Green Circle Bio Energy Inc.
Cottondale Wood Pellet Plant
Facility ID No.: 0630058
Jackson County

Initial Title V Air Operation Permit
FINAL Permit No.: 0630058-005-AV

Permitting and Compliance Authority:
Florida Department of Environmental Protection
Northwest District
160 W. Government Street, Suite 308
Pensacola, Florida 32502-5740
Telephone: 850/595-8300
Fax: 850/595-8096

Initial Title V Air Operation Permit
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Attachments:

Appendix I-1, List of Insignificant Emissions Units and/or Activities
Appendix U-1, List of Unregulated Emissions Units and/or Activities
APPENDIX SS-1, STACK SAMPLING FACILITIES version dated 10/07/96
APPENDIX TV-6, TITLE V CONDITIONS version dated 06/23/06
TABLE 297.310-1, CALIBRATION SCHEDULE version dated 10/07/96
Appendix CMP, Compliance Monitoring Plan dated May 2010

Florida Department of Environmental Protection
Northwest District
160 W. Government Street, Suite 308
Pensacola, Florida 32502-5740

Rick Scott
Governor

Jennifer Carroll
Lt. Governor

Herschel T. Vinyard, Jr.
Secretary

Permittee:
Green Circle Bio Energy Inc.

FINAL Permit No.: 0630058-005-AV
Facility ID No.: 0630058
SIC Nos.: 24, 2499
Project: Initial Title V Air Operation Permit

This permit is for the operation of the Cottondale Wood Pellet Plant. This facility is located at 2313 U.S. Highway 231, south of Cottondale, in Jackson County; UTM Coordinates: Zone 16, 653.89 km East and 3401.68 km North; Latitude: 30° 44' 17" North and Longitude: 85° 23' 33" West.

This Title V Air Operation Permit is issued under the provisions of Chapter 403, Florida Statutes (F.S.), and Florida Administrative Code (F.A.C.) Chapters 62-4, 62-210, and 62-213. The above named Permittee is hereby authorized to perform the work or operate the facility shown on the application and approved drawing(s), plans, and other documents, attached hereto or on file with the permitting authority, in accordance with the terms and conditions of this permit.

Referenced attachments made a part of this permit:

Appendix I-1, List of Insignificant Emissions Units and/or Activities
Appendix U-1, List of Unregulated Emissions Units and/or Activities
APPENDIX SS-1, STACK SAMPLING FACILITIES version dated 10/07/96
APPENDIX TV-6, TITLE V CONDITIONS version dated 06/23/06
TABLE 297.310-1, CALIBRATION SCHEDULE version dated 10/07/96
Appendix CMP, Compliance Monitoring Plan dated May 2010

Effective Date: March 17, 2011
Renewal Application Due Date: August 5, 2015
Expiration Date: March 17, 2016

FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION

/s/

RICK BRADBURN
Air Program Administrator

RB/rp/c

Section I. Facility Information

This is an Initial Title V Air Operation Permit, from construction permit 0630058-001-AC, effective July 13, 2007, and modifications 0630058-002-AC, effective September 29, 2008, 0630058-003-AC, effective July 8, 2009, and 0630058-004-AC, effective June 14, 2010. Construction permit 0630058-006-AC, to establish a wood pellet production limit, is incorporated and processed concurrently with this permit.

Subsection A. Facility Description

This is a wood pellet plant, comprised of a wood fiber receiving and storage area, two dryer lines, three pelletizing lines, and a pellet load-out area.

The wood fiber receiving and storage area (EU 001) begins with wood fiber being trucked to the Green Circle site as tree-length pulpwood logs (over 95% yellow pine) or sawmill residuals (chips, sawdust, shavings). Site traffic travels on paved roadways to the wood fiber receiving area. All incoming trucks are weighed using on site truck scales. Log trucks are unloaded with the mobile equipment directly into the drum debarker or the on site log storage. Stacked logs are stored on site for use during weather events and other logging curtailments. Ten to twenty days of logs (61,000 tons) will normally be stored on site. An automated truck dump unloads sawmill residuals deliveries. A belt conveyor transports the residuals up to the chip storage stacker and reclaimer.

Logs are removed from the storage piles by mobile handing equipment, and grapple fed into a single rotary drum debarker, which removes the tree bark as the logs flow through the drum. A drum chipper chips the logs to very uniform sizes under 3/8” dimensions.

A green wood chip grinding system (EU 009) chips the logs to very uniform sizes under 3/8” dimensions. Chips are screened and graded and oversized chips are rerouted through the grinder.

Bruks-Klockner Tubulator belt conveyors are used for chip conveyance. Chips exiting the chipper are conveyed up to the chip storage stacker and reclaimer. Chip storage will have one stacker conveyor and one inclined reclaimer conveyor. Chips are deposited via belt conveyor on the pile top radius opposite the reclaimer. Reclaim of the chips is accomplished with an inclined surface scraper reclaimer. Stacker and reclaimer conveyors pivot around the pile radius to properly inventory the chips (First In-First Out). Six days of chip inventory (20,000 tons) will be stored in the pile to allow for logging delays and equipment upsets. Reclaimed chips are conveyed using belt conveyors to the Dryer Metering Bin.

Bark from the drum debarker is conveyed via belt conveyor up to the bark screen and hog. An electric-powered hammer mill is used to reduce the bark to manageable sizes (minus 2 1/2” dimension) for best fuel handling and combustion. Bark fuel is conveyed via enclosed belt conveyors to the bark sand screen. Fines (i.e., sand) are removed from the bark fuel, to improve combustion efficiency and avoid the deposit of incombustible fly ash in the dry wood chips. Clean bark fuel is conveyed to the fuel storage stacker and reclaimer. Stacker and reclaimer

conveyors pivot around the pile radius to properly inventory the bark fuel (First In-First out). A bark fuel supply of six days (5,000 tons) is maintained.

