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FORM A1

FACILITY (General Information)

REVISED 03/15/15 SEP 10 2015 NC DENR/Division of Air Quality - Application for Air Permit to Construct/Operate

A1

NOTE- APPLICATION WILL NOT BE PROCESSED WITHOUT THE FOLLOWING:

- Local Zoning Consistency Determination (if required)
- Facility Reduction & Recycling Survey Form (Form A4)
- Application Fee
- Responsible Official/Authorized Contact Signature
- Appropriate Number of Copies of Application
- P.E. Seal (if required)

FAYETTEVILLE REGIONAL OFFICE

GENERAL INFORMATION

Legal Corporate/Owner Name: Ken Simard  
 Site Name: Natures Earth Pellets NC, LLC  
 Site Address (911 Address) Line 1: ~~2200 North Florida, Monticello~~ 16900 Aberdeen Rd.  
 Site Address Line 2:  
 City: Laurinburg State: N.C.  
 Zip Code: 28352 County: Scotland

CONTACT INFORMATION

Permit/Technical Contact:		Facility/Inspection Contact:	
Name/Title: Trent Locklear / Plant Mgr.	Mailing Address Line 1: 16900 Aberdeen Rd.	Name/Title: Trent Locklear / Plant Mgr.	Mailing Address Line 1: 16900 Aberdeen Rd.
Mailing Address Line 2:	City: Laurinburg State: N.C. Zip Code: 28352	Mailing Address Line 2:	City: Laurinburg State: N.C. Zip Code: 28352
Phone No. (area code) 910-291-0041 Fax No. (area code) 910-291-0045	Email Address: tlocklear@naturesearch.com	Phone No. (area code) 910-291-0041 Fax No. (area code) 910-291-0045	Email Address: tlocklear@naturesearch.com
Responsible Official/Authorized Contact:		Invoice Contact:	
Name/Title: Trent Locklear / Plant Mgr.	Mailing Address Line 1: 16900 Aberdeen Rd.	Name/Title: Trent Locklear / Plant Mgr.	Mailing Address Line 1: 16900 Aberdeen Rd.
Mailing Address Line 2:	City: Laurinburg State: N.C. Zip Code: 28352	Mailing Address Line 2:	City: Laurinburg State: N.C. Zip Code: 28352
Phone No. (area code) 910-291-0041 Fax No. (area code) 910-291-0045	Email Address: tlocklear@naturesearch.com	Phone No. (area code) 910-291-0041 Fax No. (area code) 910-291-0045	Email Address: tlocklear@naturesearch.com

APPLICATION IS BEING MADE FOR

- New Non-permitted Facility/Greenfield
- Modification of Facility (permitted)
- Renewal with Modification
- Renewal (TV Only)

FACILITY CLASSIFICATION AFTER APPLICATION (Check Only One)

- General
- Small
- Prohibitory Small
- Synthetic Minor
- Title V

FACILITY (Plant Site) INFORMATION

Describe nature of (plant site) operation(s): Facility ID No.: 8300104  
 Manufacturer wood pellets for fuel.  
 Primary SIC/NAICS Code: 2499/321999 Current/Previous Air Permit No. Expiration Date:  
 Facility Coordinates: Latitude: 34 d 51.5485 m Longitude: 79 d 27.3495 m  
 Does this application contain confidential data?  YES  NO \*\*\*If yes, please contact the DAQ Regional Office prior to submitting this application.\*\*\* (See Instructions)

PERSON OR FIRM THAT PREPARED APPLICATION

Person Name: Trent Locklear	Firm Name: Natures Earth
Mailing Address Line 1: 16900 Aberdeen Rd.	Mailing Address Line 2: 16900 Aberdeen Rd.
City: Laurinburg State: N.C.	Zip Code: 28352 County: Scotland
Phone No. (area code) 910-291-0041 Fax No. (area code) 910-291-0045	Email Address: tlocklear@naturesearch.com

SIGNATURE OF RESPONSIBLE OFFICIAL/AUTHORIZED CONTACT

Name (typed): Trent Locklear Title: Plant. Mgr.  
 X Signature (Blue Ink): [Signature] Date: 9/10/15

Attach Additional Sheets As Necessary

RECEIVED

SEP 10 2015

FAYETTEVILLE REGIONAL OFFICE

**Harris, Joshua L**

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**From:** Trent Locklear <tlocklear@naturesearth.com>  
**Sent:** Thursday, September 10, 2015 2:43 PM  
**To:** Harris, Joshua L  
**Subject:** Air permit

Mr. Harris; My name is Trent Locklear the plant manager at Natures Earth. I would like if all possible that your office would re-evaluate our permitted production limitations. We started with a rate 141,450 tons per 12 months now we have been limited to 69,000 tons per year. Our production is 100 % Hardwood that we run thru the dryer. We estimate about 192 tons for 12 hrs each day on burner. We receive dry pine in but none of the pine is ran through the dryer. Our mixture to produce the pellet is a 80/20 blend. 80 % being hardwood and the 20 % being dry pine. With this information please do take all this into consideration. Thanks

Trent Locklear

**Harris, Joshua L**

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**From:** Reeves, Gregory W  
**Sent:** Friday, August 28, 2015 3:26 PM  
**To:** ksimard@naturesearth.com  
**Cc:** Harris, Joshua L; Vozzo, Steven  
**Subject:** Natures Earth - Laurinburg permit modification application

Ken, thanks for talking with us today regarding the permit for the Natures Earth facility in Laurinburg, Scotland County, NC. It appears that there is much information that was assumed during the initial permitting of this facility and during the latest permit renewal of August 2014 that does not match with what the facility is currently intending to do. We suggest you submit a permit modification application to correct this information, and hopefully this will increase the Synthetic Minor permit throughput limitation.

