Florida Department of Environmental Protection

Northwest District
160 W. Government Street, Suite 308
Pensacola, Florida 32502-5740

Rick Scott
Governor

Herschel T. Vinyard, Jr.
Secretary

Sent by Electronic Mail – Received Receipt Requested

PERMITTEE

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

Authorized Representative:
Mr. Greg Martin, Plant Manager

Air Permit No. 0630058-014-AC
Permit Expires: Date

Cottondale Wood Pellet Plant
Title V Source Air Construction Permit
To Modify 0630058-011-AC

This is the final air construction permit, which authorizes modifications to permit 0630058-011-AC to address VOC and PM emissions identified during recent engineering-level stack testing of the hammer mill and pellet mill aspiration systems. The proposed work will be conducted at the Cottondale Wood Pellet Plant, which is a Wood Products Facility (Standard Industrial Classification No. 2499). The facility is located in Jackson County at 2500 Green Circle Parkway in Cottondale, Florida. The UTM coordinates are Zone 16, 653.89 km East, and 3401.68 km North. As noted in the Final Determination provided with this final permit, (no changes / only minor changes and clarifications) were made to the draft permit.
This final permit is organized by the following sections.

Section 1. General Information

Section 2. Administrative Requirements

Section 3. Emissions Unit Specific Conditions

Section 4. Appendices

Because of the technical nature of the project, the permit contains numerous acronyms and abbreviations, which are defined in Appendix A of Section 4 of this permit.

This air pollution construction permit is issued under the provisions of: Chapter 403 of the Florida Statutes (F.S.) and Chapters 62-4, 62-204, 62-210, 62-212, 62-213, 62-296 and 62-297 of the Florida Administrative Code (F.A.C.). The permittee is authorized to conduct the proposed work in accordance with the conditions of this permit. This project is subject to the general preconstruction review requirements in Rule 62-212.300, F.A.C., and is not subject to the preconstruction review requirements for major stationary sources in Rule 62-212.400, F.A.C., for the Prevention of Significant Deterioration (PSD) of Air Quality.

Upon issuance of this final permit, any party to this order has the right to seek judicial review of it under Section 120.68 of the Florida Statutes by filing a notice of appeal under Rule 9.110 of the Florida Rules of Appellate Procedure with the clerk of the Department of Environmental Protection in the Office of General Counsel (Mail Station #35, 3900 Commonwealth Boulevard, Tallahassee, Florida, 32399-3000) and by filing a copy of the notice of appeal accompanied by the applicable filing fees with the appropriate District Court of Appeal. The notice must be filed within 30 days after this order is filed with the clerk of the Department.

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Executed in Pensacola, Florida

_____
J. Charles Harp
Program Administrator
Waste Management/Air Resources
Northwest District

CERTIFICATE OF SERVICE

The undersigned duly designated deputy agency clerk hereby certifies that this Final Air Permit package (including the Final Determination and Final Permit) was sent by electronic mail (or a link to these documents made available electronically on a publicly accessible server) with received receipt requested before the close of business on _____ to the persons listed below.

Mr. Greg Martin, Green Circle Bio Energy, gmartin@greencirclebio.com
Mr. Scott A. McCann, P.E., Golder Associates, scott_mccann@golder.com
Ms. Kathleen Forney, EPA Region 4, forney.kathleen@epa.gov
DEP Northwest District Branch Office, Panama City

FILED, on this date,pursuant to Section 120.52(7), Florida Statutes, with the designated agency clerk, receipt of which is hereby acknowledged.

_____
Clerk Date

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FACILITY AND PROJECT DESCRIPTION

Existing Facility

This is a wood pellet plant, comprised of a wood fiber receiving and storage area, two dryer lines, three pelleting lines and a pellet load-out area. A pelletizing line consists of hammer mills, pellet mills and a pellet cooler cyclone. The hammer mills and pellet mills have aspiration systems to remove PM emissions.

Logs are debarked and milled into chips. The chips are dried, ground and screened to a more consistent size. The ground wood is compressed to make wood pellets to be used as fuel. The finished pellets are loaded into railcars for shipment to customers.

