## PERMITTEE

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

## PERMITTING AUTHORITY

Florida Department of Environmental Protection
Permitting Program
Northeast District Office
8800 Baymeadows Way West, Suite 100
Jacksonville, Florida 32256

## PROJECT

Air Permit No. 1090463-001-AC
Air Construction Permit

## PROJECT

On October , 2014, the applicant submitted an application to construct a Wood Pelletizing Plant which will consist of a wood receiving, storage and transfer area, a wood burner, a direct-fired triple-pass rotary dryer, two hammer mills, a wood screener, a storage bin, twelve pellet mills, a pellet cooler, a pellet screener, and a pellet product load-out and storage area.

On January 7, 2015, the Department issued a draft construction permit. The applicant published the Public Notice in the The St. Augustine Record on January 9, 2015. The Department received the Proof of Publication on January 12, 2015. No requests for administrative hearings or requests for extensions of time to file a petition for administrative hearing were received.

Subsequent to publication of the Public Notice, the applicant submitted comments on the draft permit that were received by the Department on January 12, 2015 and January 16, 2015. In addition, the applicant revised the permit application and a supplemental document on February 6, 2015.

The Department has made changes to the draft permit based on the submitted comments and revised application documents. Publication of a new Public Notice is required pursuant to Rule 62-110.106(7), F.A.C.

Based on these changes, the permitting authority is withdrawing the January 7, 2015 draft permit and is replacing it with a Revised Draft permit package.

## COMMENTS

The submitted comments and the Department's response are stated below.

**Comments received January 12, 2015:**

**Technical Evaluation Comments:**

**Comment 1 (Page 3). Not a disposal site. This implies landfill. change disposal with "recycling"**

*Response: The requested change will be made*

**Comment 2 (Page 3). Chips are not purchased. They are "received" from and outside source.**

*Response: This language was taken from the December 2014 Supplemental Information document, Section 2.0 Process Description, paragraph 1. Therefore please update this document. The applicant submitted the updated document on February 6, 2015. As such, the requested change is made to the permit.*

**Comment 3 (Page 5 ). This has been changed to 5000 acfm**

*Response: This language was taken from the December 2014 Supplemental Information document, Section 2.0 Process Description, paragraph 4. The submitted application also states two units. Therefore please update this document and the application. The applicant submitted the updated document on February 6, 2015. As such, the requested change is made to the permit.*

**Comment 4 (Page 5 ). This has been changed to 1 dust collector.**

*Response: This language was taken from the December 2014 Supplemental Information document, Section 2.0 Process Description, paragraph 4. The submitted application also states two units. Therefore please update this document and the application. The applicant submitted the updated document on February 6, 2015. As such, the requested change is made to the permit.*

**Comment 5 (Page 6 ). Not disposed, implies a landfill. change word to "temporarily stored"**

*Response: The requested change will be made*

**Comment 6 (Page 22) Wood chips received from easement contractors do come through contracts from Indianhead Exploration. I believe this was meant to say that wood chips generated from yard waste will not be burned...**

*Response*: *A portion of this language was taken from the December 4, 2014 RAI response, page 4. Based on the submitted comment the Department proposes the following*: Vulcan Renewables, LLC will also put the following steps in place to ensure that the yard waste/trash or wood chips generated from yard waste/trash that are temporarily stored at Indianhead Exploration, LLC d/b/a/ Indianhead Biomass Services will be kept separate from and not burned in the wood cyclonic burner/ triple-pass rotary dryer furnace or used at Vulcan Renewables, LLC

**Comment 7 (Page 22) update map from land clearing waste to land clearing debris**

*Response: The change is made to Attachment 1as requested.*

**Comment 8 (Page 27) I see a conflict in the opacity standard between this rule siting and specific condition B.10 on page 22 of 40 in permit.**

*Response: Rule 62-296.410(2)(a), F.A.C. states that , "Burners of capacity less than 30 million Btu per hour total heat input – Visible emissions shall not exceed 20 percent opacity except that visible emissions not exceeding 27 percent opacity shall be allowed for one-six minute period in any one-hour period." The correction is made to reflect the 20 percent opacity standard. In Specific Condition B.10. of the draft construction permit although*

*Rule 62-296.410(2)(a), F.A.C. is applicable to the unit, a more stringent standard of 10 percent opacity was applied using Rule 62-4.070(3), F.A.C.*

**Draft Construction Permit Comments:**

**Comments 1 and 2 (Page 3 of 40). not purchased but "received"**

*Response: This language was taken from the December 2014 Supplemental Information document, Section 2.0 Process Description, paragraph 1. Therefore please update this document. The applicant submitted the updated document on February 6, 2015. As such, the requested change is made to the permit.*