Please submit the following items with the permit application:

1. \$400 fee, payable to NCDENR
2. Completed Form A1 (form is available at this website: <http://www.ncair.org/permits/appmatrix.shtml>)
3. Completed Form A2 (form available at the same website)
4. A description of the process as you propose to operate the facility. This would include the following:
  - a. Total facility wood throughput.
  - b. Percent Hardwood versus Softwood processed.
  - c. Estimate of the amount of wood processed through the dryer, and the percent Hardwood versus Softwood in this dried material.
  - d. Details on the wood processed (for example, you mentioned that the softwood would be brought in as already kiln-dried, so would not be run through the dryer operation).

We are assuming that none of the emission sources or any of the processing equipment will be modified as a result of this application. We would simply be using the updated information you supply to re-calculate the VOC emissions from the facility operations in order to establish a new Synthetic Minor throughput limitation. All other aspects of the permit would remain the same as on the current permit. If you have any updated stack testing information for the various operations in the facility, or from another facility processing similar materials, please supply this also. In the absence of any other updated emission factor data, we will probably use the emission factor information that was used in the Enviva – Ahoskie permit application. The throughput for this facility was estimated at 10% softwood, 90% hardwood, which I believe is similar to what you stated the Laurinburg facility will be running.

Please call me at the number below if you have any questions on completion of the forms.

Greg Reeves, Permits Coordinator  
Fayetteville Regional Office  
NC DENR, Division of Air Quality  
225 Green St, Suite 714  
Fayetteville, NC 28301  
Phone: 910-433-3373  
Fax: 910-485-7467  
DAQ Website: [www.ncair.org](http://www.ncair.org)  
[Gregory.Reeves@ncdenr.gov](mailto:Gregory.Reeves@ncdenr.gov)

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E-mail correspondence to and from this address is subject to the North Carolina Public Records Law and

**NORTH CAROLINA DIVISION OF  
 AIR QUALITY**

**Air Permit Review**

**Permit Issue Date: 11/10/2015**

**Region:** Fayetteville Regional Office  
**County:** Scotland  
**NC Facility ID:** 8300104  
**Inspector's Name:** Joshua L. Harris  
**Date of Last Inspection:** 08/18/2015  
**Compliance Code:** 3 / Compliance - inspection

<b>Facility Data</b>	<b>Permit Applicability (this application only)</b>
<p><b>Applicant (Facility's Name):</b> Natures Earth Pellets NC, LLC</p> <p><b>Facility Address:</b>                  Natures Earth Pellets NC, LLC                  16900 Aberdeen Road                  Laurinburg, NC 28352</p> <p><b>SIC:</b> 2499 / Wood Products, Nec  <b>NAICS:</b> 321999 / All Other Miscellaneous Wood Product Manufacturing</p> <p><b>Facility Classification: Before:</b> Synthetic Minor <b>After:</b> Synthetic Minor  <b>Fee Classification: Before:</b> Synthetic Minor <b>After:</b> Synthetic Minor</p>	<p><b>SIP:</b>  <b>NSPS:</b>  <b>NESHAP:</b>  <b>PSD:</b>  <b>PSD Avoidance:</b>  <b>NC Toxics:</b>  <b>112(r):</b>  <b>Other:</b></p> <p style="text-align: center;"><b>MODIFICATION</b></p>

<b>Contact Data</b>			<b>Application Data</b>
<b>Facility Contact</b>	<b>Authorized Contact</b>	<b>Technical Contact</b>	<p><b>Application Number:</b> 8300104.15A  <b>Date Received:</b> 09/25/2015  <b>Application Type:</b> Modification  <b>Application Schedule:</b> State</p> <p style="text-align: center;"><b>Existing Permit Data</b></p> <p><b>Existing Permit Number:</b> 10012/R02  <b>Existing Permit Issue Date:</b> 08/12/2014  <b>Existing Permit Expiration Date:</b> 07/31/2022</p>
<p>Trent Locklear                  Plant Manager                  (910) 291-0041                  16900 Aberdeen Road                  Laurinburg, NC 28352</p>	<p>Trent Locklear                  Plant Manager                  (910) 291-0041                  16900 Aberdeen Road                  Laurinburg, NC 28352</p>	<p>Trent Locklear                  Plant Manager                  (910) 291-0041                  16900 Aberdeen Road                  Laurinburg, NC 28352</p>	

<p><b>Review Engineer:</b> Joshua L. Harris</p> <p><b>Review Engineer's Signature:</b>  <b>Date:</b> 11/06/2015</p>	<p><b>Comments / Recommendations:</b></p> <p>Issue 10012/R03  <b>Permit Issue Date:</b> 11/10/2015  <b>Permit Expiration Date:</b> 07/31/2022</p>
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**1. Purpose of Application**

Nature's Earth Pellets NC, LLC is an existing manufacturer of hardwood, softwood, and blended wood pellets in Laurinburg, Scotland County. Natures Earth Pellets is requesting that DAQ re-evaluate the emission factors used to calculate VOC facility-wide emissions in order to be more consistent with the facility's current operating status with the goal of increasing the facility's current Synthetic Minor production limit. The facility is currently under contract to exclusively produce wood pellets for residential heating that are 80% hardwood and 20% softwood.

The facility is classified as Synthetic Minor due to potential PM<sub>10</sub> and VOC emissions, and will have the following limitations:

- Raw wood feed throughput less than 179,000 tons per consecutive 12-month period;
- The composition of the process feed shall not exceed 20% softwood;
- Operate, inspect, and maintain cyclones and fabric filters as required by 2Q .0611 permit conditions.

The application did not contain confidential material.

The application included the required \$400.00 fee.

There are no Pink Sheet items to be addressed.

The facility contact is Trent Locklear, Plant Manager, (910-291-0041). Ken Simard, CEO, has also requested to be kept informed, and can be reached at (561-688-8101 ext. 1).

## 2. Facility Description

Nature's Earth Pellets NC, LLC is a wood pellet manufacturer which sells pellets for use as horse bedding, cat litter, and residential heating. The facility was shut down from September 2012 to August 2015, but has since resumed operations. The facility accepts wood chips and sawdust from various wood working facilities and sawmills in North and South Carolina.