Construction Permit 0630058-011-AC authorized an increase in the hourly and annual wood pellet production rates from 88 tons per hour and 610,000 tons per year to 121 tons per hour and 827,000 tons per year, installation of a green Chip Screening and Sizing Operation, a new dryer line, a dry chip silo, up to ten new horizontal hammermills, three new pellet mills and new pneumatic transfer systems.

Facility ID No. 0630058

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

Proposed Project

This project modifies permit 0630058-011-AC to address VOC and PM emissions identified during recent stack testing of hammer mills and pellet mills. The project will control VOC and PM emissions from the hammer mill and pellet mill aspiration systems by routing these emissions to the Dryer Line Furnaces (90% VOC destruction efficiency) and then to the WESPs (97% PM removal efficiency) and finally to the RTOs (95% VOC destruction efficiency.) The woodyard operations remain unchanged. Dryer 3 remains in the permit and will be constructed if supplemental dry wood chips are insufficient to attain the desired hourly and annual pellet production rates. The additional 10 horizontal hammer mills authorized by permit 0630058-011-AC will not be installed. One of three new proposed pellet mills authorized by permit 0630058-011-AC has been installed. The other two pellet mills are to be installed later.

This project will modify the following emissions units:

Facility ID No. 0630058

ID No.	Emissions Unit Description
002	Dryer Line 1
003	Dryer Line 2
004	Pelletizing Line 1
005	Pelletizing Line 2

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006	Pelletizing Line 3
009	Dryer Line 3

FACILITY REGULATORY CLASSIFICATION

- The facility is a major source of hazardous air pollutants (HAP).
- The facility has no units subject to the acid rain provisions of the Clean Air Act (CAA).
- The facility is a Title V major source of air pollution in accordance with Chapter 213, F.A.C.
- The facility is not a major stationary source in accordance with Rule 62-212.400(PSD), F.A.C.

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SECTION 2. ADMINISTRATIVE REQUIREMENTS

1. Permitting Authority: The permitting authority for this project is the Northwest District Air Resource Management Program, Florida Department of Environmental Protection (Department). The District's mailing address is 160 W. Government Street, Suite 308, Pensacola, Florida 32502-5740. All documents related to applications for permits to operate an emissions unit shall be submitted to the District Office.

2. Compliance Authority: All documents related to compliance activities such as reports, tests, and notifications shall be submitted to the District Office at the above address or nwdair@dep.state.fl.us.

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

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

    b. Appendix B. General Conditions;

    c. Appendix C. Common Conditions; and

    d. Appendix D. Common Testing Requirements.

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

5. Asbestos: This permit does not authorize any demolition or renovation of the facility or its parts or components which involves asbestos removal. This permit does not constitute a waiver of any of the requirements of Chapter 62-257, F.A.C., and 40 CFR 61, Subpart M, National Emission Standard for Asbestos, adopted and incorporated by reference in Rule 62-204.800, F.A.C. Compliance with Chapter 62-257, F.A.C., and 40 CFR 61, Subpart M, Section 61.145, is required for any asbestos demolition or renovation at the source. [40 CFR 61; Rule 62-204.800, F.A.C.; and, Chapter 62-257, F.A.C.]

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

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

8. Source Obligation:

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

    (b) At such time that a particular source or modification becomes a major stationary source or major modification (as these terms were defined at the time the source obtained the enforceable limitation) solely by exceeding its projected actual emissions, then the requirements of subsections 62-212.400(4)

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through (12), F.A.C., shall apply to the source or modification as though construction had not yet commenced on the source or modification.

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

9. Application for Title V Permit: This permit authorizes construction of the permitted emissions units and initial operation to determine compliance with Department rules. A Title V air operation permit is required for regular operation of the permitted emissions unit. The permittee shall apply for a Title V air operation permit at least 90 days prior to expiration of this permit, but no later than 180 days after commencing operation. To apply for a Title V operation permit, the applicant shall submit the appropriate application form, compliance test results, and such additional information as the Department may by law require. The application shall be submitted to the appropriate Permitting Authority with copies to the Compliance Authority. You can obtain a permit application form or apply for permit renewal electronically at the following web address: http://www.dep.state.fl.us/air/emission/permitting.htm.
[Rules 62-4.030, 62-4.050 and Chapter 62-213, F.A.C.]