Two high technology rotary drum dryers (Dryer Lines 1 & 2, EUs 002 and 003) process the wood chips to 9% moisture content in preparation for grinding and pelletizing. Heat for the Chip Dryers is provided by two 125 MMBtu per hour bark fuel combustors, manufactured by the Teaford Company. These combustors have a modern reciprocating grate system for fuel spreading and controlled combustion. High humidity exhaust gases from the dryers are returned to the Combustors secondary combustion chamber, tempering the combustion and controlling the generation of NO_X. Gases from the secondary combustion chamber are drawn through a 6,900 lbs/hr steam generator. Steam is used in the Pelletizing process to soften the wood fiber prior to compression into pellets. Cooled gases at the exhaust of the steam generator are ducted to the dryer inlet to temper the combustor gases down to the Dryer Inlet target of 950ºF.

The Dryer Lines utilize two 18 ft x 80 ft Rotary Drum Dryers, manufactured by TSI, Inc., to dry the wood chips. Hot gases from the bark combustors are ducted directly to the Dryers. Each Combustor-Dryer system (Dryer Line) operates independently, sharing only the fuel feed system, chip delivery system and WESP water handling. Chips are delivered via belt conveyor to the common metering bin. Left and right metering mechanisms control the flow of the chips to each dryer. The chips are dropped through a large six pocket airlock into the front of the Dryer drum.

Exhaust gas recirculation is used to temper the incoming gases. A Dryer inlet temperature of less than 950ºF is maintained to reduce the risk of fires, improve the moisture uniformity and control the emission of pollutants. The high humidity and low oxygen content of the resultant dryer gas stream is very useful in drying control and safety. Wood chips and residuals are conveyed through the dryer drum by the mechanical action of the internal flighting and by pneumatic transport as the chips dry and become lighter. At the Dryer outlet, the chips are drawn up to the Dryer Cyclone. Sealed and insulated 75” diameter ducting connects the Dryer discharge with the high efficiency cyclone and on the Dryer Induced Draft fan. At the Dryer drum discharge, the dry chips are pneumatically conveyed in the lower temperature gas stream up to the Cyclone inlet near the top. Each dryer has one high efficiency cyclone for chip separation and one Induced Draft Dryer Fan.

Up to 50 % of the dryer gases leaving the Dryer Induced Draft Fan are re-circulated to the Dryer Inlet to temper the incoming combustor gases, with the remaining gases going to a WESP and RTO for emission controls. WESP bound gases are quenched with a recirculation water system. Each Dryer Line has a dedicated WESP and RTO, sharing a common water sump and handling system (filtration and controls minimize water discharges). Excess water from the WESP is used for ash wetting, combustion control and fuel adjustment in the bark fuel combustors.

Clean gas exiting the WESP is routed to a Regenerative Thermal Oxidizer (RTO), reducing VOC emissions by 95%. Propane gas is used as the supplemental fuel to maintain RTO efficiency. Clean gases are exhausted to the atmosphere through 75 foot high RTO exhaust stacks.

The Pelletizing Lines 1, 2, and 3 (EU 004, 005 and 006) equipment is manufactured by Buhler, Inc. of Switzerland. Dry wood chips are conveyed by a sealed chain conveyor to a dry chip storage bin, with a capacity of approximately 300 tons of dry chips. The dry chip storage bin allows for moisture content equalization (9%).

Dry chips are metered into three Pelletizing Lines 1, 2, and 3. Sealed chain conveyors transport dry chips from the Dry Chip Storage Bin up into the Hammermill Building. All chain conveyors are sealed with continuous air aspiration for dust and fire control. All aspirated air is drawn through Buhler dust filters with an air to cloth ratio lower than 15 actual cubic feet per minute per square feet (ACFM per SF). All material handing of the wood chips and pellets is accomplished mechanically with sealed chain conveyors and augers. Wood dusts collected by the dust filters are directly deposited back into the process via airlocks.

Pelletizing Lines 1 and 3 have eight hammermills each, with Pelletizing Line 2 having ten hammermills, with each mill manufactured by Buhler, Inc., model no. Vertical Rotor DFZK-1. The hammermills accurately grind the dry wood chips to under 4 mm (0.16”). The grinding and pelletizing process requires frequent scheduled replacement of machinery parts and dies to maintain critical process tolerances. The 26 hammermills allow for reliable production without variation due to scheduled hammermill downtime.

An additional horizontally-oriented, rotor-type hammer mill, manufactured by Buhler, model DFZP-535 HP, with 284 hammers and associated aspiration system and baghouse was installed to evaluate the technology for a limited time period on Pelletizing Line No. 3. A dedicated aspiration system removes excess moisture and a baghouse manufactured by Buhler, model RPPR-41/6, controls particulate matter emissions from the aspiration system exhaust.

The ground wood fiber is conveyed to three sealed storage and metering bins each with a capacity of approximately 40 tons. A ventilation system in the grinding and pellet storage bins will help minimize condensation. These bins provide equalization time and surge capacity for machinery downtime. Steam is carefully applied to soften the wood fiber as it is drawn into the Pelletizer. The wood fiber is compressed by the Pelletizer rotating press rolls, exiting through the sizing die. The resultant heat of friction activates the wood lignin as the wood is compressed, effectively bonding the wood fiber into a durable pellet. This raises the pellet temperature in excess of 80ºC (180ºF) and eliminates any need for adhesives or bonding agents.

Pellets exiting the Pelletizer mills are conveyed via sealed chain conveyor to a counter flow pellet cooler, manufactured by Geelen Counterflow of the Netherlands. Each line has one Pellet cooler. Pellet cooling in necessary to reduce risk of spontaneous combustion. Each cooler uses counter-flow outside air, drawn into the pellet discharge bottom of the cooler, to rapidly cool the pellets to 10ºF above ambient air temperature and dry the pellets, losing 1 to 2% moisture content. Cooler exhaust has an air volume of 36,820 ACFM at 160ºF.

Hot exhaust air from the Pellet Cooler is ducted to two parallel high efficiency cyclones. These cyclones remove 90% of any entrained particulate in the exhaust air. Collected wood dust is discharge via a bottom airlock directly to the sealed chain conveyor delivering wood fiber to the Pelletizer mills. Entrained dust is expected to be coarser wood dust with moderate loadings due to the slow mechanical handling and transport of the finished pellets. The pellets are not subjected to aggressive tumbling or pneumatic transport that could result in dust generation. Pellet Cooler exhaust air is ducted from the cyclones to the induced draft fan and discharged through a 74 foot stack.