**RECEIVING.** The materials are dumped (trailer lift) into a bin, and screened for foreign matter and oversized pieces. The resulting dust is controlled by a bag filter. Material is then drag/bucket-conveyed to the appropriate one of four 800 ton silos: soft, hard, green (>13% moisture), and cured. All transfer operations are controlled by combinations of cyclones and bag filters. The softwood accepted at the facility has already been kiln-dried, therefore only hardwood is being passed through the facility's dryer.

**DRYING.** A burner, estimated to be approximately 34 mmBtu/hr maximum heat input, is fueled by a relatively homogeneous dust which is the captured particulate from the bag filters. The wood fuel is pneumatically transferred to a storage silo next to the burner, controlled by a small cyclone and a bag filter. If not needed for the dryer, the captured dust from all control devices can be recycled into pellet production. As needed, green material from silos 3 and 4 is drag-conveyed to the direct-fired dryer, and the drying itself is controlled by two parallel, high-efficiency cyclones. Newly dried material is pneumatically conveyed to one of the dry material silos, controlled by a common bin vent filter.

**HAMMER MILLING.** The dry chips/dust is pneumatically conveyed (blown to a cyclone – each hammer mill has one) where the material is dropped to the hammer mill feed bin, and hammered to size. The air flow from the transfer cyclone and from the milling goes to a bag filter (BF-2).

**PELLETIZING.** From the hammer mill (3 currently installed of the 6 permitted) the sized material is blown to another cyclone, dropped into a pellet mill feed bin (air to bag filter BF-2) and extruded into pellets.

**COOLING/ASPIRATING.** Pellets are pneumatically conveyed to a cyclone and dropped into the cooler, and they percolate through the cooler and into a bin, from which they are pneumatically conveyed to either the hardwood or softwood silo.

**BAGGING/PALLETIZING.** The bagging is automated, and the stacking of bags on pallets is done robotically. Bags are stacked onto pallets (2,000 pounds each pallet), plastic-wrapped automatically, and shipped to distributors.

The facility operates 24 hours per day, 5-6 days per week, and is contractually bound to produce only residential fuel pellets consisting of 80% hardwood and 20% softwood.

### 3. Zoning

A zoning consistency determination is not required for this permit action.

### 4. Application Chronology

- 08/18/15 Joshua Harris conducted the latest compliance inspection, and found the facility to be operating in apparent compliance. During the inspection, Trent Locklear, Plant Manager, indicated that he had some concerns about the change in the facility's permitted production limit. He stated that the limit was not a concern at the time the permit was issued, since the plant was shut down and the owner was planning to sell the facility, but now that the plant was going to be operating again, they were considering trying to have the limit re-evaluated.
- 08/19/15 Joshua Harris, FRO DAQ, spoke twice with Trent Locklear about VOC emissions which  
And were based on production throughput and emission factors from stack testing at other  
08/24/15 facilities, and that those data were the driving factors behind the change in the facility's production limitation. Mr. Locklear insisted that the emissions should be lower since the facility only installed three of the six permitted hammer mills, pelletizers, and pellet coolers.
- 08/27/15 Trent Locklear sent an email to Steven Vozzo, RAQS FRO, questioning the facility's permitted production limitation, and stating that the facility now only ran hardwood through the dryer as opposed to the 60/40 softwood/hardwood split they ran previously. Mr. Vozzo responded, explained why the limitation changed, and suggested that if the limit was unacceptable, Mr. Locklear should submit a permit application with information supporting a change to the limitation, or consider submitting a Title V permit application.
- 08/28/15 Ken Simard, CEO of Nature's Earth Pellets, emailed Steven Vozzo, reiterating that the facility had changed the way they operate since the R02 permit revision was issued.
- 08/28/15 Greg Reeves, FRO DAQ, spoke with Ken Simard regarding the issue of the facility's production limitation and the origin of the emission factors used to calculate the VOC emissions. Mr. Simard agreed to submit a permit application. Greg then sent Mr. Simard an email enumerating the forms, fees, and documentation that would be required for the permit application.
- 09/10/15 Joshua Harris, FRO DAQ, made a site visit to Nature's Earth Pellets at the request of Trent Locklear. During that visit, Mr. Locklear supplied a completed "A1" form, and stated that a check for the \$400 application fee would be sent from the corporate office. Mr. Locklear stated that he would provide the additional information that was requested in the 8/28 email from Greg Reeves.
- 09/10/15 Joshua Harris, FRO DAQ, received an email from Trent Locklear, requesting re-evaluation of the facility's production limit. The email included information about the production requirements of Nature's Earth Pellets' current contract. Mr. Locklear reiterated that no softwood is run through the dryer.

- 09/21/15 Joshua Harris spoke with Trent Locklear informing him that the application fees have not been received. Mr. Locklear stated that the corporate office was waiting for an invoice from DAQ, but was informed that invoices are not sent for application fees.
- 09/25/15 FRO received a check from Nature's Earth Pellets for the \$400.00 application fee. The permit application was complete for processing. **PERMIT APPLICATION CLOCK ON**
- 09/25/15 FRO sent the facility a letter acknowledging receipt of the permit application.
- 11/03/15 Joshua Harris, DAQ FRO, spoke with Ken Simard with regard to insertion of operating restrictions on the product composition, and recordkeeping/reporting requirements for the amount of hardwood and softwood received at the facility. Mr. Simard agreed to having these in the permit, and stated that they are contractually bound to providing the 80%/20% hardwood/softwood product, and that the contract is on a three year rolling renewal, so he does not anticipate the composition of the product to change in the near future.

Mr. Simard is aware that should the product composition be changed, he would need to submit an application for a permit modification since this would affect the emission factors used to calculate VOC emissions, and would likely change the facility's production limit.

## 5. Changes in Equipment, Emissions and Regulations

There are no changes to permitted equipment, control devices, or applicable regulations with this permit modification.

