule 62-4.070, F.A.C. Reasonable Assurance; Rule 62-297.310(7)(a)3., F.A.C.]

B.25. Particulate Matter – Triple-pass Rotary Dryer -Test Method: The test method for PM emissions shall be EPA Method 5, as described at 40 CFR 60, Appendix A-3, incorporated and adopted by reference in Rule 62-204.800, F.A.C.

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

B.26. VOC – Triple-pass Rotary Dryer -Initial Quarterly Compliance Tests: The triple-pass Rotary Dryer shall be tested, using the test method specified in **Specific Condition B.28.**, to demonstrate initial compliance with the VOC emissions limit specified in **Specific Condition B.13.** of this subsection. The ~~initial~~ first of four[1] performance tests shall be conducted within 60 days after achieving permitted capacity, but not later than 180 days after initial operation of the unit. The subsequent second, third, and fourth[1] performance tests shall be conducted no more than 3 months following the previous performance test.

[1] [1]The Permittee may request that the Department waive the fourth required performance test should the results of performance tests one, two, and three be substantially identical (i.e. ± 10%) and demonstrate compliance with the VOC emissions limit in Specific Condition B.13.

[Rule 62-4.070, F.A.C. Reasonable Assurance; Rule 62-297.310(7)(a)1., F.A.C.]

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B.27. VOC – Triple-Pass Rotary Dryer -~~Quarterly and~~ Annual Compliance Tests:
~~No more than 3 months following the initial or previous compliance test, as applicable, the triple-pass Rotary Dryer shall be tested, using the test method specified in **Specific Condition B.28.**, to demonstrate compliance with the VOC emissions limit specified in **Specific Condition B.13.** of this subsection for a total 9-month period.~~

~~If all four performance tests (including the initial test required by **Specific Condition B.26.**) indicate compliance with the emission limit stated in **Specific Condition B.13.**, the performance tests may then be conducted on an annual basis,~~During each federal fiscal year (October 1st to September 30th), the triple-pass Rotary Dryer shall be tested, using the test method specified in **Specific Condition B.28.**, to demonstrate compliance with the VOC emissions limit specified in **Specific Condition B.13.** of this subsection.

~~If any of the performance tests that are conducted on a 3-month basis indicate noncompliance with the emissions limit specified in **Specific Condition B.13.**, performance tests shall continue to be conducted on a 3-month basis until at least 4 consecutive performance tests indicate compliance with the emissions limit.~~

[Rule 62-4.070, F.A.C. Reasonable Assurance; Rule 62-297.310(7)(a)4., F.A.C.]

B.28. VOC – Triple-pass Rotary Dryer -Test Method: The test method for VOC emissions shall be EPA Method 25 or 25A, as described at 40 CFR 60, Appendix A-7, incorporated and adopted by reference in Rule 62-204.800, F.A.C.

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

B.29. CO – Triple-pass Rotary Dryer -Initial Compliance Tests: The triple-pass Rotary Dryer shall be tested, using the test method specified in **Specific Condition B.31.**, to demonstrate initial compliance with the CO emissions limit specified in **Specific Condition B.14.** of this subsection. The initial test shall be conducted within 60 days after achieving permitted capacity, but not later than 180 days after initial operation of the unit.

[Rule 62-4.070, F.A.C. Reasonable Assurance; Rule 62-297.310(7)(a)1., F.A.C.]

B.30. CO– Triple-pass Rotary Dryer -Annual Compliance Tests: During each federal fiscal year (October 1st to September 30th), the triple-pass Rotary Dryer shall be tested, using the test method specified in **Specific Condition B.31.**, to demonstrate compliance with the CO emissions limit specified in **Specific Condition B.14.** of this subsection.

[Rule 62-4.070, F.A.C. Reasonable Assurance; Rule 62-297.310(7)(a)4., F.A.C.]

B.31. CO – Triple-pass Rotary Dryer -Test Method: The test method for PM emissions shall be EPA Method 10, as described at 40 CFR 60, Appendix A-4, incorporated and adopted by reference in Rule 62-204.800, F.A.C.

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

B.32. Compliance Testing Requirements: Testing of emissions shall be conducted while the wood cyclonic burner, the triple-pass rotary dryer, the primary hammer mill, the pellet mills, and the pellet cooler are operating at maximum capacities.

