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

Title V Air Operation Permit Revision

FINAL Permit No.: 0630058-012-AV
Revision to Title V Air Operation Permit No.: 0630058-005-AV

Permitting and Compliance Authority:
Florida Department of Environmental Protection
Northwest District Air Program
160 W. Government Street, Suite 308
Pensacola FL 32502-5740

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Attachments:

Appendix I-1, List of Insignificant Emissions Units and/or Activities
APPENDIX SS-1, STACK SAMPLING FACILITIES version dated 10/07/96
APPENDIX TV, TITLE V CONDITIONS version dated 02/16/12
Appendix U-1, List of Unregulated Emissions Units and/or Activities
TABLE 297.310-1, CALIBRATION SCHEDULE version dated 10/07/96
Appendix CMP, Compliance Monitoring Plan dated May 2010
Appendix Site Plan

FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION
Northwest District
160 W Government St., Suite 308
Pensacola, Florida 32502-5740

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Permittee:
Green Circle Bio Energy Inc.
2500 Green Circle Parkway
Cottondale, Florida 32431

FINAL Permit No.: 0630058-012-AV
Facility ID No.: 0630058
SIC No(s).: 24, 2499
Project: Title V Air Operation Permit Revision

This permit revision is being issued for the purpose of incorporating the terms and conditions of air construction permit nos. 0630058-008-AC, 0630058-009-AC and 0630058-010-AC, in the Title V Air Operation Permit for the existing Cottondale Wood Pellet Plant. This facility is located at 2500 Green Circle Parkway, Cottondale, Jackson County; UTM Coordinates: Zone 16, 653.89 km East and 3401.68 km North; and, Latitude: 30° 44' 17" North and Longitude: 85° 23' 33" West.

This Title V Air Operation Permit Revision 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 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.

Initial Effective Date: March 17, 2011
Revision Effective Date: November 11, 2012
Renewal Application Due Date: August 5, 2015
Expiration Date: March 17, 2016

/s/

Rick Bradburn
Air Program Administrator

RB/rp/c

Section I. Facility Information

This is a revision to Initial Title V permit 0630058-005-AV, effective March 17, 2011, which incorporates the terms and conditions of construction permits 0630058-008-AC, issued April 12, 2011, 0630058-009-AC, issued July 15, 2011, and 0630058-010-AC, issued March 23, 2012. Application 0630058-007-AC was submitted to replace the RTO heat exchanger media. The facility was advised this activity did not require a permit and the application was withdrawn.

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. Logs are debarked and milled into chips. The chips are dried and ground. The ground wood is compressed into wood pellets. The finished pellets are loaded into railcars for shipment to customers.

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 Dry Wood Truck Dump directly feeds dry wood chips to the Grinding Storage Bin, bypassing the Dryer Lines.

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 a very uniform sized under 3/8” dimension.

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 and manage on a first in/first out basis. Six days of chip inventory (approximately 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 and managed on a first in/first out basis. A bark fuel supply of six days (approximately 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. A fraction (11 MMBtu per hour) of the 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.

Each Dryer Line utilizes an 18 ft x 80 ft Rotary Drum Dryer, 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 Wet Electrostatic Precipitator (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 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 a high efficiency cyclone and a 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 Regenerative Thermal Oxidizer (RTO) for PM and VOC emissions control. 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 and natural gas are used as supplemental fuels to maintain RTO efficiency. Clean gases are exhausted to the atmosphere through a 75 foot high RTO exhaust stack for each Dryer Line.

The Pelletizing Lines 1, 2 and 3 (EUs 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 Pelletizing Lines 1, 2 and 3. Sealed chain conveyors transport dry chips from the Dry Chip Storage Bin up into the Hammer Mill 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 nine vertical hammer mills each, and Pelletizing Line 2 has ten vertical hammer mills. Each hammer mill is manufactured by Buhler, Inc., model Vertical Rotor DFZK-1. The hammer mills accurately grind the dry wood chips to under 4 mm (0.16") in size. The grinding and pelletizing process requires frequent scheduled replacement of machinery parts and dies to maintain critical process tolerances. The 28 vertical hammer mills allow for reliable production without variation due to scheduled hammer mill downtime. A horizontally-oriented, rotor-type hammer mill, manufactured by Buhler, model DFZP-535 HP, can operate continuously as part of Pelletizing Line No. 3.