Each Pelletizing Line has a Pellet Cooler, twin cyclones, single ID fan and an exhaust stack.

In the Pellet Load-Out Area (EU 007), pellets exit the Counterflow Pellet Cooler to sealed chain conveyors and are transported to two storage bins above the two rail car loading area. Each bin has a capacity of 94 tons. The bins provide up to about two hours of pellet storage and uniformly meter the pellets out for rail car loading. All conveyors are sealed with dust aspiration air directed to a Buhler dust filter system.

Also included in this permit are miscellaneous unregulated/insignificant emissions units and/or activities: A 2000 gallon diesel storage tank (EU 008)

Based on the permit application received June 14, 2010, this facility is not a major source of hazardous air pollutants (HAP).

	ESTIMATED POLLUTANTS (Tons per Year)				
PROCESS AREA	**PM/PM_{10}**	**NO_X**	**CO**	**VOC**	**SO_2**
Wood Fiber Receiving & Storage Area	168.3[1]/32.8	NA	NA	NA	NA
Dryer Line 1	19.90	122.65	11.10	24.10	0.17
Dryer Line 2	19.90	122.65	11.10	24.10	0.17
Pelletizing Line 1	58.80	NA	NA	59.033	NA
Pelletizing Line 2	58.80	NA	NA	59.033	NA
Pelletizing Line 3	58.80	NA	NA	59.033	NA
Bulk Load-out Area	0.71	NA	NA	NA	NA
Green Chip Grinder	0.43	NA	NA	NA	NA
Diesel Fuel Storage Tank	1.00	NA	NA	NA	NA
TOTAL **(w/o fugitives from Wood Fiber)**	386.64 218.34	245.3	22.20	225.30	0.34

[*] SO_2 potential emission estimates are based on wood firing.
[1] PM estimated emissions includes 168.3 T/yr fugitive emissions.

Permittee has established maximum NO_X emissions limits for Dryer Lines 1 and 2, which collectively are just below PSD review limits. Any future changes to the Dryer Lines would potentially warrant a PSD review.

Subsection B. Summary of Emissions Unit ID No(s). and Brief Description(s).

EU I.D.	**Brief Description**
001	Wood Fiber Receiving and Storage Area
002	Dryer Line 1
003	Dryer Line 2
004	Pelletizing Line 1
005	Pelletizing Line 2
006	Pelletizing Line 3
007	Bulk Load-out Area
009	Green Wood Chip Grinding System
Unregulated Emissions Units and/or Activities	
008	Diesel Fuel Storage Tank

Please reference the Permit No., Facility ID No., and appropriate Emissions Unit(s) ID No(s). on all correspondence, test report submittals, applications, etc.

Subsection C. Relevant Documents

The documents listed below are not a part of this permit; however, they are specifically related to this permitting action.

These documents are provided to the permittee for information purposes only:
Appendix A-1: Abbreviations, Acronyms, Citations, and Identification Numbers
Statement of Basis

These documents are on file with permitting authority:
Appendix H-1: Permit History/ID Number Changes
Initial Title V Permit Application received June 14, 2010
Additional Information Request dated June 30, 2010
Additional Information Response received August 13, 2010

Section II. Facility-wide Conditions

The following conditions apply facility-wide:

1. APPENDIX TV-6, TITLE V CONDITIONS, is a part of this permit.

2. General Pollutant Emission Limiting Standards. Objectionable Odor Prohibited
No person shall cause, suffer, allow, or permit the discharge of air pollutants which cause or contribute to an objectionable odor. [Rule 62-296.320(2), F.A.C.]

3. General Particulate Emission Limiting Standards. General Visible Emissions Standard
Except for emissions units that are subject to a particulate matter or opacity limit set forth or established by rule and reflected by conditions in this permit, no person shall cause, let, permit, suffer or allow to be discharged into the atmosphere the emissions of air pollutants from any activity, the density of which is equal to or greater than that designated as Number 1 on the Ringelmann Chart (20 percent opacity). EPA Method 9 is the method of compliance pursuant to Chapter 62-297, F.A.C. [Rules 62-296.320(4)(b)1. & 4., F.A.C.]

4. Unregulated Emissions Units and/or Activities Appendix U-1, List of Unregulated Emissions Units and/or Activities, is a part of this permit. [Rule 62-213.440(1), F.A.C.]

5. Insignificant Emissions Units and/or Activities. Appendix I-1, List of Insignificant Emissions Units and/or Activities, is a part of this permit. [Rules 62-213.440(1), 62-213.430(6), and 62-4.040(1)(b), F.A.C.]

6. General Pollutant Emission Limiting Standards - Volatile Organic Compounds (VOC) Emissions or Organic Solvents (OS) Emissions. Permittee shall allow no person to store, pump, handle, process, load, unload or use in any process or installation, volatile organic compounds (VOC) or organic solvents (OS) without applying known and existing vapor emission control devices or systems deemed necessary and ordered by the Department. No devices or systems are deemed necessary at this time. [Rule 62-296.320(1), F.A.C., and permit 0630058-001-AC]

7. Emissions of Unconfined Particulate Matter. Pursuant to Rules 62-296.320(4)(c)1., 3. & 4., F.A.C., reasonable precautions to prevent emissions of unconfined particulate matter at this facility include the following requirements (see Condition 57 of APPENDIX TV-6, TITLE V CONDITIONS):

a. Paving and maintenance of roads, parking areas and yards.
b. Application of water or chemicals to control emissions from such activities as demolition of buildings, grading roads, construction, and land clearing.
c. Application of asphalt, water, oil, chemicals or other dust suppressants to unpaved roads, yards, open stock piles, and similar activities.
d. Removal of particulate matter (PM) from roads and other paved areas under the control of the owner or operator of the facility to prevent re-entrainment and from buildings or work areas to prevent particulates from becoming airborne.
e. Landscaping or planting vegetation.
f. Use of hoods, fans, filters, and similar equipment to contain, capture, and/or vent PM.
g. Confining abrasive blasting where possible.
h. Enclosure or covering of conveyor systems.