[Rule 62-4.070(3), F.A.C. Reasonable Assurance, 62-297.310(2), F.A.C.]

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B.33. Required Stack Sampling Facilities: Sampling facilities include sampling ports, work platforms, access to work platforms, electrical power, and sampling equipment support. All stack sampling facilities must meet any Occupational Safety and Health Administration (OSHA) Safety and Health Standards described in 29 CFR Part 1910, Subparts D and E.

(a) *Permanent Test Facilities*. The owner or operator of an emissions unit for which a compliance test, other than a visible emissions test, is required on at least an annual basis, shall install and maintain permanent stack sampling facilities.

(b) *Temporary Test Facilities*. The owner or operator of an emissions unit that is not required to conduct a compliance test on at least an annual basis may use permanent or temporary stack sampling facilities. If the owner chooses to use temporary sampling facilities on an emissions unit, and the department elects to test the unit, such temporary facilities shall be installed on the emissions unit within 5 days of a request by the department and remain on the emissions unit until the test is completed.

[Rule 62-297.310(6), F.A.C.]

B.34. Compliance Test Notification Requirements: The permittee shall notify the Compliance Authority in writing at least 15 days prior to any required tests. Tests shall be conducted in accordance with the applicable requirements specified in Appendix D (Common Testing Requirements) of this permit.

[Rule 62-297.310(7)(a)9., F.A.C.]

B.35. Compliance Test Reporting Requirements: The permittee shall prepare and submit reports for all required tests in accordance with the requirements specified in Appendix D (Common Testing Requirements) of this permit. The Permittee shall include with the VOC emissions test report the combustion temperature continuous monitoring data of the Triple-Pass Rotary Dryer furnace recorded during the VOC emissions performance test (per run), detail description of the type (chips, logs, etc.), and quantity (pounds) of clean woody biomass burned, and the quantity of wood chips dried (pounds).

[Rule 62-297.310(8), F.A.C.]

RECORDS AND REPORTS

B.36. Processing Records: The permittee shall record the following information in a written log:

a. The amount of wood dried in the triple-pass rotary dryer (tons) for the previous calendar month and the previous 12 calendar months of operation;

b. The quantity of diesel fired in the Wood Cyclonic Burner (gallons) during the time periods stated in **Specific Condition B.6.**, for the previous calendar month and the previous 12 calendar months of operation;

c. The amount of clean woody biomass fired in the Wood Cyclonic Burner (pounds) for the previous calendar month and the previous 12 calendar months of operation;

d. The source of the clean woody biomass received and fired in the Wood Cyclonic Burner;

e. The Triple-Pass Rotary Dryer furnace combustion temperature (minimum data collection frequency of one minute);

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f. The Triple-Pass Rotary Dryer furnace combustion temperature (three-hour rolling average);

~~g. The hours of operation of this emissions unit~~

The records shall be maintained in a written (or electronic) log available for inspection by the Compliance Authority.

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

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C. EU 003 Secondary Hammer Mill and Ground Wood Storage Bin

This section of the permit addresses the following emissions unit.

ID No.	Emission Unit Description
003	Secondary Hammer Mill and Ground Wood Storage Bin. *Description:* Dry wood chips from the Triple-pass Rotary Dryer ~~will~~ shall be conveyed to the secondary hammer mill that ~~will~~ shall be used to grind the wood chips into a particle size (2 mm or less) that is suitable for further processing in the pellet mills. From the secondary hammer mill, the ground dry wood particles are pneumatically conveyed to a storage bin that ~~will~~ shall be equipped with a bin-vent pulse-jet dust collector. *Capacities:* The secondary hammer mill is rated at a maximum output of no more than 10 tons per hour of wood. The Ground Wood Storage Bin is designed at 20 tons. *Controls:* The Ground Wood Storage Bin ~~will~~ shall be equipped with a 5,000 acfm Camfil-Farr Gold Series® pulse-jet dust collector with a design control efficiency of at least 99.9%. In addition, the air from the pellet screener (EU 004), which contains particulate matter in the form of wood dust, ~~will~~ shall be vented to ground wood storage bin for PM control. *Stack Parameters:* The Ground Wood Storage Bin stack has a design height of 11 feet and a diameter of 1.33 feet. The exit temperature ~~will~~ shall be approximately 80º F and ambient moisture (~2 percent) with a design flow rate of 12,000 actual cubic feet per minute (acfm).