**Comment 3 (Page 3 of 40**). feed hopper and conveyed into the primary hammer mill

*Response: The change is made as requested.*

**Comments 4 and 5 (Page 13 of 40, FWCs 6 and 8). need to keep these BMP dates consistent with item 8 below. need to keep BMP filing dates consistent with item 6 above. I suggest 60 days for both as we are working on changes to the BMP to submit it prior to start up.**

*Response: The change to Facility-wide Condition 8 is made as requested.*

**Comment 6 (page 14 of 40, FWC 14). This date conflicts with commissioning and testing. I suggest the submittal date be 90 days after the test is completed so that we can include the test results in the Title V application.**

*Response: The language in FWC 14 is from Rule 62-213.420(1)(a)1., F.A.C. No change is made to the facility wide condition based on the comment.*

*Rule 62-213.420(1)(a)1., F.A.C.:*

*A facility that commences operation as a Title V source or that otherwise becomes subject to the permitting requirements of Chapter 62-213, F.A.C., must file an application for an operation permit under this chapter at least ninety days before expiration of the source's air construction permit, but no later than 180 days after commencing operation as a Title V source, unless a different application due date is provided at Rule 62-204.800, F.A.C., or an earlier date is provided in the air construction permit…*

**Comment 7 (Page 15 of 40, Emissions Unit description). Strike the word purchased.**

*Response: This language was taken from the December 2014 Supplemental Information document, Section 2.0 Process Description, paragraph 1. Therefore please update this document. The applicant submitted the updated document on February 6, 2015. As such, the requested change is made to the permit.*

**Comment 8 (Page 15 of 40, Emissions Unit description). feed hopper and conveyed to the primary hammer mill.**

*Response: The change is made as requested.*

**Comment 9 (Page 15 of 40, Emissions Unit description). remove the beginning of this sentence**

*Response*: The change is made as requested.

**Comment 10 (Page 15 of 40, Emissions Unit description). received**

*Response: This language was taken from the December 2014 Supplemental Information document, Section 2.0 Process Description, paragraph 1. Therefore please update this document. The applicant submitted the updated document on February 6, 2015. As such, the requested change is made to the permit.*

**Comment 11 (Page 15 of 40, Condition A.1.). in the Title V operating permit application**

*Response: The Permitting Authority should be notified as soon as possible that there are changes made to the project that are contrary to the application and associated documents that were provided to the Department for the issuance of the construction permit. No change is made to the Permit Condition based on the comment.*

**Comments 12 and 13 (Page 17 of 40, Condition A.5.). That is located outdoors and uncovered. most drop points will be enclosed or indoors. I believe that this would be best managed though the fugitive emission rule rather than a VE test.**

*Response: Based on the comment, Conditions A.5., and A.8. are revised as follows. Condition A.9. is removed from the permit.*

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

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

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

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

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

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

**Comment 14 (Page 17 of 40, Condition A.8.). Can we define initial operation? I believe that the system could take a few months of commissioning before the whole plant can work a unit ready to produce pellets. Then it may take several months to get any reasonable production out of it.**

*Response: Please see the response to Comments 19, 20, 21, 22, 25 below*

**Comment 15 (Page 19 of 40, Emissions Unit description). hopper then conveyed to...**

*Response: The change is made as requested.*

**Comment 16 (Page 21 of 40, Condition B.7.). this may get confusing to an inspector. The combustion temperature will be established for the furnace not the dryer. Though they share a common stack, they are separate pieces of equipment. I suggest you call this the "furnace combustion temperature"**

*Response: The change is made as requested. Change also made to Condition B.4.*

**Comment 17 (Page 22 of 40, Condition B.9.). The facility is permitted for 8760 hr/yr and 62,000 ton of pellets per year. We do not want a limit of hours of operation. The limit should remain consistent at 62,000 tons/yr. It is likely that the plant won't meet it's design capacity of 10 ton/hr for the first year so we do not want to be limited by hours.**

*Response: The limitation on the hours of operation have been removed from the permit. The 62,000 tons of pellets per any consecutive 12-month period will remain as a requested production limitation.*

**Comment 18 (Page 22 of 40, Condition B.10.). In the technical evaluation the limit is 27% opacity (page 27 of 29). need to be consistent**.