[Rule 62-296.320(4)(c)2., F.A.C., permit 0630058-003-AC]

8. When appropriate, any recording, monitoring, or reporting requirements that are time-specific shall be in accordance with the effective date of the permit, which defines day one. [Rule 62-213.440, F.A.C.]

9. Statement of Compliance: The annual statement of compliance pursuant to Rule 62-213.440(3)(a)2., F.A.C., shall be submitted to the Department and EPA within 60 (sixty) days after the end of the calendar year using DEP Form No. 62-213.900(7), F.A.C. [Rules 62-213.440(3) and 62-213.900, F.A.C.]
{Permitting Note: This condition implements the requirements of Rules 62-213.440(3)(a)2. & 3., F.A.C. (see Condition 51 of APPENDIX TV-6, TITLE V CONDITIONS)}

10. Permittee shall submit all compliance related notifications and reports required of this permit to the Department's Northwest District Office.

Department of Environmental Protection
Northwest District Office
160 W. Government Street, Suite 308
Pensacola, Florida 32502-5740
Telephone: 850/595-8300
Fax: 850/595-8096

Test schedule notification may be submitted by electronic mail to nwdair@dep.state.fl.us. Copies of compliance related reports should be submitted to the Northwest District Branch Office in Panama City, 2353 Jenks Ave., Panama City FL 32405.

11. Any reports, data, notifications, certifications, and requests required to be sent to the United States Environmental Protection Agency, Region 4, should be sent to:

United States Environmental Protection Agency
Region 4
Air, Pesticides & Toxics Management Division
Air and EPCRA Enforcement Branch, Air Enforcement Section
61 Forsyth Street
Atlanta, Georgia 30303
Telephone: 404/562-9155, Fax: 404/562-9163

12. Certification by Responsible Official (RO). In addition to the professional engineering certification required for applications by Rule 62-4.050(3), F.A.C., any application form, report, compliance statement, compliance plan and compliance schedule submitted pursuant to Chapter 62-213, F.A.C., shall contain a certification signed by a responsible official that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete. Any responsible official who fails to submit any required information or who has submitted incorrect information shall, upon becoming aware of such failure or incorrect submittal, promptly submit such supplementary information or correct information. [Rule 62-213.420(4), F.A.C.]

13. The Department telephone number for reporting problems, malfunctions or exceedances under this permit is 850/595-0578, day or night, and for emergencies involving a significant threat to human health or the environment is 800/320-0519. For routine business, telephone 850/595-8300, then press 3 during normal working hours. [Rules 62-210.700 and 62-4.130, F.A.C.]

Section III. Emissions Unit(s) and Conditions

Subsection A. This section addresses the following emissions units

EU I.D.	Brief Description
001	Wood Fiber Receiving and Storage Area
009	Green Wood Chip Grinding System

Wood fiber (pulpwood logs or sawmill residuals) is unloaded and stored. Logs are debarked, run through the green wood chip grinding system (EU 009) and stored; bark is hammer-milled, screened and stored. All stored piles are conveyed for raw material and/or fuel. A green wood chip grinding system (EU 009) chips the logs to very uniform sizes under 3/8" dimensions.

The following specific conditions apply to the emissions units listed above:

Essential Potential to Emit (PTE) Parameters

A.1. Capacity: The maximum allowable process rate is 180 trucks per day as a rolling 30-day average. [Rules 62-4.070(3) and 62-210.200(242) {PTE}, F.A.C., and permit 0630058-003-AC] *{Permitting Note: 180 trucks per day is considered equivalent to 67,500-vehicle miles traveled (VMT). Using AP-42 Chapter 13 Section 2.1 emission factors, the potential emissions for this emissions unit are estimated at 168.3 and 32.8 tons per year of PM and PM10, respectively.}*

A.2. Hours of Operation: This emissions unit is allowed to operate continuously, i.e., 8,760 hours/year. [Rules 62-4.070(3) and 62-210.200(242) {PTE}, F.A.C.]

Emission Limitations and Standards

A.3. Visible Emissions: This emissions unit is subject to Section II, Facility-wide Conditions, General Visible Emissions Standards. [Rule 62-296.320(4)(b)1., F.A.C.]

Monitoring of Operations

A.4. Permittee shall maintain records of the number of trucks that deliver wood fiber and sawmill residual (chips, sawdust, shavings) to the facility. A daily and year-to-date total shall be kept and maintained for Department inspection. [Rule 62-4.070(3), F.A.C., and permit 0630058-003-AC]

Test Methods and Procedures

A.5. Visible Emissions: The test method for visible emissions shall be EPA test method 9, incorporated and adopted by reference in Chapter 62-297, F.A.C. [Rules 62-296.320(4)(b)1., F.A.C.]

Section III. Emissions Unit(s) and Conditions

Subsection B. This section addresses the following emissions units

EU I.D.	Brief Description
002	Dryer Line 1
003	Dryer Line 2

Each Dryer Line consists of a bark fuel combustor which exhausts into a rotary drum dryer, which dries wood chips. Each dryer Line has a maximum production rate of 80,220 pounds per hour of dried wood (9% moisture). The dryer exhaust flows through a fan induced drafted cyclone, a wet electrostatic precipitator and a regenerative thermal oxidizer, then out stacks D1-3 and D2-3, for Drying Lines 1 and 2, respectively. Bypass stacks D1-2 for Dryer Line 1 and D2-2 for Dryer Line 2 exhaust from the wood chip dryer and bark fuel combustor, respectively, for each Dryer Line during startups (for temperature control) and malfunctions, but not more than a total of 50 hours per year. Each furnace can operate up to 1,500 hours per year in malfunction "idle mode" (defined as operation at up to a maximum heat input rate of 5 MMBtu/hr) using bypass stacks D1-1 and D2-1 for dryer line furnaces 1 and 2, respectively.
{Permitting Note: See Appendix Site Plan for stack locations/identifications.}

Each Drying Line has calculated potential to emit emissions of the following air pollutants:

- NO_X – 122.65 tons per year potential emissions based on dryer manufacturer guarantee and AP-42 Chapter 1 Section 6 emission factors for the bark fuel combustor.
- CO – 11.10 tons per year potential emissions based on dryer manufacturer guarantee and AP-42 Chapter 1 Section 6 emission factors for the bark fuel combustor.
- PM/PM_{10} – 19.90 tons per year potential emissions based on dryer manufacturer guarantee and AP-42 Chapter 1 Section 6 emission factors for the bark fuel combustor.
- VOC – 24.10 tons per year potential emissions based on dryer manufacturer guarantee and AP-42 Chapter 1 Section 6 emission factors for the bark fuel combustor.
- SO_2 – 0.17 tons per year potential emissions based on AP-42 Chapter 1 Section 6 emission factors for the bark fuel combustor.