{Permitting note: The secondary hammer mill and the ground wood storage bin are regulated under: Rule 62-296.320(4)(b), F.A.C. – General Visible Emissions Standards.}

EQUIPMENT

C.1. **Secondary Hammer Mill and Ground Wood Storage Bin Equipment**: The permittee is authorized to install:

- 10 TPH Hammer Mill known as the Secondary Hammer Mill,
- 20 ton Ground Wood Storage Bin for the receipt and storage of ground wood particles from the Secondary Hammer Mill,
- Conveying system (pneumatic) from the Secondary Hammer Mill to the Ground Wood Storage Bin
- Hoppers, conveyors, blowers, ductwork, and any ancillary equipment as necessary.

[Application No. 1090463-001-AC]

C.2. **Air Pollution Control Equipment**: The permittee shall install, operate, and maintain a 5,000 acfm Camfil-Farr Gold Series® pulse-jet dust collector (or equivalent) on the Ground Wood Storage Bin to achieve the emission limits specified in this permit subsection. The dust collector shall have design control efficiency of at least 99.9%.

The dust collectors shall be on line, functioning properly, and in operation in accordance with the manufacturer's recommendations whenever wood particles are being transferred to/from the ground wood storage bin, and the pellet screener is in operation.

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C.2. continued:

The pressure differential across the dust collector shall be maintained between 2.5 and 7.0 inches of water. The pressure gauge shall be checked at least once per shift and pressure readings recorded in a logbook that ~~will~~ shall be made available for inspection by the Department. If the pressure varies outside this range, corrective action shall be taken as outlined in the SSM and O & M Plan. In the event corrective actions do not resolve the situation, the plant ~~will~~ shall be shut down and maintenance initiated as outlined in the SSM and O & M Plan.

[Application No. 1090463-001-AC; Rule 62-4.070, F.A.C. Reasonable Assurance]

C.3. Circumvention: The permittee shall not circumvent the air pollution control equipment or allow the emission of air pollutants without this equipment operating properly.

[Rule 62-210.650, F.A.C.]

PERFORMANCE RESTRICTIONS

C.4. Permitted Capacity- Ground Wood Storage Bin: The maximum storage capacity of the ground wood storage bin shall not exceed 20 tons of dry wood particles.

[Rule 62-210.200, FAC, Application No. 1090463-001-AC]

C.5. Volumetric Flow Rate: The nominal volumetric flow rate for the dust collector is 5,000 cubic feet per minute.

[Rule 62-210.200, FAC, Application No. 1090463-001-AC]

C.6. Permitted Capacity- Secondary Hammer Mill: The maximum throughput rate of hammer mill shall not exceed 10 tons per hour of dried wood chips.

[Rule 62-210.200, FAC, Application No. 1090463-001-AC]

C.7. Hours of Operation: The hours of operation of the Secondary Hammer Mill and the Ground Wood Storage Bin ~~shall not exceed 6,200 hours per year~~ are not restricted, i.e. 8,760 hours/year.

[Rules 62-4.160(2) and 62-210.200(PTE), F.A.C.; Application No. 1090463-001-AC]

EMISSIONS STANDARDS

{Permitting Note: Unless otherwise specified, the averaging time for these Conditions C.8. through C.9. are based on the specified averaging time of the applicable test method.}

C.8. Visible emissions: Visible emissions from the ground wood storage bin (dust collector) shall not exceed 5 percent opacity. Compliance shall be demonstrated by initial and annual compliance tests.

[Rule 62-4.070(3), F.A.C. Reasonable Assurance]

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C.9. **Volatile Organic Compounds (VOC):** VOC emissions from this emissions unit shall not exceed 4.0 lbs/hr and equivalent emissions of 12.4 tons per any consecutive twelve-month period. Compliance shall be demonstrated by initial and annual[1] compliance tests.