- The facility's Synthetic Minor production limitation was changed from 69,000 to 179,000 tons of process throughput per consecutive 12-month period, based on VOC emissions using updated emission factors from stack testing at Enviva Pellets Ahsokie, LLC (4600107). The emissions factors used are representative, yet conservative, depictions of the way Nature's Earth operates.
- The 2D .1100 stipulation has been changed to reflect the same language, operations restrictions, recordkeeping, and reporting requirements as those in the R01 permit iteration. The limit for this condition has been changed back to 141,450 tons of dryer throughput per consecutive 12-month period, based on dispersion modeling.
- Removed NOx from the list of pollutants under the 2Q .0315 Synthetic Minor stipulation since the uncontrolled potential to emit is less than 100 tons per year.
- Added the following to the 2Q .0315 operations restrictions: "The composition of the process feed shall not exceed 20% softwood."
- Added the following recordkeeping and annual reporting requirements to the 2Q .0315 stipulation: "The amounts of softwood and hardwood received, in tons."

- Added PM (TSP) to the list of pollutants under the 2Q .0317 PSD Avoidance stipulation since the facility's potential to emit these pollutants exceeds 250 tons per year.
- The 2Q .0711 stipulation has been updated to include the language and table for obstructed or non-vertical stacks.

The facility's permitted emission sources include the following:

Emission Source ID	Emission Source Description	Control System ID	Control System Description
<b>Hammermill Operation</b>			
HM-1	Hammermill Feed Operation No.1	HMFC-1 in series with BF-2	Cyclone (42 inches diameter) in series with Bagfilter (4902 square feet filter area)
HM-2	Hammermill Feed Operation No.2	HMFC-2 in series with BF-2	Cyclone (42 inches diameter) in series with Bagfilter (4902 square feet filter area)
HM-3	Hammermill Feed Operation No.3	HMFC-3 in series with BF-2	Cyclone (42 inches diameter) in series with Bagfilter (4902 square feet filter area)
HM-4	Hammermill Feed Operation No.4	HMFC-4 in series with BF-2	Cyclone (42 inches diameter) in series with Bagfilter (4902 square feet filter area)
HM-5	Hammermill Feed Operation No.5	HMFC-5 in series with BF-2	Cyclone (42 inches diameter) in series with Bagfilter (4902 square feet filter area)
HM-6	Hammermill Feed Operation No.6	HMFC-6 in series with BF-2	Cyclone (42 inches diameter) in series with Bagfilter (4902 square feet filter area)
FWHM	Fuel Wood Hammermill Operation	FWHC-1	Cyclone (78 inches diameter)
<b>Pellet Mill Operation</b>			
PM-1	Pellet Mill Feed Operation No.1	PMFC-1 in series with BF-2	Cyclone (72 inches diameter) in series with Bagfilter (4902 square feet filter area)
PM-2	Pellet Mill Feed Operation No.2	PMFC-2 in series with BF-2	Cyclone (72 inches diameter) in series with Bagfilter (4902 square feet filter area)
PM-3	Pellet Mill Feed Operation No.3	PMFC-3 in series with BF-2	Cyclone (72 inches diameter) in series with Bagfilter (4902 square feet filter area)

PM-4	Pellet Mill Feed Operation No.4	PMFC-4 in series with BF-5	Cyclone (72 inches diameter) in series with Bagfilter (1404 square feet filter area)
PM-5	Pellet Mill Feed Operation No.5	PMFC-5 in series with BF-5	Cyclone (72 inches diameter) in series with Bagfilter (1404 square feet filter area)
PM-6	Pellet Mill Feed Operation No.6	PMFC-6 in series with BF-5	Cyclone (72 inches diameter) in series with Bagfilter (1404 square feet filter area)
<b>Materials Receiving</b>			
TD-1	Truck Dump (150 tons per hour capacity)	BF-1	Bagfilter (4902 square feet filter area)
<b>Drying System</b>			
DFBC-1	Dryer Fuel Bin Loading Operation	DFBC-1 in series with BF-1	Cyclone (42 inches diameter) in series with Bagfilter (4902 square feet filter area)
RD-1	Direct Wood-fired Rotary Dryer (maximum throughput 18.4 tons per hour, 34.17 mmBtu per hour maximum heat input)	HEC-1	Two High Efficiency Cyclones (120 inches diameter each)
<b>Conveying Operation</b>			
BE-1	Bucket Elevator	BF-1	Bagfilter (4902 square feet filter area)
DC-1	Drag Conveyor No.1 (150 tons per hour capacity)		
DC-2	Drag Conveyor No.2 (150 tons per hour capacity)		
SLC-1	Silo Loading Conveyor		
<b>Storage Silos</b>			
DHS-1	Dry Hardwood Silo No.1 (800 tons capacity)	BV-1	Bin Vent Filter (1780 square feet filter area)
SS-2	Softwood Silo No.2 (800 tons capacity)	BF-1	Bagfilter (4902 square feet filter area)
SS-3	Softwood Silo No.3 (800 tons capacity)		
GHS-4	Green Hardwood Silo No.4 (800 tons capacity)		
HPS-1	Hardwood Pellet Silo	HPC-1 in series with BF-4	Cyclone (42 inches diameter) in series with Bagfilter (1814 square feet filter area)
SPS-1	Softwood Pellet Silo	SPC-1 in series with BF-4	Cyclone (42 inches diameter) in series with Bagfilter (1814 square feet filter area)