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A. Dryer Lines 1, 2, and 3

This section of the permit addresses the following emissions units.

ID No.	Emissions Unit Description
002	Dryer Line 1
003	Dryer Line 2
009	Dryer Line 3

Each Dryer Line contains a bark fuel combustor that exhausts into a rotary drum wood chip dryer, and a steam generator. A portion (11 MMBtu/hour) of the heat generated in each Dryer Line's bark combustor (125 MMBtu/hour total heat input) is routed to each Dryer Line's steam generator. Each Dryer Line has a nameplate maximum production capacity of 80,220 pounds per hour of dried wood (9% moisture). Each Dryer exhaust flows through a fan induced drafted cyclone, a wet electrostatic precipitator and a regenerative thermal oxidizer (to control PM, NO_X and VOC emissions) and out Dryer Line 1 Exhaust Stack and Dryer Line 2 Exhaust Stack. Each Combustor has a bypass for emergencies, identified as Combustor 1 Bypass Stack and Combustor 2 Bypass Stack. Each Dryer has a bypass for emergencies, identified as Dryer 1 Bypass Stack and Dryer 2 Bypass Stack. Construction of Dryer Line 3 is authorized by permit 0630058-011-AC, but has not been constructed.

This project modifies permit 0630058-011-AC by venting all hammer mill and pellet mill aspiration systems to existing Dryer Furnaces 1 and 2, and to Dryer Furnace 3 when it is constructed.

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

A.1. Previous Permits: This permit supplements all previously issued air construction and operation permits for this emissions unit. Except for the change noted below, the unit remains subject to the conditions of all other legally binding air construction and operating permits. [Rules 62-4.070(3) and 62-210.300(1), F.A.C.]

A.2. New Equipment: Except for the change noted below, the new equipment authorized by this permit shall be subject to the same requirements, such as, but not limited to; emissions standards, recordkeeping, compliance testing and fuels limitations previously established for this emissions unit in all other legally binding air construction and operating permits. [Rules 62-4.070(3) and 62-210.300(1), F.A.C.]

EQUIPMENT

A.3. Aspiration System Venting: The permittee is authorized to construct the VOC control air handling system ductwork, fans and ancillary equipment necessary to vent all hammer mill and pellet mill aspiration systems to Dryer Line Furnaces 1 and 2 and to Dryer Line Furnace 3 when it is constructed. The pellet mill coolers will continue to vent to the cyclone systems and then to the atmosphere. [Application No. 0630058-014-AC]

TESTING REQUIREMENTS

A.4. Initial Compliance Tests: The exhaust stacks from Dryer Line Furnaces 1, 2, and 3 shall be tested to demonstrate compliance with emissions standards for Particulate Matter and Volatile Organic Compounds, Hazardous Air Pollutants (specifically methanol, formaldehyde and acetaldehyde), Nitrogen Oxides, and Visible Emissions. The tests for PM, VOC, HAP, NO_X, and VE shall be conducted on the Dryer Line exhaust stacks within 120 days after completion of construction of the VOC control air handling system to the existing Dryer Line Furnaces. Notification of compliance testing and completed test reports may be submitted by

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electronic mail to nwdair@dep.state.fl.us and copied to the permitting authority at epost_nwdwasteair@dep.state.fl.us .
[Rules 62-4.070(3) and 62-297.310(7)(a)1., F.A.C., and 40 CFR 60.46b(b) and (d)]

{Permitting Note: Initial testing on the Dryer Line Furnaces resulted in low CO (25.61 tpy). No further testing is deemed necessary}

A.5. Test Requirements: The permittee shall notify the Compliance Authority in writing at least 15 days prior to any required tests. Notification may be sent via e-mail to nwdair@dep.state.fl.us. Tests shall be conducted in accordance with the applicable requirements specified in Appendix D (Common Testing Requirements) of this permit. [Rule 62-297.310(7)(a)9., F.A.C.]

A.6. Test Methods: Required tests shall be performed in accordance with the following reference methods.