[1] *The Department may require performance testing on a quarterly instead of an annual basis should the initial performance test results exceed the 4.0 lb/hr VOC limit.*

[Application No. 1090463-001-AC; Rule 62-4.070(3), F.A.C. Reasonable Assurance; PSD Review Avoidance]

C.10. **Best Operating Practices for Secondary Hammer Mill, Ground Wood Storage Bin:** The permittee shall utilize reasonable precautions to control fugitive PM emissions from this emission unit. At a minimum, the permittee shall implement the following best operating practices (BMP). The Title V air operation permit shall also include the submitted BMP plan.

a. Periodic equipment maintenance shall be performed to maintain conveyor systems and drop point integrity;
b. Conveyor systems and associated drop points for material shall be covered or partially enclosed;
c. Operators ~~will~~ shall clean up dust, material spillage or other materials on and around all equipment at the end of the day and/or during their shift.

The permittee shall also comply with additional precautions listed **Facility-Wide Condition 5** of this permit.

{Permitting Note: Enclosed conveyors means that the conveyance belt for the wood chips is totally enclosed from above and below thus preventing wind from causing fugitive dust emissions. However, the conveyance belt shall have access panels that can be opened for maintenance and repairs.}

[Rules 62-4.070, Reasonable Assurance and 62-210.200(PTE), F.A.C.; Application No. 1090463-001-AC]

TESTING REQUIREMENTS

C.11. **Visible Emissions -Initial Compliance Tests:** The ground wood storage bin shall be tested, using the test method and procedures specified in **Specific Condition C.13. and C.14.**, to demonstrate initial compliance with the VE emissions limit specified in **Specific Condition C.8.** of this subsection. The initial test shall be conducted within 60 days after achieving permitted capacity, but not later than 180 days after initial operation of the unit.

[Rule 62-4.070, F.A.C. Reasonable Assurance; Rule 62-297.310(7)(a)1., F.A.C.]

C.12. **Visible Emissions - Annual Compliance Tests:** During each federal fiscal year (October 1st to September 30th), the ground wood storage bin shall be tested, using the test method and procedures specified in **Specific Conditions C.13. and C.14.**, to demonstrate compliance with the VE emissions limit specified in **Specific Condition C.8.** of this subsection.

[Rule 62-4.070, F.A.C. Reasonable Assurance; Rule 62-297.310(7)(a)4., F.A.C.]

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C.13. Visible Emissions-Test Method: The test method for visible emissions shall be EPA Method 9, as described at 40 CFR 60, Appendix A-4, incorporated and adopted by reference in Rule 62-204.800, F.A.C.

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

C.14. Visible Emissions-EPA Method 9- Required Sampling Time: The required minimum period of observation for each compliance test shall be thirty (30) minutes or, if the operation is normally completed in less than 30 minutes and does not recur within that time, the period of observation shall be equal to the duration of the batch cycle or operation completion time. The opacity test observation period shall include the period during which the highest opacity emissions can reasonably be expected to occur.

[Rules 62-297.310(4)(a)2., and 2.a., F.A.C.]

C.15. VOC –Initial Compliance Tests: The ground wood storage bin shall be tested, using the test method specified in **Specific Condition C.17.**, to demonstrate initial compliance with the VOC emissions limit specified in **Specific Condition C.9.** of this subsection. The initial test shall be conducted within 60 days after achieving permitted capacity, but not later than 180 days after initial operation of the unit.

[Rule 62-4.070, F.A.C. Reasonable Assurance; Rule 62-297.310(7)(a)1., F.A.C.]

C.16. VOC –Annual Compliance Tests: During each federal fiscal year (October 1st to September 30th), the ground wood storage bin shall be tested, using the test method specified in **Specific Condition C.17.**, to demonstrate compliance with the VOC emissions limit specified in **Specific Condition C.9.** of this subsection.

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

C.17. VOC – Test Method: The test method for VOC emissions shall be EPA Method 25 or 25A, as described at 40 CFR 60, Appendix A-7, incorporated and adopted by reference in Rule 62-204.800, F.A.C.

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

C.18. Compliance Testing Requirements: Testing of emissions shall be conducted while the secondary hammer mill, the ground wood storage bin, the pellet mills, and the pellet screener are operating at maximum capacities.

[Rule 62-4.070(3), F.A.C. Reasonable Assurance, 62-297.310(2), F.A.C.]

C.19. Required Stack Sampling Facilities: Sampling facilities include sampling ports, work platforms, access to work platforms, electrical power, and sampling equipment support. All stack sampling facilities must meet any Occupational Safety and Health Administration (OSHA) Safety and Health Standards described in 29 CFR Part 1910, Subparts D and E.