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. 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 a pellet mill. The wood fiber is compressed by the pellet mill 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. PM emissions are controlled by two cyclones and fabric filters for each Pelletizing Line.

Pellets exiting the pellet mills are conveyed via sealed chain conveyor to a counter flow pellet cooler, manufactured by Geelen Counterflow of the Netherlands. Each Pelletizing Line has a Pellet Cooler, twin cyclones, single ID fan and an exhaust stack. Pellet cooling reduces the 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 PM in the exhaust air. Collected wood dust is discharge via a bottom airlock directly to the sealed chain conveyor delivering wood fiber to the pellet 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.

In the Bulk 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) is one of these.

Based on the Title V Air Operation Permit Revision application received May 16, 2012, 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	168.3/32.8[2]	NA	NA	NA	NA
Dryer Lines 1 & 2	39.8	245.3	22.20	48.2	0.34[1]
Pelletizing Lines 1, 2, & 3	180.0	NA	NA	194.9	NA
Bulk Load-out Area	0.71	NA	NA	NA	NA
TOTAL	220.51	245.3	22.20	243.10	0.34

[1] SO_2 potential emission estimates are based on wood firing.
[2] Wood Fiber fugitives, 32.8 tpy PM_{10} and 168.3 T/yr PM, are not included in Facility totals.

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

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.

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

<u>These documents are on file with the permitting authority:</u>
Initial Title V Air Operation Permit effective March 17, 2011
Appendix H-1: Permit History
Application for a Title V Air Operation Permit Revision received May 16, 2012

Section II. Facility-wide Conditions

The following conditions apply facility-wide:

1. APPENDIX TV, TITLE V GENERAL 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. The 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:

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. 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 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.}

9. Annual Operating Report. The permittee shall submit an annual report that summarizes the actual operating rates and emissions from this facility. Annual operating reports shall be submitted to the Compliance Authority by April 1st of each year. A copy of the form and instructions may be obtained electronically at http://www.dep.state.fl.us/air/rules/forms/aor.htm. If the report is submitted using the Department's electronic annual operating report software, there is no requirement to submit a copy to any DEP or local air program office. [Rule 62-210.370(3), F.A.C.]

10. Annual Emissions Fee Form and Fee. The annual Title V emissions fees are due (postmarked) by March 1st of each year. The completed form and calculated fee shall be submitted to: Major Air Pollution Source Annual Emissions Fee, P.O. Box 3070, Tallahassee, Florida 32315-3070. The forms are available for download by accessing the Title V Annual Emissions Fee On-line Information Center at the following Internet web site: http://www.dep.state.fl.us/air/emission/tvfee.htm. [Rule 62-213.205, F.A.C.]

11. The permittee shall submit all compliance related notifications and reports required of this permit to the Department's Northwest District Office. Notifications and reports may be submitted by electronic mail to nwdair@dep.state.fl.us.

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

12. 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 30303-8960
Telephone: 404/562-9155; Fax: 404/562-9163

13. 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.]

14. 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.]

15. 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 unit

EU.I.D.	Brief Description
001	Wood Fiber Receiving and Storage Area

Wood fiber (pulpwood logs, dry wood chips or sawmill residuals) is unloaded and stored. Logs are debarked, milled into chips and stored; bark is hammer-milled, screened and stored. All stored piles are conveyed for raw material and/or fuel.

Permit 0630058-008-AC authorized construction of a Dry Wood Truck Dump which allows "as-delivered" dry wood chips to be fed directly into the existing Grinding Storage Bin, bypassing the Dryer Lines and allowing for production flexibility.