Method	Description of Method and Comments
1-4	Traverse Points, Velocity and Flow Rate, Gas Analysis, and Moisture Content
5	Method for Determining Particulate Matter Emissions
7E	Determination of Nitrogen Oxide Emissions from Stationary Sources
9	Visual Determination of the Opacity of Emissions from Stationary Sources
25A	Method for Determining Gaseous Organic Concentrations (Flame Ionization)
320	Vapor Phase Organic and Inorganic Emissions by Extractive FTIR, (for methanol, formaldehyde and acetaldehyde)

The above methods are described in Appendix A of 40 CFR 60 and are adopted by reference in Rules 62-204.800 and 62-297.401, F.A.C. No other methods may be used unless prior written approval is received from the Department. [Rules 62-204.800 and 62-297.401, F.A.C.; and Appendix A of 40 CFR 60]

COMPLIANCE ASSURANCE MONITORING (CAM) REQUIREMENTS

A.7. These emissions units are subject to the Compliance Assurance Monitoring (CAM) requirements contained in the approved Compliance Monitoring Plan. 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. This permit results in many changes that need to be incorporated into the Compliance Monitoring Plan and Compliance Assurance Monitoring Plan. Permittee will provide an updated Compliance Monitoring Plan and an updated CAM Plan within 120 days of issuance of this permit for Department review and approval.
[40 CFR 64 and Application No. 0630058-014-AC]

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B. Pelleting Lines 1, 2, and 3

This section of the permit addresses the following emissions units.

ID No.	Emissions Unit Description
004	Pelleting Line 1
005	Pelleting Line 2
006	Pelleting Line 3

This subsection is for the operation of Pelleting Lines 1, 2 and 3, currently having a combined maximum process rate of 121 tons per hour and 827,000 tons per year. Pelleting Lines 1 and 3 have eight vertical hammer mills each and Pelleting 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 a pellet mill. Each Pelleting Line has five pellet mills with each line getting a new pellet mill in permit 0630058-011-AC. 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. Pellets exiting the pellet mills are conveyed via sealed chain conveyor to a counter flow pellet cooler.

This modification removes the authorization to construct up to ten new horizontal hammer mills. All hammer mill and pellet mill aspiration systems are to be routed by a Furnaces VOC control air handling system to Dryer Line Furnace 1 and 2, and to Dryer Line Furnace 3 when it is constructed. The pellet mill coolers will continue to vent to the twin cyclone systems and then to the atmosphere.

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

B.1. Previous Permits: This permit supplements all previously issued air construction and operation permits for this emissions unit. Except for the change noted below, the unit remains subject to the conditions of all other legally binding air construction and operating permits. [Rules 62-4.070(3) and 62-210.300(1), F.A.C.]

B.2. New Equipment: Except for the change noted below, the new equipment authorized by this permit shall be subject to the same requirements, such as, but not limited to; emissions standards, recordkeeping, compliance testing and fuels limitations previously established for this emissions unit in all other legally binding air construction and operating permits. [Rules 62-4.070(3) and 62-210.300(1), F.A.C.]

EQUIPMENT

B.3. New Hammer Mills: The authorization to install up to ten new horizontal hammer mills and a new pneumatic transfer system for each new horizontal hammer mill is removed. The authorization for the removal of the existing pelleting lines' aspiration dust collectors and venting their exhaust stream to the cooler exhaust stream for each pelleting line is removed. [Application No. 0630058-014-AC]

METHODS OF OPERATION

B.4. Reduction of Pelleting Lines Operating Rate: When one or more of the Dryer Line Furnaces is not able to process the exhaust from the VOC control air handling system, permittee will reduce the processing rate of the pelleting lines so the resulting volume flow from the VOC control air handling system will not overwhelm the

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air handling capability of the remaining Dryer Line Furnace(s). [Rules 62-4.070(3) and 62-210.300(1), F.A.C., and Application No. 0630058-014-AC]

COMPLIANCE ASSURANCE MONITORING (CAM) REQUIREMENTS

B.5. After the construction of the VOC control air handling system, these emissions units will not be subject to the Compliance Assurance Monitoring (CAM) requirements as currently contained in the approved Compliance Monitoring Plan because this permit authorizes using the Dryer Line Furnaces and their WESPs and RTOs as emission control devices for the hammer mills and pellet mills. Permittee will provide an updated Compliance Monitoring Plan and an updated CAM Plan within 120 days of issuance of this permit for Department review and approval. [40 CFR 64 and Application No. 0630058-014-AC]

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