(a) *Permanent Test Facilities*. The owner or operator of an emissions unit for which a compliance test, other than a visible emissions test, is required on at least an annual basis, shall install and maintain permanent stack sampling facilities.

(b) *Temporary Test Facilities*. The owner or operator of an emissions unit that is not required to conduct a compliance test on at least an annual basis may use permanent or temporary stack sampling facilities. If the owner chooses to use temporary sampling facilities on an emissions unit, and the

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department elects to test the unit, such temporary facilities shall be installed on the emissions unit within 5 days of a request by the department and remain on the emissions unit until the test is completed.

[Rule 62-297.310(6), F.A.C.]

C.20. Compliance Test Notification Requirements: The permittee shall notify the Compliance Authority in writing at least 15 days prior to any required tests. Tests shall be conducted in accordance with the applicable requirements specified in Appendix D (Common Testing Requirements) of this permit.

[Rule 62-297.310(7)(a)9., F.A.C.]

C.21. Compliance Test Reporting Requirements: The permittee shall prepare and submit reports for all required tests in accordance with the requirements specified in Appendix D (Common Testing Requirements) of this permit. The Permittee shall include with the VOC emissions test report the quantity (pounds) of wood loaded into the Ground Wood Storage Bin, quantity of pellets screened (pounds).

[Rule 62-297.310(8), F.A.C.]

RECORDS AND REPORTS

C.22. Processing Records: The permittee shall record the following information in a written log:

a. The amount of wood processed in the secondary hammer mill (tons) for the previous calendar month and the previous 12 calendar months of operation;

b. The amount of wood loaded into the ground wood storage bin (tons) for the previous calendar month and the previous 12 calendar months of operation;

~~c. The hours of operation of the Secondary Hammer Mill and the Ground Wood Storage Bin.~~

The records shall be maintained in a written (or electronic) log available for inspection by the Compliance Authority.

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

C.23. Dust Collector Maintenance and Operation Records: The ground wood storage silo dust collector shall be inspected and maintained in accordance with the recommendations developed for the equipment by the vendor. Inspection and maintenance documentation shall be retained at the facility for at least 5 years and made readily available for inspection by the Department. Documentation shall include, but is not limited to the following:

A. Inspection and maintenance of the dust collector cleaning system ~~to minimize particulate buildup or caking on the filter bags;~~ for proper operation
B. Inspection and replacement, as needed, of the collector filters. ~~Filters should be checked for any tears, holes, abrasions, and scuffs;~~
C. The recorded pressure differential across the dust collector from each operator's shift;
D. Date observations and maintenance were performed;
E. What maintenance and observations were performed;
F. Name and title of the personnel performing the maintenance/inspections/observations.

[Rule 62-4.070(3), F.A.C. Reasonable Assurance]

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This section of the permit addresses the following emissions unit.

ID No.	Emission Unit Description
004	Pellet Mills, Pellet Cooler, and Pellet Screener *Description:* Ground wood from the ground wood storage bin ~~will~~ shall be conveyed to the indoor pellet mills where the wood pellets are formed. There ~~will~~ shall be ~~12~~ 13 pellet mills located at the facility~~, a maximum of 10 pellet mills will be in simultaneous operation at any time with the remaining 2 pellet mills available as standby units during periods of maintenance~~. In each pellet mill, the dry ground wood (2 mm or less in diameter) is pressed through forged alloy dies. The heat of friction generated this process is sufficient to liquefy the lignin in the wood and bind the ground wood into a pellet without the addition of other binders. This heat also causes the organics in the wood to volatilize releasing VOCs and the hazardous air pollutant, methanol. The formed pellets ~~will~~ shall then pass through a pellet air-cooler where the temperature of the wood pellets are reduced. From the cooler, the formed pellets are sent to a pellet screener before being conveyed to the product storage area. Reject material and pellets from the pellet screener ~~will~~ shall be transferred back to the ground wood storage bin and used to make pellets. *Capacities:* ~~Each~~ Twelve of the pellet mills ~~has~~ have a maximum design capacity of 1 ton per hour, and one has a maximum design capacity of 6 tons per hour. ~~A maximum of 10~~ The pellet mills ~~will~~ shall be ~~in simultaneous operation~~ simultaneously operated in a manner such that ~~at any time resulting in~~ a maximum ~~design capacity~~ of no more than 10 tons per hour of pellet production is reached. The pellet cooler and pellet screener are rated at a maximum design capacity of 10 tons per hour of pellets each. *Controls:* The air from the pellet mills, the pellet cooler, which contains VOC and HAP emissions, ~~will~~ shall be vented to the furnace's combustion air blower of the Triple-Pass Rotary Dryer (EU 002) where it ~~will~~ shall be combusted by the burner. The air from the pellet screener, which contains particulate matter in the form of wood dust, ~~will~~ shall be vented to the 20 ton ground wood storage bin (EU 003).