*Response: The technical evaluation identifies Rule 62-296.410, F.A.C.- Carbonaceous Rule as being applicable to this unit. The VE opacity standard in Condition B.10. is based on the also cited Rule 62-4.070(3), F.A.C. – reasonable assurance.*

**Comments 19, 20, 21, 22, 25 (Page 23 of 40, Condition B.16., Page 24 of 40, Condition B.20., Page 25 of 40, Condition B.23., Condition B.26., Page 26 of 40, Condition B.29.). can we define this as 180 days from commissioning?**

*Response: Initial operation is generally when a facility starts making what it's intended to make, i.e. producing wood pellets with the process. No change is made to the condition language as a result of the comment.*

**Comment 24 (Page 26 of 40, Condition B.27.). The facility is requesting that this testing requirement be reduced to 3 times in the first year rather than 4. It is our belief that three times will capture the variation in the yellow pine wood chips that the agency is looking for.**

*Response: Based on the comment, Condition B.26. and B.27. are revised to allow the Permittee to request that the Department waive the fourth performance test should the results of tests one through three are substantially the same.*

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

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

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

**B.27. VOC – Triple-Pass Rotary Dryer -~~Quarterly and~~ Annual Compliance Tests:**

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

~~If all four performance tests (including the initial test required by **Specific Condition B.26.**) indicate compliance with the emission limit stated in **Specific Condition B.13.**, the performance tests may then be conducted on an annual basis,~~ During each federal fiscal year (October 1st to September 30th), the triple-pass

Rotary Dryer shall be tested, using the test method specified in **Specific Condition B.28.**, to demonstrate compliance with the VOC emissions limit specified in **Specific Condition B.13.** of this subsection.

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

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

**Comment 26 (Page 27 of 40, Condition B.33.). for the initial test the facility is requesting that we use temporary stack sampling facilities via a bucket lift or scaffolding. Ladders and platforms will be installed within 12 months of start up.**

*Response: No change is made to the permit condition as it addresses both temporary and permanent test facilities.*

**Comment 27 (Page 28 of 40, Condition B.36.). we want to keep track of tons pellets produced and not hours of operation. Hours may limit production if the plant can't meet the design capacity of 10 ton/hr**

*Response: The limitation on the hours of operation have been removed from the permit. The 62,000 tons of pellets per any consecutive 12-month period will remain as a requested production limitation.*

**Comment 28 and 29 Page 29 of 40, Emissions Unit description and Condition C.2.). the new flow is proposed at 5000 cfm and only 1 dust collector is proposed. 1 dust collector**

*Response: This language was taken from the December 2014 Supplemental Information document, Section 2.0 Process Description, paragraph 4. The submitted application also states two units. Therefore please update this document and the application. The applicant submitted the updated document and application on February 6, 2015. As such, the requested change is made to the permit.*

**Comment 30 (Page 30 of 30, Condition C.5.). 5000 cfm**

*Response: This language was taken from the December 2014 Supplemental Information document, Section 2.0 Process Description, paragraph 4. The submitted application also states two units. Therefore please update this document and the application. The applicant submitted the updated document and application on February 6, 2015. As such, the requested change is made to the permit.*

**Comments 31 and 33 (Page 30 of 40, Condition C.7., Page 32 of 40, Condition C.22**.). no limit on hours of operation, we want the limit on tons/yr only.

*Response: The limitation on the hours of operation have been removed from the permit. The 62,000 tons of pellets per any consecutive 12-month period will remain as a requested production limitation.*

**Coment 32 (Page 32 of 40, Condition C.18.). maximum capacity will be limited by the pellet mills. It may take up to a year to hit 10 ton/hr**

*Response: Please refer to Rule 62-297.310(2), F.A.C. which is stated in Appendix D of the draft permit. Based on the comment, Condition C.18. is revised to include the pellet mills in the list of units that shall be operating at maximum capacities when the emissions from Emissions Unit 003 – Secondary Hammer Mill and Ground Wood Storage Bin are being tested.*

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

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

*Rule 62-297.310(2), F.A.C.:*

*Testing of emissions shall be conducted with the emissions unit operating at permitted capacity. If it is impractical to test at permitted capacity, an emissions unit may be tested at less than the maximum permitted capacity; in this case, subsequent emissions unit operation is limited to 110 percent of the test rate until a new test is conducted. Once the unit is so limited, operation at higher capacities is allowed for no more than 15 consecutive days for the purpose of additional compliance testing to regain the authority to operate at the permitted capacity. Permitted capacity is defined as 90 to 100 percent of the maximum operation rate allowed by the permit.*

**Comment 34 (Page 33 of 40, Condition C.23.). These are filter cartridges not bags. They are inspected differently that bags as the pleats are not visible. A "filter cake" is part of their normal operation. This should be reworded to avoid confusion. applies more to bags than pleated filters.**

*Response: Based on the comment Condition C.23.A. and B. are reworded as follows:*