The bark fuel combustors are regulated by Rule 62-296.410(2) and (3), F.A.C.

The following specific conditions apply to the emissions units listed above:

Essential Potential to Emit (PTE) Parameters

B.1.a. Dryer Lines Capacity: The maximum operation rate for each Dryer Line shall not exceed 80,220 pounds of dry wood per hour. [Rules 62-4.070(3) and 62-210.200(242) {PTE}, F.A.C., and permit 0630058-003-AC]
{Permitting Note: For purposes of this permit, dry wood is wood that has been dried to a moisture content of 9% or less.}

B.1.b. Dryer Lines 1 and 2 Wood Chip Production Factor: The Dryer Line 1 and Dryer Line 2 wood chip feed screw sets shall not be operated at more than 313.4 revolutions per hour. [Rules 62-4.070(3) and 62-210.200(242) {PTE}, F.A.C., and permit 0630058-003-AC]
{Permitting Note: This maximum allowable wood chip feed screw speed is based on measured data to establish an average wood chip production factor of 256 pounds per screw set revolution. The intent of this specific condition is to give reasonable assurance of compliance with the maximum allowable production rate of 80,220 pounds per hour wood chips for each dryer.}

B.2.a. Combustor Capacity: The maximum operation capacity for each Dryer Line combustor shall not exceed 125 MMBtu per hour heat input averaged over a 24-hour period. [Rules 62-4.070(3) and 62-210.200(242) {PTE}, F.A.C., and permit 0630058-003-AC]

B.2.b. Dryer Line 1 and 2 Combustors Wood Waste/Bark Feed Rate Factor: Each of the Dryer Line 1 and 2 Combustors hydraulic ram feeders shall not be operated at more than 51 strokes per hour on a daily average basis. [Rules 62-4.070(3) and 62-210.200(242) {PTE}, F.A.C., and permit 0630058-003-AC]
{Permitting Note: This maximum allowable fuel feed rate is based on 4600 Btu per pound southern yellow pine, hydraulic ram capacity of 20 cubic feet per stroke and an estimate of 11 pounds per cubic foot for wood waste/bark. The intent of this specific condition is to give reasonable assurance of compliance with the maximum allowable heat input for each dryer.}

B.3. Methods of Operation - (i.e., Fuels): The combustors for Dryer Lines 1 and 2 shall be fired with carbonaceous fuel only. [Rules 62-4.070(3) and 62-213.440(1), F.A.C.]

B.4. Wet Electrostatic Precipitators (WESP) Quenching: The WESP inlet and outlet gas stream quench temperatures shall not exceed 210°F, averaged over three hours. [Rules 62-4.070(3) and 62-210.200(242) {PTE}, F.A.C., and permit 0630058-003-AC]

B.5. Regenerative Thermal Oxidizer (RTO) Combustion Chamber Temperature: The RTO for each Dryer Line shall be operated with a combustion chamber temperature of no less than 1,440°F, averaged over three hours. [Rules 62-4.070(3) and 62-210.200(242) {PTE}, F.A.C., and permit 0630058-003-AC]

B.6. Hours of Operation: This emissions unit is allowed to operate continuously, i.e., 8,760 hours/year. [Rules 62-4.070(3) and 62-210.200(242) {PTE}, F.A.C.]

Emission Limitations and Standards

B.7. Nitrogen Oxides - NO_X: Nitrogen Oxides emissions from each Dryer Line shall not exceed 122.65 tons NOx per 12-month rolling total. [permit 0630058-003-AC]

B.8. Particulate Matter: Particulate matter emissions from each Dryer Line shall not exceed 0.2 lb PM per MMBtu of carbonaceous fuel input and shall not exceed 19.90 tons PM per 12-month rolling total. [Rules 62-4.070(3) and 62-296.410(2)(b)2., F.A.C., and permit 0630058-003-AC]

B.9. Volatile Organic Compounds: Volatile Organic Compound emissions from each Dryer Line shall not exceed 24.10 tons VOC per 12-month rolling total. [permit 0630058-003-AC]

B.10. Visible Emissions: Visible emissions shall not exceed 30 percent opacity except 40 percent opacity is permissible for no more than two minutes in any one hour. [Rule 62-296.410(2)(b)1, F.A.C.]

Test Methods and Procedures

B.11.a. Emissions tests are required to show compliance with the standards of the Department. The test results must provide reasonable assurance that the source is capable of compliance at the permitted maximum operating rate. Such tests shall be scheduled once during the Federal Fiscal year (October 1-September 30) prior to each permit renewal. The Department shall be notified at least 15 days prior to testing to allow witnessing. Results shall be submitted to the Department within 45 days after testing.

Pollutant	Test Method
PM	EPA Method 5
VE	EPA Method 9
NOx	EPA Method 7E
VOC	EPA Method 25A

Emissions tests shall be conducted at stacks D1-3 and D2-3, for Drying Lines 1 and 2, respectively, with sampling ports properly located in accordance with EPA Method 1. [Rules 62-4.070(3), 62-297.310(7), and 62-297.401(1), (5), (9), (7)(e) and (25)(a), F.A.C.]

B.11.b. The test reports shall comply with applicable portions of Rule 62-297.310, F.A.C., Test Reports. The Department can require special compliance tests in accordance with Rule 62-297.310(7) F.A.C. Other test methods and alternate compliance procedures may be used only after prior Departmental approval has been obtained in writing. [Rules 62-297.310(7) and 62-297.620(1), F.A.C.]