{Permitting note: The pellet mills are regulated under: Rule 62-296.320(4)(b), F.A.C. – General Visible Emissions Standards.}

EQUIPMENT

D.1. <u>Pellet Mill, Pellet Cooler, Pellet Screener Equipment</u>: The permittee is authorized to install:

- 12, Pellet Mills,
- Ambient Air Pellet Cooler,
- Pellet Screener
- Hoppers, conveyors, blowers, ductwork, and any ancillary equipment as necessary.

[Application No. 1090463-001-AC]

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D.2. **Air Pollution Control Equipment**: To comply with the emission limits of this permit, the permittee shall install, operate, and maintain the following air pollution control equipment to achieve the pollutant limits specified within this permit subsection:

a. The air from the pellet mills and the pellet cooler shall be vented to the furnace's combustion air blower of the Triple-Pass Rotary Dryer (EU 002) where it ~~will~~ shall be combusted by the burner for VOC, HAP, and PM control.

b. The air from the pellet screener shall be vented to the 20 ton ground wood storage bin (EU 003) for PM control.

The construction shall be in accordance with the application and associated documents provided to the Permitting Authority for the issuance of this permit. Any changes to the project that are contrary to these documents and permit shall be reported in writing to the Permitting Authority by the P.E. of Record.

[Application No. 1090463-001-AC; Rule 62-4.070, F.A.C. Reasonable Assurance]

D.3. **Circumvention:** The permittee shall not circumvent the air pollution control equipment or allow the emission of air pollutants without this equipment operating properly.

[Rule 62-210.650, F.A.C.]

PERFORMANCE RESTRICTIONS

D.4. **Permitted Capacity- Pellet Mills**: The maximum design capacity of ~~each of the~~ 12 of the pellet mills shall not exceed 1 ton per hour of wood pellets. The maximum design capacity of 1 of the pellet mills shall not exceed 6 ton per hour of wood pellets. The maximum pellet production shall not exceed 62,000 tons per any consecutive 12-month period.

[Rules 62-4.070(3) and 62-210.200(PTE), F.A.C., Applicant Limitation, PSD Avoidance, and Permit Application No. 1090463-001-AC]

D.5. **Method of Operation- Pellet Mills**: The ~~maximum of 10~~ pellet mills shall be in operation such that at any given time the resulting ~~in a~~ maximum pellet production ~~capacity of~~ is no more than 10 tons per hour of pellets. The ~~2~~ remaining pellet mills shall be operated as standby units and placed into operation only during periods of maintenance.

[Rules 62-4.070(3) and 62-210.200(PTE), F.A.C., and Permit Application No. 1090463-001-AC]

D.6. **Permitted Capacity- Pellet Cooler**: The maximum design capacity of the ambient air pellet cooler shall not exceed 10 tons per hour of wood pellets.

[Rules 62-4.070(3) and 62-210.200(PTE), F.A.C., and Permit Application No. 1090463-001-AC]

D.7. **Permitted Capacity- Pellet Screener**: The maximum design capacity of the pellet screener shall not exceed 10 tons per hour of wood pellets.

[Rules 62-4.070(3) and 62-210.200(PTE), F.A.C., and Permit Application No. 1090463-001-AC]

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D.8. **Hours of Operation**: The hours of operation of the Pellet Mills, the Pellet Cooler, and the Pellet Screener ~~shall not exceed 6,200 hours per year~~ are not restricted, i.e. 8,760 hours/year.