Permit 0630058-010-AC authorized removal of a never-constructed green wood chip grinding system, from the permit.

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

Essential Potential to Emit (PTE) Parameters

A.1. Permitted 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]

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.]

Test Methods and Procedures

A.4. 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.]

Monitoring of Operations

A.5. 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]

Section III. Emissions Units 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 to approximately 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 Dryer 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.}

Permit 0630058-008-AC authorized the use of natural gas in addition to propane gas to be used as supplemental fuels to maintain temperature of the Regenerative Thermal Oxidizer Combustion Chambers for Dryer Lines No. 1 (EU 002) and No. 2 (EU 003).

The monitored parameters for the combustors are wood chip feed screw sets revolutions per hour and combustor hydraulic ram feeder strokes per hour as required in Permit 0630058-005-AV, Specific Conditions B.1.b and B.2.b, respectively. Permit 06340058-010-AC removed the maximum production rate requirements in Permit 0630058-005-AV, Specific Conditions B.1.a and B.1.b, retained the maximum heat input rate requirements of Specific Conditions B.2.a and B.2.b, and removed the recordkeeping requirement of wood chip feed system revolutions per hour for each dryer from Permit 0630058-005-AV, Specific Condition B.18.

Each Dryer 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 following specific conditions apply to the emissions unit listed above:

Essential Potential to Emit (PTE) Parameters

B.1. Permitted 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. 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.3. 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.]

B.4. 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.5. 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.6. Regenerative Thermal Oxidizer (RTO) Combustion Chamber Temperature: The RTO for each Dryer Line shall be operated using propane or natural gas, 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 0630058-008-AC]

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.]

Excess Emissions

B.11. 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.12. 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.13. This emissions unit is subject to Section III, Subsection E, Common Conditions, Excess Emissions. [Rules 62-4.070(1) & (3), F.A.C.]

Test Methods and Procedures

B.14.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 Dryer Lines 1 and 2, respectively, with sampling ports properly located in accordance with EPA Method 1. [Rules 62-4.070(3), 62-296.410(3)(a)&(b), 62-297.310(7), and 62-297.401(1), (5), (9), (7)(e) and (25)(a), F.A.C.]

B.14.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.14.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.15. 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.16. These emissions units are 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; and, Rules 62-204.800 and 62-213.440(4)(b)4., F.A.C.]

Recordkeeping and Reporting Requirements

B.17 Records of the date, time, hours, total running hours, 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., and permit application 0630058-010-AC]

B.18. 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

Pelletizing Lines 1, 2 and 3 each have a maximum process rate of 29.6 tons of pellets per hour. Pelletizing Lines 1 and 3 have nine vertical hammer mills each and Pelletizing Line 2 has ten vertical hammer mills. The hammer mills accurately grind the dry wood chips to under 4 mm (0.16") in size. 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 Pellet mills are conveyed via sealed chain conveyor to a counter flow pellet cooler. Each Pelletizing Line has a Pellet Cooler, twin cyclones, a single ID fan and an exhaust stack.

Permit 0630058-008-AC allowed construction of two pellet mills, one each for Pelletizing Line No.1 (EU 004) and Pelletizing Line No. 3 (EU 006). The two pellet mills are manufactured by Bliss Industries, LLC, model B200B-141. This allows each Pelletizing Line to operate at a maximum process rate of 29.6 tons of pellets per hour. PM/PM_{10} emissions increased from 58.8 tons per year to 60.0 tons per year for each Pelletizer Line. Further, the horizontal hammer mill in permit 0630058-004-AC is allowed to operate 8760 hours per year and is now a part of Pelletizing Line 3 (EU 006).

Total wood pellet production increased to 610,000 tons per year in permit 0630058-010-AC. Overall (all three Pelletizing Lines) VOC emissions increased to 194.9 tons per year. An overall pellet production rate at Bulk Load-Out in tons of pellets produced on a 24-hour average, calculated daily, is now used as a compliance demonstration measure. Hammer mill and pelletizing infeed conveyors aspiration systems for Pelletizing Lines 1, 2 and 3 were removed.