<b>Aspirator Operation</b>			
AF-1	Aspirator Feed Operation No.1	AFC-1 in series with BF-2	Cyclone (42 inches diameter) in series with Bagfilter (4902 square feet filter area)
A-1	Aspirator No.1	PFFC-1 in series with BF-3	Cyclone (72 inches diameter) in series with Bagfilter (4902 square feet filter area)
AF-2	Aspirator Feed Operation No.2	AFC-2 in series with BF-2	Cyclone (42 inches diameter) in series with Bagfilter (4902 square feet filter area)
A-2	Aspirator No.2	PFFC-2 in series with BF-3	Cyclone (72 inches diameter) in series with Bagfilter (4902 square feet filter area)
<b>Pellet Cooler Operation</b>			
PCF-1	Pellet Cooler Feed Operation No.1	PCFC-1	Cyclone (42 inches diameter)
PCF-2	Pellet Cooler Feed Operation No.2	PCFC-2	Cyclone (42 inches diameter)
PCF-3	Pellet Cooler Feed Operation No.3	PCFC-3	Cyclone (42 inches diameter)
PCF-4	Pellet Cooler Feed Operation No.4	PCFC-4	Cyclone (42 inches diameter)
PCF-5	Pellet Cooler Feed Operation No.5	PCFC-5	Cyclone (42 inches diameter)
PCF-6	Pellet Cooler Feed Operation No.6	PCFC-6	Cyclone (42 inches diameter)
PC-1	Pellet Cooler No.1	PCC-1 in series with BF-3	Cyclone (66 inches diameter) in series with Bagfilter (4902 square feet filter area)
PC-2	Pellet Cooler No.2	PCC-2 in series with BF-3	Cyclone (66 inches diameter) in series with Bagfilter (4902 square feet filter area)
PC-3	Pellet Cooler No.3	PCC-3 in series with BF-3	Cyclone (66 inches diameter) in series with Bagfilter (4902 square feet filter area)
PC-4	Pellet Cooler No.4	PCC-4 in series with BF-5	Cyclone (66 inches diameter) in series with Bagfilter (1404 square feet filter area)
PC-5	Pellet Cooler No.5	PCC-5 in series with BF-5	Cyclone (66 inches diameter) in series with Bagfilter (1404 square feet filter area)
PC-6	Pellet Cooler No.6	PCC-6 in series with BF-5	Cyclone (66 inches diameter) in series with Bagfilter (1404 square feet filter area)

**6. NSPS, NESHAP, PSD, 112(r), Attainment Status & Greenhouse Gases (GHG)**

- **NSPS** – There are no current NSPS Regulations that are applicable to this facility.
  - ✓ The facility is not subject to NSPS Subpart CCCC “Commercial and Industrial Solid Waste Incineration Units for Which Construction is Commenced After November 30, 1999 or for Which Modification or Reconstruction is Commenced After June 1, 2001” because it has been determined that the wood shavings and sawdust used as the plant feedstock is not considered solid waste (see the Solid Waste Determination letter dated 11/10/09 from Donald van der Vaart).
- **NESHAP** – There are no current NESHAP Regulations that are applicable to this facility.
- **PSD** – The facility’s potential PM (TSP), PM<sub>10</sub>, and PM<sub>2.5</sub> emissions exceed PSD permitting thresholds. The permit contains a 2Q .0317 PSD Avoidance stipulation, and complies by complying with the Synthetic Minor limitations.
- **112(r)** – The facility does not store any of the listed 112(r) chemicals in amounts that exceed the threshold quantities. Therefore, the facility is not required to maintain a written Risk Management Plan (RMP).
- **Attainment status** – Scotland County is in attainment.
- **GHG** – The facility’s potential GHG emissions do not exceed the PSD permitting threshold of 100,000 tons/yr.

**7. Air Toxics**

Air Dispersion Modeling of the expected toxics emissions from this facility was submitted with the original permit application in 2009. Acrolein, Benzene, and Formaldehyde emissions all exceeded their respective TPER and were modeled. Results of the modeling are as follows:

Pollutant	Emission Rate	Concentration at Property Boundary µg/m <sup>3</sup>	AAL µg/m <sup>3</sup>	% AAL
Acrolein	0.28 lb/hr	1.82	80	2
Benzene	665 lb/yr	0.01	0.12	8
Formaldehyde	1.77 lb/hr	11.5	150	8

There is both a 2D .1100 and a 2Q .0711 toxics condition currently in the permit. The modeling was based on a throughput rate of 141,450 tons of wood per year. This throughput limitation is included in the 2D .1100 permit condition.

## 8. Emissions Review

Pollutant	CY 2013 Actual Emissions tons	Potential Before Controls / Limitations tons/yr	Potential After Controls / Limitations tons/yr
PM (TSP)	0	863	49.6
PM <sub>10</sub>	0	863	49.6
PM <sub>2.5</sub>	0	863	49.6
SO <sub>2</sub>	0	3.74	3.28
NOx	0	73.34	64.36
CO	0	89.80	78.8
VOC	0	151	99.9
GHG (CO <sub>2</sub> e)* Short Tons	****	0	0

\*GHG Potential emissions do not include 31,629 tons CO<sub>2</sub>e from biogenic combustion that is currently deferred from the calculation by EPA.

Actual emissions for 2013 are zero since the facility did not operate during that year. Each pollutant's potential emissions before controls, with the exception of VOCs were taken from the R02 permit review.

Potential emissions from wood combustion in the facility's dryer were calculated using the NC DEQ spreadsheet "Woodwaste Combustion Emissions Calculator Revision J 7/15/2011" using the modeled limit of 141,450 tons per year.

Potential VOC emissions were calculated using the same methodology used by Greg Reeves in the previous permit iteration, replacing only the emission factors determined during stack testing at the Enviva Pellets Ahoskie, LLC (4600107) facility. The VOC emission factors used have been reviewed and accepted by RCO, and are as follows:

Source	Test Date	% Softwood	lbVOC/ODT
Hammermills	06/25/14	33	0.093
Pellet Presses/Coolers	06/26/14	45	0.457
Dryer	06/07/12	<10	0.084

Note that Nature's Earth only runs 100% hardwood through the dryer. The softwood that is run through the rest of the process is already kiln-dried. Also, the facility runs a 20% softwood product, so these emission factors are conservative representations of Nature's Earth's process. The factors listed above are not entered into the IBEAM source testing module, but the test review can be found in the facility's documents.