[Rules 62-4.160(2) and 62-210.200(PTE), F.A.C.; Application No. 1090463-001-AC]

RECORDS AND REPORTS

D.9. **Processing Records**: The permittee shall record, in a written log:

a. The amount of wood pellet production on an ~~hourly~~ daily basis, the previous calendar month, and the previous 12 calendar months of operation. The ~~hourly~~ daily production shall be averaged over a 24-hour period and determined no less than on a daily basis;

b. ~~The hours of operation of the Pellet Mills, the Pellet Cooler, and the Pellet Screener.~~

The records shall be maintained in a written (or electronic) log available for inspection by the Compliance Authority.

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

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E. EU 005 Product Storage and Lout-out Area

This section of the permit addresses the following emissions unit.

ID No.	Emission Unit Description
005	Product Storage and Load-Out Area *Description:* The final wood pellet product is pneumatically conveyed to a 103 ton capacity pellet storage silo via a 12,000 acfm blower. Wood pellets are loaded into trucks from the storage silo by conveyor. *Stack Parameters:* The stack is the exit of the pellet conveyance blower, and has a design height of 11 feet and a diameter of 0.67 feet. The exit temperature ~~will~~ shall be approximately 80º F and ambient moisture (~2 percent) with a design flow rate of 12,000 actual cubic feet per minute (acfm).

{Permitting note: The product storage bin and the load-out area are regulated under: Rule 62-296.320(4)(b), F.A.C. – General Visible Emissions Standards.}

EQUIPMENT

E.1. **Product Storage and Load-out Area Equipment**: The permittee is authorized to install:

- Conveyors, blowers, ductwork, and any ancillary equipment as necessary.

[Application No. 1090463-001-AC]

E.2. **Air Pollution Control Equipment**: To comply with the emission limits of this permit, the permittee shall install, operate, and maintain the following air pollution control equipment to achieve the pollutant limits specified within this permit subsection:

a. Enclosed conveyors

The construction shall be in accordance with the application and associated documents provided to the Permitting Authority for the issuance of this permit. Any changes to the project that are contrary to these documents and permit shall be reported in writing to the Permitting Authority by the P.E. of Record.

{Permitting Note: Enclosed conveyors means that the conveyance belt for the wood chips is totally enclosed from above thus preventing wind from causing fugitive dust emissions. However, the bottom of the conveyance belt shall be accessible for maintenance and repairs.}

[Application No. 1090463-001-AC; Rule 62-4.070, F.A.C. Reasonable Assurance]

E.3. **Circumvention:** The permittee shall not circumvent the air pollution control equipment or allow the emission of air pollutants without this equipment operating properly.

[Rule 62-210.650, F.A.C.]

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PERFORMANCE RESTRICTIONS

E.4. **Hours of Operation**: The hours of operation of this emissions unit are not restricted, i.e. 8,760 hours per year.

[Rules 62-4.160(2) and 62-210.200(PTE), F.A.C.; Application No. 1090463-001-AC]

EMISSIONS STANDARDS

{Permitting Note: Unless otherwise specified, the averaging time for Conditions E.5. is based on the specified averaging time of the applicable test method.}

E.5. **Visible Emissions**: Visible emissions from this emissions unit (and emission points) shall not exceed 10% opacity. Compliance shall be demonstrated by initial and annual compliance tests.

[Rules 62-296.320(4)(b)1., F.A.C.; 62-4.070, Reasonable Assurance]

E.6. **Best Operating Practices for Product Storage and Load-out Area:** The permittee shall utilize reasonable precautions to control fugitive PM emissions from this emission unit. At a minimum, the Permittee shall implement the following best operating practices (BMP). The Title V air operation permit shall also include the submitted BMP plan.

a. Periodic equipment maintenance shall be performed to maintain conveyor systems and drop point integrity;

b. Daily observations of conveyor systems and associated drop point integrity ~~will~~ shall be conducted to identify equipment abnormalities;

c. Operators ~~will~~ shall clean up dust, material spillage or other materials on and around all equipment at the end of the day and/or during their shift.

The permittee shall also comply with additional precautions listed **Facility-Wide Condition 5** of this permit.

