TECHNICAL EVALUATION

APPLICANT

Pure Pine, LLC
Post Office Box No. 128
Williston, Florida 32696

Facility ID No. 0750086

PROJECT

Project No. 0750086-005-AO
Non-Title V Application
Revision

COUNTY

Levy

PERMITTING AUTHORITY

Florida Department of Environmental Protection
Northeast District Office
Waste and Air Resource Management
8800 Baymeadows Way West, Suite 100
Jacksonville, Florida 32256

January 12, 2015

1. GENERAL PROJECT INFORMATION

Air Pollution Regulations

Projects at stationary sources with the potential to emit air pollution are subject to the applicable environmental laws specified in Section 403 of the Florida Statutes (F.S.). The statutes authorize the Department of Environmental Protection (Department) to establish regulations regarding air quality as part of the Florida Administrative Code (F.A.C.), which includes the following chapters:

Table 1 - Applicable Rules from the F.A.C.

Chapter	Description
62-4	Permits
62-204	Air Pollution Control – General Provisions
62-210	Stationary Sources of Air Pollution – General Requirements
62-212	Stationary Sources – Preconstruction Review
62-296	Stationary Sources – Emission Standards
62-297	Stationary Sources – Emissions Monitoring

In addition, the U. S. Environmental Protection Agency (EPA) establishes air quality regulations in Title 40 of the Code of Federal Regulations (CFR). Part 60 specifies New Source Performance Standards (NSPS) for numerous industrial activities. Part 61 specifies National Emission Standards for Hazardous Air Pollutants (NESHAP) based on specific pollutants. Part 63 specifies NESHAP based on the Maximum Achievable Control Technology (MACT) for numerous industrial categories.

Federal regulations adopted by reference are given in Rule 62-204.800, F.A.C. State regulations approved by EPA are given in 40 CFR 52, Subpart K – Florida, also known as the State Implementation Plan (SIP) for Florida.

Glossary of Common Terms

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

Facility Process Description and Location

The facility operates a 16.0 MMBtu/hr, Wood-Fired, Triple-Pass, Rotary Dryer. This facility produces both wet and dried wood shavings for use in animal bedding.

Wet logs are processed through one of four shaving machines and cut into the desired size. Each of the shaving machines has a maximum capacity of about 40 yards of shavings per hour. Wet shavings are fed through the rotary dryer to reduce moisture. From the rotary dryer, the shavings are routed to a cyclone and through a screen system in order to separate the wood shavings from the smaller wood particles (fines and sawdust). The separated fines and sawdust are routed to a storage bin before being feed, by auger, to the combustion zone of the rotary dryer as the fuel source. Some of the wet shavings are shipped directly to the customers.

The drying process is equipped with computer controls. The dryer temperature typically varies between 400 °F and 600 °F. The dryer is allowed to operate continuously and the dryer startup time is approximately 30 minutes. The maximum heat input rate for the burner is estimated to be 16 MMBtu/hr, based on 2000 lbs of sawdust burned per hour with a heat value of 8000 Btu/lb.

Particulate Matter emissions from the dryer are controlled by the cyclone. The cyclone is about 10 ft in diameter and about 35 ft tall. The air volumetric flow is approximately 500 cfm.

The dry and wet shavings are sold as product. The production rate of dry shavings is approximately 1 ton/hour. The production rate of dry shavings is determined on a daily basis as the product is packaged. Based on continuous operation, the facility has the potential to produce up to 8,760 tons of dried shavings per year.

This project revises the operation permit to include the addition of two electric shaving mills (included in the five mentioned above) and two electric pelletizers and to increase the heat input to EU 001 from 8.0 MMBtu/hr to 16.0 MMBtu/hr.

The facility is subject to the following regulations: Florida Administrative Code Chapters 62-4; 62-103; 62-204; 62-210; 62-212, 62-296, and 62-297. Issuance of this permit does not relieve the facility owner or operator from compliance with any applicable federal, state, or local permitting requirements or regulations.

The existing facility consists of the following permitted emissions units.