A. Inspection and maintenance of the dust collector cleaning system ~~to minimize particulate buildup or caking on the filter bags;~~ for proper operation
B. Inspection and replacement, as needed, of the collector filters. ~~Filters should be checked for any tears, holes, abrasions, and scuffs;~~

**Comment 35 (Page 34 of 40, Emission Unit description). one of the pellet mills is 6 tons/hr. the others are 1 ton/hr. The facility believes it will run the large mill along with the small ones to reach the 10 ton/hr production rate. Though rated at 1 ton/hr each, the small mill may only produce 25% of this due to inefficient operation. They can only run 10 at any time inclusive of the 6 ton/hr mill.**

*Response: The stated capacities were taken from the December 2014 Supplemental Information document, Section 2.0 Process Description, paragraph 5. Therefore please update this document. The applicant submitted the updated document on February 6, 2015. As such, the following changes are made to the permit:*

*Description:* Ground wood from the ground wood storage bin ~~will~~ shall be conveyed to the indoor pellet mills where the wood pellets are formed. There ~~will~~ shall be ~~12~~ 13 pellet mills located at the facility~~, a maximum of 10 pellet mills will be in simultaneous operation at any time with the remaining 2 pellet mills available as standby units during periods of maintenance~~. In each pellet mill, the dry ground wood (2 mm or less in diameter) is pressed through forged alloy dies. The heat of friction generated this process is sufficient to liquefy the lignin in the wood and bind the ground wood into a pellet without the addition of other binders. This heat also causes the organics in the wood to volatilize releasing VOCs and the hazardous air pollutant, methanol.

The formed pellets ~~will~~ shall then pass through a pellet air-cooler where the temperature of the wood pellets are reduced. From the cooler, the formed pellets are sent to a pellet screener before being conveyed to the product storage area. Reject material and pellets from the pellet screener ~~will~~ shall be transferred back to the ground wood storage bin and used to make pellets.

*Capacities:* ~~Each~~ Twelve of the pellet mills ~~has~~ have a maximum design capacity of 1 ton per hour, and one has a maximum design capacity of 6 tons per hour. ~~A maximum of 10~~ The pellet mills ~~will~~ shall be ~~in simultaneous operation~~ simultaneously operated in a manner such that ~~at any time resulting in~~ a maximum ~~design capacity~~ of

no more than 10 tons per hour of pellet production is reached. The pellet cooler and pellet screener are rated at a maximum design capacity of 10 tons per hour of pellets each.

**Comment 36 (Page 35 of 40, Condition D.4.). 10 ton/hr.**

*Response: This language was taken from the December 2014 Supplemental Information document, Section 2.0 Process Description, paragraph 5. Therefore please update this document. The applicant submitted the updated document on February 6, 2015. As such, the following changes are made to Conditions D.4. and D.5 of the permit:*

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

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

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

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

**Comments 37 and 38 (Page 36 of 40, Condition D.8., Condition D.9.). no hours limit just production limit.**

*Response: The limitation on the hours of operation have been removed from the permit condition D.9.b. The 62,000 tons of pellets per any consecutive 12-month period will remain as a requested production limitation.*

**Comment 39 (Page 39 of 40, Condition E.11.). After commissioning.**

*Response: Initial operation is generally when a facility starts making what it's intended to make, i.e. producing wood pellets with the process. No change is made to the condition language as a result of the comment.*

**Comment 40 (Page 40 of 40, Condition E.15.) . same not on using temporary testing facilities for the first year to allow time to build permanent structures**

*Response: No change is made to the permit condition as it addresses both temporary and permanent test facilities.*

**Comments received January 16, 2015**

**Comment: Page 36 of 40 Condition D.9.a. requires averaging over a 24 hour period. I believe this should read, "The hourly production shall be averaged over the daily production hours for that day and determined no less than on a daily basis."**

**This will provide a more accurate average hourly production rate if they only work a 12-hour day for example.**

*Response: Based on the comment, Condition D.9.a. is revised as follows:*

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

**Page 14 of 40 Facility-wide condition 12 requires notification to Chris Kirts, the completion date of each recorded items in facility-wide condition 10. Is this the correct reference? If so, then you want to see the calibration record of the truck scale which will be the device used to weigh everything. Please confirm that this is the correct reference.**

*Response: Based on the comment reference to Faciltiy-Wide Condition 10 in FWC No. 12 is corrected to Facility-Wide Condition 11.*

## CONCLUSION

The Department has made changes to the draft permit based on the submitted comments and revised application documents and is withdrawing the January 7, 2015 draft permit and is replacing it with a Revised Draft permit package. Pursuant to Rules 62-210.300(2)(b)1.b., and 62-110.106(7),F.A.C., publication of a new Public Notice is required.