{Permitting Note: Enclosed conveyors means that the conveyance belt for the wood chips is totally enclosed from above and below thus preventing wind from causing fugitive dust emissions. However, the conveyance belt shall have access panels that can be opened for maintenance and repairs.}

[Rules 62-4.070, Reasonable Assurance and 62-210.200(PTE), F.A.C.; Application No. 1090463-001-AC]

TESTING REQUIREMENTS

E.7. **Visible Emissions - Initial Compliance Tests:** Representative points shall be tested, using the test method and procedures specified in **Specific Conditions E.9. and E.10.**, to demonstrate initial compliance with the VE emissions limit specified in **Specific Condition E.5.** of this subsection. The initial test shall be conducted within 180 days after initial operation.

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

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E.8. **Visible Emissions - Annual Compliance Tests:** During each federal fiscal year (October 1st to September 30th), representative emission points shall be tested, using the test method and procedures specified in **Specific Conditions E.9. and E.10.**, to demonstrate compliance with the VE emissions limit specified in **Specific Condition E.5.** of this subsection.

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

E.9. **Visible Emissions- Test Method:** The test method for visible emissions shall be EPA Method 9, as described at 40 CFR 60, Appendix A-4, incorporated and adopted by reference in Rule 62-204.800, F.A.C.

[Rule 62-296.320(4)(b)4.a., F.A.C.]

E.10. **Visible Emissions- EPA Method 9- Required Sampling Time:** The required minimum period of observation for each compliance test shall be thirty (30) minutes or, if the operation is normally completed in less than 30 minutes and does not recur within that time, the period of observation shall be equal to the duration of the batch cycle or operation completion time. The opacity test observation period shall include the period during which the highest opacity emissions can reasonably be expected to occur.

[Rules 62-297.310(4)(a)2., and 2.a., F.A.C.]

E.11. **VOC –Initial Test:** The exit of the pellet conveyance blower shall be tested to determine VOC emissions within 60 days after achieving permitted capacity, but not later than 180 days after initial operation of the unit.

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

E.12. **VOC- Annual Tests:** The Department may require performance testing on an annual basis should the initial performance test results exceed the 2.0 lb/hr of VOC emissions.

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

E.13. **VOC –Test Method:** The test method for VOC emissions shall be EPA Method 25 or 25A, as described at 40 CFR 60, Appendix A-7, incorporated and adopted by reference in Rule 62-204.800, F.A.C.

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

E.14. **Compliance Testing Requirements:** Testing of emissions shall be conducted while the wood cyclonic burner, the triple-pass rotary dryer, the primary hammer mill, the pellet mills, and the pellet cooler are operating at maximum capacities.

[Rule 62-4.070(3), F.A.C. Reasonable Assurance, 62-297.310(2), F.A.C.]

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E.15. Required Stack Sampling Facilities: Sampling facilities include sampling ports, work platforms, access to work platforms, electrical power, and sampling equipment support. All stack sampling facilities must meet any Occupational Safety and Health Administration (OSHA) Safety and Health Standards described in 29 CFR Part 1910, Subparts D and E.

(a) *Permanent Test Facilities*. The owner or operator of an emissions unit for which a compliance test, other than a visible emissions test, is required on at least an annual basis, shall install and maintain permanent stack sampling facilities.

(b) *Temporary Test Facilities*. The owner or operator of an emissions unit that is not required to conduct a compliance test on at least an annual basis may use permanent or temporary stack sampling facilities. If the owner chooses to use temporary sampling facilities on an emissions unit, and the department elects to test the unit, such temporary facilities shall be installed on the emissions unit within 5 days of a request by the department and remain on the emissions unit until the test is completed.

[Rule 62-297.310(6), F.A.C.]

E.16. Compliance Test Notification Requirements: The permittee shall notify the Compliance Authority in writing at least 15 days prior to any required tests. Tests shall be conducted in accordance with the applicable requirements specified in Appendix D (Common Testing Requirements) of this permit.

[Rule 62-297.310(7)(a)9., F.A.C.]

E.17. Compliance Test Reporting Requirements: The permittee shall prepare and submit reports for all required tests in accordance with the requirements specified in Appendix D (Common Testing Requirements) of this permit. The Permittee shall include with the VOC emissions test report the quantity of wood pellets stored (pounds).

[Rule 62-297.310(8), F.A.C.]

RECORDS AND REPORTS

E.18. Processing Records: The permittee shall record the following information in a written log:

a. The amount of pellets stored in the load-out storage silo(tons) for the previous calendar month and the previous 12 calendar months of operation;

The records shall be maintained in a written (or electronic) log available for inspection by the Compliance Authority.

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

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