## 9. Compliance History

- 08/18/15 The latest compliance inspection was conducted by Joshua Harris. The facility was found to be operating in apparent compliance.
- 05/15/14 Robert Hayden conducted a total of two compliance inspections, and found the facility to  
And be in apparent compliance each time.  
03/19/13
- 06/26/12 NOV issued for recordkeeping deficiencies.
- 06/21/12 Robert Hayden inspected the facility and found it to be in violation for recordkeeping deficiencies.
- 02/15/12 NOV issued for late annual reporting.
- 08/09/11 NOV issued for recordkeeping deficiencies.
- 07/19/11 Robert Hayden and Greg Reeves inspected the facility and found it to be in violation for continuing recordkeeping deficiencies.
- 02/24/11 NOV issued for late annual reporting.
- 09/30/10 NOV issued for recordkeeping deficiencies.
- 09/14/10 Robert Hayden inspected the facility and found it to be in violation due to recordkeeping deficiencies.

10. Stipulation Review

Regulation	Affected Sources	Emission Limits or Requirements
15A NCAC 2D .0202	Facility-wide	Permit Renewal and Emission Inventory Requirement
15A NCAC 2D .0515	Process Equipment	$E = 4.10 * (P)^{0.67}$ for $P \leq 30$ tons/hr, or $E = 55 * (P)^{0.11} - 40$ for $P > 30$ tons/hr
15A NCAC 2D .0516	RD-1	$SO_2 \leq 2.3$ lb/mmBtu
15A NCAC 2D .0521	Facility-wide	$VE \leq 20\%$
15A NCAC 2D .0535	Facility-wide	Excess Emissions Notification Requirement
15A NCAC 2D .0540	Facility-wide	Control fugitive dust emissions
15A NCAC 2D .0605 Ad-hoc	RD-1	Combust only clean, untreated, unadulterated wood chips and sawdust. Recordkeeping.
15A NCAC 2D .0611	Cyclones	Cyclone Requirements Annual System Inspection Periodic I & M per Manufacturer's recommendations Recordkeeping
15A NCAC 2D .0611	Fabric Filters	Fabric Filter Requirements Annual Internal Inspection Periodic I&M per manufacturer recommendations Recordkeeping
15A NCAC 2D .1100	RD-1	Emission limits for the following modeled pollutants: Acrolein $\leq 0.28$ lb/hr Benzene $\leq 665$ lb/yr Formaldehyde $\leq 1.77$ lb/hr The amount of direct wood-fired rotary dryer production at the facility shall not exceed 141,450 tons per consecutive 12-month period. Recordkeeping Annual Reporting
15A NCAC 2D .1806	Facility-wide	No objectionable odors
15A NCAC 2Q .0315	Facility-wide	Synthetic Minor $PM_{10}, VOC \leq 100$ tons per consecutive 12-month period. Raw wood feed throughput $\leq 179,000$ tons per consecutive 12-month period. Process feed cannot contain more than 20% softwood. Control particulate emissions with cyclones and fabric filters Recordkeeping Annual Reporting
15A NCAC 2Q .0317 PSD Avoidance	Facility-wide	$PM$ (TSP), $PM_{10} \leq 250$ tons per consecutive 12-month period Compliance with Synthetic Minor limitations
15A NCAC 2Q .0711	Facility-wide	Emissions shall not exceed listed TPERs without first demonstrating compliance with 15A NCAC 2D .1100

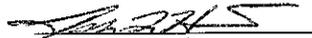
### 11. Changes to Permit Writer

- Highlighted headers, adjusted column widths and borders for improved clarity and appearance.
- Added "in series with" as required to Control System ID column of the emissions source table.
- Inserted the following comment into the cover letter: Please note that there have been changes made to the facility's operations restrictions, recordkeeping, and reporting requirements for permit condition A.13. In addition to the already existing requirements, the facility is now required to **limit the composition of the process feed to a maximum of 20% softwood, and must keep monthly records, and make annual reports, of the amounts of softwood and hardwood received.**

### 12. Comments and Recommendations

- Recommend issuing permit no. 10012R03 to Nature's Earth Pellets NC, LLC (8300104).

Review Engineer:



Date: 11/06/2015

Permit Coordinator:



Date: 11/06/2015

AQ Supervisor:



Date: 11-10-15

Emission Source	Maximum Throughput tons/hr*	Controls	Control Efficiency %	VOC Emission Factor lb/ODT	Potential Uncontrolled Emissions			Potential Controlled Emissions (Before Permit Limits)				
					PM tons/yr	PM <sub>10</sub> tons/yr	PM <sub>2.5</sub> tons/yr	VOC tons/yr	PM tons/yr	PM <sub>10</sub> tons/yr	PM <sub>2.5</sub> tons/yr	VOC tons/yr
Material Receiving Conveying Silos 2-4	35.30	F	98		90	90	90		1.79	1.79	1.79	
Dryer Fuel Loading Silo 1		F	98		10	10	10		0.20	0.20	0.20	
Hammermill Feed 1-6 Hammermills 1-3 Pellet Operations 1-3 Packaging Aspirators	32.7	C + F In series	98	0.457	128	128	128		2.56	2.56	2.56	65.5
Aspirator Feed Operations Pellet Coolers 1-3	32.75	C + F In series	98		128	128	128		2.55	2.55	2.55	
Pellet Coolers 4-6 Hammermills 4-6	32.75	C + F In series	98	0.093	84	84	84		1.69	1.69	1.69	13.3
Pellet Storage Silos	32.75	C + F In series	98		20	20	20		0.39	0.39	0.39	
Fuel Wood Hammermill	2.55	C	95		12	12	12		0.61	0.61	0.61	
Dryer	18.4 tons/hr 34.17 mmBtu/hr	C + C In parallel	80	0.084	216	216	216		43.19	43.19	43.19	6.8
Pellet Cooler Feeds 1-6	32.75	C	95	0.457	175	175	175		8.76	8.76	8.76	65.6
<b>Totals</b>					<b>863</b>	<b>863</b>	<b>863</b>		<b>61.74</b>	<b>61.74</b>	<b>61.74</b>	<b>151.2</b>

\*Note that the maximum throughput of the process is limited by the throughput of the pellet mills, which is 32.75 tons per hour

C = Cyclone

F = Fabric Filter

The permit application asserted that all PM emissions are PM<sub>2.5</sub>. Therefore, PM = PM<sub>10</sub> = PM<sub>2.5</sub>  
 VOC emissions are estimated based on Enviva Pellets Ahsokie, LLC stack testing conducted in June 2012 and June 2014.