Facility ID No. 0750086

Eu ID No.	Emission Unit Description
001	16.0 MMBtu/hr wood-fired burner & rotary dryer. Air Pollution Control Equipment: One (1) Heil Cyclone. Gas Volume.....500 ACFM Gas Temperature.....150 °F Removal efficiency ……estimated to be 99% (for shavings)

Potential to Emit: Emissions factors from stack tests conducted at a similar facility are used to estimate potential emissions of the dryer. These emissions factors are considered more conservative since the tested unit has a higher heat input rate (20MMBtu/hr) and higher temperature (1400 °F), which is likely to emit more VOCs and HAPs from the drying process. The estimated emissions factors and the potential emissions are as shown below.

Pollutant (s)	Emissions Factor (lb/tons of shavings produced)	Emissions Rate (lb/hr)	Emissions Rate (ton/yr)
PM/PM10	1.33	1.3	5.8
SO2	0.03	0.03	0.1
NOx	0.3	0.3	1.3
CO	2.8	2.8	12.3
VOC	8.7	8.7	38.1
Methanol	0.047	0.05	0.2
Formaldehyde	0.038	0.04	0.2

Emissions based on: 8760 hours per year, 2000 lb per hour fuel rate, 8000 btu/lb HHV wood, 16 MMBtu/ hour heat rate and 1 ton per hour production rate.

All PM emissions from the electrical shavers and electrical pelletizer are fugitive and there is no control equipment.

Objectionable Odor: No odor problems are expected at this facility.

Compliance: The stack atop the burner is not an exhaust point to the atmosphere; it is an opening for ambient air intake. If "blue haze" emissions occur through cyclone's stack (exhaust), it means that the gases are too hot and the wood's resin is being cooked out. During the winter there may be a white, condensed water vapor plume visible from the cyclone's stack (exhaust). It is preferable that VE test be conducted during warm weather. It is expected that only small amounts of PM (ashes and/or sawdust) will escape as emissions from the cyclone. If a significant amount of PM emissions are observed, it may be an indication of improper operation, malfunction, or the potential PM emissions were underestimated.

REGULATED EMISSION UNITS:

EU No.	EU Description	Control Device
001	16.0 MMBtu/hr Wood-Fired Burner & Rotary Dryer	Heil Cyclone

Facility Regulatory Categories

- The facility is not a major source of hazardous air pollutants (HAP).
- The facility does not operate units subject to the acid rain provisions of the Clean Air Act.
- The facility is not 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, F.A.C. for the Prevention of Significant Deterioration (PSD) of Air Quality.

Processing Schedule

01/12/2015 Department received the Application for Air Permit – Long Form

Glossary of Common Terms

Because of the technical nature of the project, the permit contains numerous acronyms and abbreviations, which are defined in Appendix A of the draft permit distributed with this evaluation.

2. APPLICATION REVIEW

This permit revision incorporates Construction Permit No. 0750086-004-AC. The only minor deviations in construction are that 2 pellet machines were installed and only 2 of the proposed 3 electric shavings mills were installed.

State Requirements

- **Chapter 62-210, F.A.C** **Stationary Sources – General Requirements**
- Rule 62-210. 300, F.A.C Permits Required
- **Chapter 62-296, F.A.C** **Stationary Sources – Emissions Standards**
- Rule 62-296.320, F.A.C General Pollutant Emissions Limiting Standards
- Rule 62-296.414 F.A.C Concrete Batching Plants
- **Chapter 62-297, F.A.C** **Stationary Sources – Emissions Monitoring**
- Rule 62-297.310, F.A.C General Test Requirements
- Rule 62-297.320, F.A.C Standards for Persons Engaged in Visible Emissions Observations.

Federal NSPS Provisions

There are no New Source Performance standards that apply to any emission source at the facility.

Federal NESHAP Provisions

There are no National Emission Standards for Hazardous Air Pollutants that apply to any emission source at the facility.

CONCLUSION

Based upon the information provided by the applicant, the Department has reasonable assurance that the operation of the facility as described in the application and addendums and subject to the conditions proposed herein, will not cause or contribute to a violation of any technical provision of Rule 62-210, or 62-296.320, F.A.C.