B.11.c. Testing of emissions shall be conducted with the source operating at capacity. Capacity is defined as 90-100% of rated capacity. If it is impractical to test at capacity, sources may be tested at less than capacity; in this case subsequent source operation is limited to 110% of the test load until a new test is conducted. Once the unit is so limited, operation at higher capacities is allowed for no more than 15 days for purposes of additional compliance testing to regain the rated capacity in the permit, with prior notification to the Department. [Rules 62-297.310(2) and 62-4.070(3), F.A.C.]

Monitoring of Operations

B.12. This emissions unit is subject to Section III, Subsection E, Common Conditions, Monitoring of Operations. [Rules 62-4.070(1) & (3), F.A.C.]

Compliance Assurance Monitoring (CAM) Requirements

B.13. This emissions unit is subject to the Compliance Assurance Monitoring (CAM) requirements contained in the approved Compliance Monitoring Plan (attached). Failure to adhere to the monitoring requirements specified does not necessarily indicate an exceedance of a specific emissions limitation; however, it may constitute good reason to require compliance testing pursuant to Rule 62-297.310(7)(b), F.A.C. [40 CFR 64]

Excess Emissions

B.14. Excess emissions resulting from startup, shut down or malfunction using Dryer Line Bypass stacks (Bypass stacks D1-2 and D1-1 for Dryer Line 1, and D2-2 and D2-1 for Dryer Line 2) shall

be permitted provided that 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 nor exceed 50 hours per 12-month rolling total for each Dryer Line. [Rule 62-210.700(1), F.A.C., and permit 0630058-003-AC]
{Permitting Note: Any exceedance of the 50 hours per year for each Dryer Line may result in the facility becoming subject to PSD Review.}

B.15. Each furnace is allowed to operate up to 1,500 hours per year in malfunction "idle mode" (defined as operation at up to a maximum heat input rate of 5 MMBtu/hr) using bypass stacks D1-1 and D2-1 for dryer line furnaces 1 and 2, respectively. [permit 0630058-003-AC]

B.16. This emissions unit is subject to Section III, Subsection E, Common Conditions, Excess Emissions. [Rules 62-4.070(1) & (3), F.A.C.]

Recordkeeping and Reporting Requirements

B.18. Records of the date, time, hours, total running hours, wood chip feed system revolutions per hour for each dryer, hydraulic ram feed strokes per hour on a daily average basis for each combustor, hourly WESP gas stream inlet and outlet quench temperatures, and hourly RTO combustion chamber temperatures shall be kept and available for Department inspection. [Rules 62-4.070(3) and 62-213.440(1), F.A.C.]

B.19. This emissions unit is subject to Section III, Subsection E, Common Conditions, Recordkeeping and Reporting. [Rules 62-4.070(1) & (3), F.A.C.]

Section III. Emissions Unit(s) and Conditions

Subsection C. This section addresses the following emissions units

EU I.D.	Brief Description
004	Pelletizing Line 1
005	Pelletizing Line 2
006	Pelletizing Line 3

Operation of Pelletizing Lines 1, 2, and 3, having maximum process rates of 23.7, 29.6, and 23.7 tons of pellets per hour, respectively. Pelletizing Lines 1 and 3 have eight hammermills each and Pelletizing Line 2 has ten hammermills. The hammermills accurately grind the dry wood chips to under 4 mm (0.16”). The ground wood fiber is conveyed to three sealed storage and metering bins each with a capacity of approximately 40 tons. A ventilation system in the grinding and pellet storage bins helps minimize condensation. Steam is carefully applied to soften the wood fiber as it is drawn into the Pelletizer. The wood fiber is compressed by the Pelletizer rotating press rolls, exiting through the sizing die. The resultant heat of friction activates the wood lignin as the wood is compressed, effectively bonding the wood fiber into a durable pellet. Pellets exiting the Pelletizer mills are conveyed via sealed chain conveyor to a counter flow pellet cooler. Each Pelletizing Line has a Pellet Cooler, twin cyclones, single ID fan and an exhaust stack (stacks P1-2, P2-2, and P3-2, each with two cyclones, for Pelletizing Line 1, 2, and 3, respectively). Fabric filers control emissions from stacks P1-1 and P1-3 for Pelletizing Line 1, stacks P2-1 and P2-3 for Pelletizing Line 2 and stacks P3-1 and P3-3 for Pelletizing Line 3.

Each Pelletizing Line emits the following air pollutants:
PM/PM_{10} – 58.8 tons per year potential emissions based on dryer manufacturer guarantee and AP-42 emission factors.
VOC – 59.033 tons per year potential emissions based on a 2-run stack test using EPA Method 25A, conducted on December 18, 2008.

An additional horizontally-oriented, rotor-type hammer mill, manufactured by Buhler, model DFZP-535 HP, with 284 hammers and associated aspiration system and baghouse was installed to evaluate the technology for a limited time period on Pelletizing Line No. 3. A dedicated aspiration system removes excess moisture and a baghouse manufactured by Buhler, model RPPR-41/6, controls particulate matter emissions from the aspiration system exhaust.

The following specific conditions apply to the emissions units listed above:

Essential Potential to Emit (PTE) Parameters

C.1.a. Hourly Capacity: The maximum process rates for Pelletizing Lines 1, 2, and 3 are 23.7, 29.6, and 23.7 tons of pellets per hour, respectively, averaged over a 24-hour period. These are the rates that compliance tests shall be conducted at. [Rules 62-4.070(3) and 62-210.200(242) {PTE}, F.A.C., and permit 0630058-003-AC]

C.1.b. Annual Capacity: The combined maximum annual production of wood pellets for Pelletizing Lines 1, 2 and 3 shall be no more than 554,304 tons of wood pellets per year. [Rules 62-4.070(3), and 62-210.200(242) {PTE}, F.A.C., and permit 0630058-006-AC]

C.2. Hours of Operation: This emissions unit is allowed to operate continuously, i.e., 8,760 hours/year. [Rules 62-4.070(3) and 62-210.200(242) {PTE}, F.A.C.]