Emission Source	Control Device Type	Control Device ID	After Control Emission Factor Grains/Hr	After Control Emissions			
				Air Flow ACFM	PM ton/yr	PM <sub>10</sub> lb/ton	PM <sub>2.5</sub> lb/ton
Material Receiving Conveying Silos 2-4	Fabric Filter	BF-1	0.002	23,900	1.79	1.79	1.79
Dryer Fuel Loading Silo 1	Fabric Filter	BV-1	0.002	2600	0.20	0.20	0.20
Hammermill Feed 1-6 Hammermills 1-3 Pellet Operations 1-3 Packaging Aspirators	Fabric Filter	BF-2	0.002	34,100	2.56	2.56	2.56
Aspirator Feed Operations Pellet Coolers 1-3	Fabric Filter	BF-3	0.002	34,000	2.55	2.55	2.55
Pellet Coolers 4-6 Hammermills 4-6	Fabric Filter	BF-5	0.002	22,500	1.69	1.69	1.69
Pellet Storage Silos	Fabric Filter	BF-4	0.002	5,200	0.39	0.39	0.39
Fuel Wood Hammermill Dryer	Cyclone Cyclone	FWHC-1 HEC-1	234 ppm 234 ppm	250 48,000	0.61 43.19	0.61 43.19	0.61 43.19
Pellet Cooler Feeds 1-6	Cyclone	PCFC-1 through PCFC-6	234 ppm	15,600	8.76	8.76	8.76

\*\*Manufacturer guaranteed after-control particulate loading were used for sources controlled by fabric filters, as supplied with the original permit application in 2009

For cyclone-controlled sources, after-control particulate loading was guaranteed to be 234 ppm by the manufacturer, with 20% particulate dust. After-control potential emissions are taken from the original permit application in 2009  
 The permit application asserted that all PM emissions are PM<sub>2.5</sub>. Therefore, PM = PM<sub>10</sub> = PM<sub>2.5</sub>

# North Carolina Department of Environmental Quality

Pat McCrory  
Governor

Donald R. van der Vaart  
Secretary

November 10, 2015

Mr. Trent Locklear  
Plant Manager  
Natures Earth Pellets NC, LLC  
16900 Aberdeen Road  
Laurinburg, NC 28352

Subject: Air Permit No. 10012R03  
**Natures Earth Pellets NC, LLC**  
Laurinburg, Scotland County, North Carolina  
Permit Class: Synthetic Minor  
**Facility ID# 8300104**

Dear Mr. Locklear:

In accordance with your completed application received September 25, 2015, we are forwarding herewith Permit No. 10012R03 to Natures Earth Pellets NC, LLC, Laurinburg, Scotland County, North Carolina for the construction and operation of air emissions sources or air cleaning devices and appurtenances. Please note the records retention requirements are contained in General Condition 2 of the General Conditions and Limitations.

Please note that there have been changes made to the facility's operations restrictions, recordkeeping, and reporting requirements for permit condition A.13. In addition to the already existing requirements, the facility is now required to **limit the composition of the process feed to a maximum of 20% softwood, and must keep monthly records, and make annual reports of the amounts of softwood and hardwood received.**

If any parts, requirements, or limitations contained in this permit are unacceptable to you, you have the right to request a formal adjudicatory hearing within 30 days following receipt of this permit, identifying the specific issues to be contested. Such a request will stay the effectiveness of the entire permit. This hearing request must be in the form of a written petition, conforming to G.S. 150B-23 of the North Carolina General Statutes, and filed with the Office of Administrative Hearings, 6714 Mail Service Center, Raleigh, NC 27699-6714. The form for requesting a formal adjudicatory hearing may be obtained upon request from the Office of Administrative Hearings. Unless a request for a hearing is made pursuant to G.S. 150B-23, this air permit shall be final and binding.

You may request modification of your air permit through informal means pursuant to G.S. 150B-22. This request must be submitted in writing to the Director and must identify the specific provisions or issues for which the modification is sought. Please note that the permit will become

Fayetteville Regional Office - Division of Air Quality  
Systel Building, 225 Green Street, Suite 714, Fayetteville, North Carolina 28301-5094  
Phone: 910-433-3300 / FAX: 910-485-7467  
Internet: [www.ncdenr.gov](http://www.ncdenr.gov)

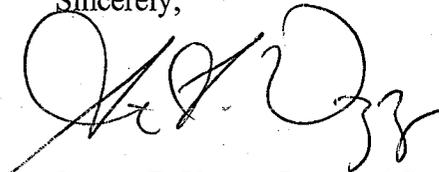
final and binding regardless of a request for informal modification unless a request for a hearing is also made under G.S. 150B-23.

**Unless exempted by a condition of this permit or the regulations, construction of new air pollution sources or air cleaning devices, or modifications to the sources or air cleaning devices described in this permit must be covered under a permit issued by the Division of Air Quality prior to construction. Failure to do so is a violation of G.S. 143-215.108 and may subject the Permittee to civil or criminal penalties as described in G.S. 143-215.114A and 143-215.114B.**

This permit shall be effective from November 10, 2015 until July 31, 2022, is nontransferable to future owners and operators, and shall be subject to the conditions and limitations as specified therein.