The following specific conditions apply to the emissions unit(s) listed above:

Essential Potential to Emit (PTE) Parameters

C.1. Permitted Capacity - Hourly Capacity. The maximum pellet production process rate for all three Pelletizing Lines combined is 88.8 tons per hour, on a 24-hour average basis, calculated daily. [Rules 62-4.070(3) and 62-210.200(242) {PTE}, F.A.C., and permit 0630058-010-AC]

C.2. Permitted Capacity - Annual Capacity. The maximum annual production of wood pellets for all three Pelletizing Lines combined shall be no more than 610,000 tons per year. [Rules 62-4.070(3), and 62-210.200(242) {PTE}, F.A.C., and permit 0630058-010-AC]

C.3. 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.4. Particulate Matter: Particulate matter emissions from each Pelletizing Line shall not exceed 60 tons PM based on a 12-month rolling total. [Permit 0630058-008-AC]

C.5. Volatile Organic Compounds: Volatile Organic Compound emissions from all Pelletizing Lines combined shall not exceed 194.90 tons VOC per year, based on a 12-month rolling total. [Rule 62-4.070(3), F.A.C., and permit 0630058-010-AC]

Excess Emissions

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

Test Methods and Procedures

C.7.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.7.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.7.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.8. Pelletizing Lines 1, 2 and 3 Production Rates: Verification of hourly production rates and annual production for emissions estimates for the Pelletizing Lines shall be demonstrated with records from the bulk load-out area for process rate measured in tons of pellets per hour averaged on a 24-hour basis, calculated daily, and monthly and twelve-month rolling totals of tons of pellets per year. [Rule 62-4.070(3), F.A.C., and Application No. 0630058-010-AC]

C.9. 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

C.10. These emissions units are 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; and, Rules 62-204.800 and 62-213.440(4)(b)4., F.A.C.]

Recordkeeping and Reporting Requirements

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.]

Section III. Emissions Units 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.

Construction permit 0630058-009-AC, issued July 15, 2011, increased the bulk load-out maximum process rate to 88.8 tons of pellets per hour, averaged on a 24-hour basis, calculated daily, now used as a compliance demonstration measure.

The Bulk Load-out Area has PM/PM_{10} emissions of 0.71 tons per year potential emissions based on a manufacturer guarantee.

The following specific conditions apply to the emissions unit(s) listed above:

Essential Potential to Emit (PTE) Parameters

D.1. Permitted Capacity. The maximum allowable process rate for bulk load-out is 88.8 tons of pellets per hour, averaged on a 24-hour basis, calculated daily. [Rules 62-4.070(3) and 62-210.200{PTE}, F.A.C., and permit 0630058-009-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.]

Excess Emissions

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

Monitoring of Operations

D.4. This emissions unit is subject to Section III, Subsection E, Common Conditions, Monitoring of Operations. [Rules 62-4.070(1) & (3), F.A.C.]

Recordkeeping and Reporting Requirements

D.5. Permittee shall maintain records of the bulk load-out process rate measured in tons of pellets per hour averaged on a 24-hour basis, calculated daily, and monthly and 12-month rolling totals of tons of pellets per year shall be kept and made available for Department inspection. Records of the 24-hour basis daily calculations shall be kept and maintained for Department inspection. [Rule 62-4.070(3), F.A.C., and permit 0630058-010-AC]

D.6. 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 Units and Conditions

Subsection E. This section addresses Common Conditions of the following emissions units.

This section of the permit addresses Common Conditions for the following emissions units.

ID No.	Emissions Unit 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

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

Excess Emissions

E.1. 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.]

Monitoring of Operations

E.2. Permittee shall update the current Department approved compliance monitoring plan (CMP) within 60 days of issuance of this permit or provide a statement that the current CMP remains applicable. 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.}

Recordkeeping and Reporting Requirements

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.]