Emission Limitations and Standards

C.3. Particulate Matter: Particulate matter emissions from each Pelletizing Line shall not exceed 58.80 tons PM based on a 12-month rolling total. [permit 0630058-003-AC]

C.4. Visible Emissions: Visible emissions shall not exceed 20 percent opacity. [Rule 62-296.410(2)(b)1, F.A.C.]

C.5. Volatile Organic Compounds: Volatile Organic Compound emissions from all Pelletizing Lines combined shall not exceed 177.10 tons VOC per year, based on a 12-month rolling total. [Rule 62-4.070(3), F.A.C., and permit 0630058-003-AC]

Test Methods and Procedures

C.6.a. Emissions tests are required to show compliance with the standards of the Department. The test results must provide reasonable assurance that the source is capable of compliance at the permitted maximum operating rate. Such tests shall be scheduled once during the Federal Fiscal year (October 1-September 30) prior to each permit renewal. The Department shall be notified at least 15 days prior to testing to allow witnessing. Results shall be submitted to the Department within 45 days after testing.

Pollutant	Test Method
PM	EPA Method 5
VE	EPA Method 9
VOC	EPA Method 25A

VE tests shall be conducted on stacks P1-1, P1-3 and P1-2 for Pelletizing Line 1, P2-1, P2-3, and P2-2 for Pelletizing Line 2, and P3-1, P3-3 and P3-2 for Pelletizing Line 3.

PM and VOC tests shall be conducted on stacks P1-2, P2-2, and P3-2 for Pelletizing Lines 1, 2, and 3, respectively, with sampling ports properly located in accordance with EPA Method 1. [Rules 62-4.070(3), 62-297.310(7), and 62-297.401(1), (5), (9), & (25)(a), F.A.C.]

C.6.b. The test reports shall comply with applicable portions of Rule 62-297.310, F.A.C. - Test Reports. The Department can require special compliance tests in accordance with Rule 62-297.310(7), F.A.C. Other test methods and alternate compliance procedures may be used only after prior Departmental approval has been obtained in writing. [Rules 62-297.310(7) and 62-297.620(1), F.A.C.]

C.6.c. Testing of emissions shall be conducted with the source operating at capacity. Capacity is defined as 90-100% of rated hourly capacity. If it is impractical to test at capacity, sources may be tested at less than capacity; in this case subsequent source operation is limited to 110% of the test load until a new test is conducted. Once the unit is so limited, operation at higher capacities is allowed for no more than 15 days for purposes of additional compliance testing to regain the rated hourly capacity in the permit, with prior notification to the Department. [Rules 62-297.310(2) and 62-4.070(3), F.A.C.]

Monitoring of Operations

C.7. Pelletizing Lines 1, 2, and 3 Production Factor: Compliance with hourly and annual capacity limits in the PTE Subsection for Pelletizing Lines 1, 2, and 3 shall be demonstrated with calculations using a production factor of 0.268 tons of pellets produced per Pelletizing Line infeed screw revolution. This feed rate, along with individual and total infeed screw running hours and revolutions per hour, is to be used in calculations to demonstrate compliance with hourly and annual capacity limits in the PTE Subsection. [40 CFR 64 and permit 0630058-003-AC]
{Permitting Note: Pelletizing Lines 1, 2, and 3 are fed ground wood from pellet mills through infeed screws. The infeed screws' maximum rate of 0.268 tons of pellets produced per infeed screws revolution is based on measurements of production rate and infeed screw revolutions during stack testing.}

C.8. This emissions unit is subject to Section III, Subsection E, Common Conditions, Monitoring of Operations. [Rules 62-4.070(1) & (3), F.A.C.]

Excess Emissions

C.9. This emissions unit is subject to Section III, Subsection E, Common Conditions, Excess Emissions. [Rules 62-4.070(1) & (3), F.A.C.]

Recordkeeping and Reporting Requirements

C.10. Records of the date, time, and individual and total infeed screw running hours and revolutions per hour shall be kept and available for Department inspection. [permit 0630058-003-AC and Rule 62-4.070(3), F.A.C.]

C.11. This emissions unit is subject to Section III, Subsection E, Common Conditions, Recordkeeping and Reporting. [Rule 62-4.070(1) & (3), F.A.C.]

Compliance Assurance Monitoring (CAM) Requirements

C.12. This emissions unit is subject to the Compliance Assurance Monitoring (CAM) requirements contained in the approved Compliance Monitoring Plan (attached). Failure to adhere to the monitoring requirements specified does not necessarily indicate an exceedance of a specific emissions limitation; however, it may constitute good reason to require compliance testing pursuant to Rule 62-297.310(7)(b), F.A.C. [40 CFR 64]

Section III. Emissions Unit(s) and Conditions

Subsection D. This section addresses the following emissions unit

EU I.D.	Brief Description
007	Bulk Load-out Area

Pellets are transported to two storage bins, each with a capacity of 94 tons, and located above the rail car loading area. The bins provide up to about two hours of pellet storage and uniformly meter out the pellets for rail car loading. All conveyors are sealed with dust aspiration air directed to a Buhler dust filter system.

The Bulk Load-out Area has the following air emissions:
PM/PM_{10} – 0.71 tons per year potential emissions based on manufacturer guarantee.

Essential Potential to Emit (PTE) Parameters

D.1. Capacity: The maximum allowable process rate for bulk load-out is 77 tons of pellets per hour, averaged over a 24-hour period. [Rules 62-4.070(3) and 62-210.200(242) {PTE}, F.A.C., and permit 0630058-003-AC]

D.2. Hours of Operation: This emissions unit is allowed to operate continuously, i.e., 8,760 hours/year. [Rules 62-4.070(3) and 62-210.200(242) {PTE}, F.A.C.]

Emission Limitations and Standards

D.3. Visible Emissions: Visible emissions shall not exceed 20 percent opacity. [Rule 62-296.401(2)(b)1, F.A.C.]

Test Methods and Procedures

D.4.a. Emissions tests are required to show compliance with the standards of the Department. The test results must provide reasonable assurance that the source is capable of compliance at the permitted maximum operating rate. Such tests shall be scheduled once during the Federal Fiscal year (October 1-September 30) prior to each permit renewal. The Department shall be notified at least 15 days prior to testing to allow witnessing. Results shall be submitted to the Department within 45 days after testing.

Pollutant	Test Method
VE	EPA Method 9

VE tests shall be conducted on stack P4. [Rules 62-4.070(3), 62-297.310(7) and 62-297.401(9), F.A.C.]

D.4.b. The test reports shall comply with applicable portions of Rule 62-297.310, F.A.C., Test Reports. The Department can require special compliance tests in accordance with Rule 62-297.310(7) F.A.C. Other test methods and alternate compliance procedures may be used only after prior Departmental approval has been obtained in writing. [Rules 62-297.310(7) and 62-297.620(1), F.A.C.]

D.4.c. Testing of emissions shall be conducted with the source operating at capacity. Capacity is defined as 90-100% of rated capacity. If it is impractical to test at capacity, sources may be tested at less than capacity; in this case subsequent source operation is limited to 110% of the test load until a new test is conducted. Once the unit is so limited, operation at higher capacities is allowed for no more than 15 days for purposes of additional compliance testing to regain the rated capacity in the permit, with prior notification to the Department. [Rules 62-297.310(2) and 62-4.070(3), F.A.C.]

Monitoring of Operations

D.5. This emissions unit is subject to Section III, Subsection E, Common Conditions, Monitoring of Operations. [Rules 62-4.070(1) & (3), F.A.C.]

Excess Emissions

D.6. This emissions unit is subject to Section III, Subsection E, Common Conditions, Excess Emissions. [Rules 62-4.070(1) & (3), F.A.C.]

Recordkeeping and Reporting Requirements

D.7. This emissions unit is subject to Section III, Subsection E, Common Conditions, Recordkeeping and Reporting. [Rules 62-4.070(1) & (3), F.A.C.]

Section III. Emissions Unit(s) and Conditions

Subsection E. This section addresses Common Conditions

EU I.D.	Brief Description
001	Wood Fiber Receiving and Storage Area
002	Dryer Line 1
003	Dryer Line 2
004	Pelletizing Line 1
005	Pelletizing Line 2
006	Pelletizing Line 3
007	Bulk Load-out Area
009	Green Wood Chip Grinding System

Monitoring of Operations

E.1. Permittee shall follow and maintain an approved by the Department compliance monitoring plan (CMP). The CMP shall contain established operating, monitoring and recordkeeping procedures for determining compliance with permit requirements for each emissions unit. Portions of the CMP approved by the Department shall be included in the operation permit at the Department's discretion. The Department may add parameters and recording frequencies deemed necessary to assure compliance and best management practices. [Rule 62-4.070(3), F.A.C., and permit 0630058-003-AC]
{Permitting Note: The CMP can have the CAM plan included if the CMP specifically indicates that the CAM plan is included in the CMP.}

Excess Emissions

E.2. Excess emissions resulting from startup, shut down or malfunction shall be permitted provided that 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. 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, shut down or malfunction shall be prohibited. In case of excess emissions resulting from malfunctions, each owner or operator shall notify the 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(1), (4) & (6), F.A.C.]

Recordkeeping and Reporting

E.3. Daily averages are to be made available daily for Department inspection. Verified 30-day, 365-day and 12-month rolling periods' calculated values shall be current and made available no later than 15 days following the end of each calendar month. [Rule 62-4.070(3), F.A.C.]

E.4. This information shall be maintained at the facility for a minimum of five years and made available for Department inspection upon request. [Rule 62-4.070(3), F.A.C.]

E.5 Test Reports
(a) The owner or operator of an emissions unit for which a compliance test is required shall file a report with the Department on the results of each such test.

(b) The required test report shall be filed with the Department as soon as practical but no later than 45 days after the last sampling run of each test is completed.
(c) The test report shall provide sufficient detail on the emissions unit tested and the test procedures used to allow the Department to determine if the test was properly conducted and the test results properly computed. As a minimum, the test report, other than for an EPA or DEP Method 9 test, shall provide the following information:

1. The type, location, and designation of the emissions unit tested.
2. The facility at which the emissions unit is located.
3. The owner or operator of the emissions unit.
4. The normal type and amount of fuels used and materials processed, and the types and amounts of fuels used and material processed during each test run.
5. The means, raw data and computations used to determine the amount of fuels used and materials processed, if necessary to determine compliance with an applicable emission limiting standard.
6. The type of air pollution control devices installed on the emissions unit, their general condition, their normal operating parameters (pressure drops, total operating current and GPM scrubber water), and their operating parameters during each test run.
7. A sketch of the duct within 8 stack diameters upstream and 2 stack diameters downstream of the sampling ports, including the distance to any upstream and downstream bends or other flow disturbances.
8. The date, starting time and duration of each sampling run.
9. The test procedures used, including any alternative procedures authorized pursuant to Rule 62-297.620, F.A.C. Where optional procedures are authorized in this chapter, indicate which option was used.
10. The number of points sampled and configuration and location of the sampling plane.
11. For each sampling point for each run, the dry gas meter reading, velocity head, pressure drop across the stack, temperatures, average meter temperatures and sample time per point.
12. The type, manufacturer and configuration of the sampling equipment used.
13. Data related to the required calibration of the test equipment.
14. Data on the identification, processing and weights of all filters used.
15. Data on the types and amounts of any chemical solutions used.
16. Data on the amount of pollutant collected from each sampling probe, the filters, and the impingers, are reported separately for the compliance test.
17. The names of individuals who furnished the process variable data, conducted the test, analyzed the samples and prepared the report.
18. All measured and calculated data required to be determined by each applicable test procedure for each run.
19. The detailed calculations for one run that relate the collected data to the calculated emission rate.
20. The applicable emission standard and the resulting maximum allowable emission rate for the emissions unit, plus the test result in the same form and unit of measure.
21. A certification that, to the knowledge of the owner or his authorized agent, all data submitted are true and correct. When a compliance test is conducted for the Department or its agent, the person who conducts the test shall provide the certification with respect to the test procedures used. The owner or his authorized agent shall certify that all data required and provided to the person conducting the test are true and correct to his knowledge.

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