**Changes have been made to the permit stipulations. The Permittee is responsible for carefully reading the entire permit and evaluating the requirements of each permit stipulation. The Permittee shall comply with all terms, conditions, requirements, limitations and restrictions set forth in this permit. Noncompliance with any permit condition is grounds for enforcement action, for permit termination, revocation and reissuance, or modification, or for denial of a permit renewal application. Should you have any questions concerning this matter, please contact Joshua L. Harris at 910-433-3300.**

Sincerely,



Steven F. Vozzo, Regional Supervisor  
Division of Air Quality, NC DEQ

JLH  
Enclosures

c: Fayetteville Regional Office

NORTH CAROLINA ENVIRONMENTAL MANAGEMENT COMMISSION

DEPARTMENT OF ENVIRONMENTAL QUALITY

DIVISION OF AIR QUALITY

**AIR PERMIT NO. 10012R03**

Issue Date: November 10, 2015

Effective Date: November 10, 2015

Expiration Date: July 31, 2022

Replaces Permit: 10012R02

To construct and operate air emission source(s) and/or air cleaning device(s), and for the discharge of the associated air contaminants into the atmosphere in accordance with the provisions of Article 21B of Chapter 143, General Statutes of North Carolina (NCGS) as amended, and other applicable Laws, Rules and Regulations,

**Natures Earth Pellets NC, LLC**  
 16900 Aberdeen Road  
 Laurinburg, Scotland County, North Carolina  
 Permit Class: Synthetic Minor  
**Facility ID# 8300104**

(the Permittee) is hereby authorized to construct and operate the air emissions sources and/or air cleaning devices and appurtenances described below:

<b>Emission Source ID</b>	<b>Emission Source Description</b>	<b>Control System ID</b>	<b>Control System Description</b>
<b>Hammermill Operation</b>			
HM-1	Hammermill Feed Operation No.1	HMFC-1 in series with BF-2	Cyclone (42 inches diameter) in series with Bagfilter (4902 square feet filter area)
HM-2	Hammermill Feed Operation No.2	HMFC-2 in series with BF-2	Cyclone (42 inches diameter) in series with Bagfilter (4902 square feet filter area)
HM-3	Hammermill Feed Operation No.3	HMFC-3 in series with BF-2	Cyclone (42 inches diameter) in series with Bagfilter (4902 square feet filter area)
HM-4	Hammermill Feed Operation No.4	HMFC-4 in series with BF-2	Cyclone (42 inches diameter) in series with Bagfilter (4902 square feet filter area)
HM-5	Hammermill Feed Operation No.5	HMFC-5 in series with BF-2	Cyclone (42 inches diameter) in series with Bagfilter (4902 square feet filter area)

<b>Emission Source ID</b>	<b>Emission Source Description</b>	<b>Control System ID</b>	<b>Control System Description</b>
HM-6	Hammermill Feed Operation No.6	HMFC-6 in series with BF-2	Cyclone (42 inches diameter) in series with Bagfilter (4902 square feet filter area)
FWHM	Fuel Wood Hammermill Operation	FWHC-1	Cyclone (78 inches diameter)
<b>Pellet Mill Operation</b>			
PM-1	Pellet Mill Feed Operation No.1	PMFC-1 in series with BF-2	Cyclone (72 inches diameter) in series with Bagfilter (4902 square feet filter area)
PM-2	Pellet Mill Feed Operation No.2	PMFC-2 in series with BF-2	Cyclone (72 inches diameter) in series with Bagfilter (4902 square feet filter area)
PM-3	Pellet Mill Feed Operation No.3	PMFC-3 in series with BF-2	Cyclone (72 inches diameter) in series with Bagfilter (4902 square feet filter area)
PM-4	Pellet Mill Feed Operation No.4	PMFC-4 in series with BF-5	Cyclone (72 inches diameter) in series with Bagfilter (1404 square feet filter area)
PM-5	Pellet Mill Feed Operation No.5	PMFC-5 in series with BF-5	Cyclone (72 inches diameter) in series with Bagfilter (1404 square feet filter area)
PM-6	Pellet Mill Feed Operation No.6	PMFC-6 in series with BF-5	Cyclone (72 inches diameter) in series with Bagfilter (1404 square feet filter area)
<b>Materials Receiving</b>			
TD-1	Truck Dump (150 tons per hour capacity)	BF-1	Bagfilter (4902 square feet filter area)
<b>Drying System</b>			
DFBC-1	Dryer Fuel Bin Loading Operation	DFBC-1 in series with BF-1	Cyclone (42 inches diameter) in series with Bagfilter (4902 square feet filter area)
RD-1	Direct Wood-fired Rotary Dryer (maximum throughput 18.4 tons per hour, 34.17 mmBtu per hour maximum heat input)	HEC-1	Two High Efficiency Cyclones (120 inches diameter each)
<b>Conveying Operation</b>			
BE-1	Bucket Elevator	BF-1	Bagfilter (4902 square feet filter area)
DC-1	Drag Conveyor No.1 (150 tons per hour capacity)		
DC-2	Drag Conveyor No.2 (150 tons per hour capacity)		
SLC-1	Silo Loading Conveyor		
<b>Storage Silos</b>			
DHS-1	Dry Hardwood Silo No.1 (800 tons capacity)	BV-1	Bin Vent Filter (1780 square feet filter area)

<b>Emission Source ID</b>	<b>Emission Source Description</b>	<b>Control System ID</b>	<b>Control System Description</b>
SS-2	Softwood Silo No.2 (800 tons capacity)	BF-1	Bagfilter (4902 square feet filter area)
SS-3	Softwood Silo No.3 (800 tons capacity)		
GHS-4	Green Hardwood Silo No.4 (800 tons capacity)		
HPS-1	Hardwood Pellet Silo	HPC-1 in series with BF-4	Cyclone (42 inches diameter) in series with Bagfilter (1814 square feet filter area)
SPS-1	Softwood Pellet Silo	SPC-1 in series with BF-4	Cyclone (42 inches diameter) in series with Bagfilter (1814 square feet filter area)
<b>Aspirator Operation</b>			
AF-1	Aspirator Feed Operation No.1	AFC-1 in series with BF-2	Cyclone (42 inches diameter) in series with Bagfilter (4902 square feet filter area)
A-1	Aspirator No.1	PFFC-1 in series with BF-3	Cyclone (72 inches diameter) in series with Bagfilter (4902 square feet filter area)
AF-2	Aspirator Feed Operation No.2	AFC-2 in series with BF-2	Cyclone (42 inches diameter) in series with Bagfilter (4902 square feet filter area)
A-2	Aspirator No.2	PFFC-2 in series with BF-3	Cyclone (72 inches diameter) in series with Bagfilter (4902 square feet filter area)
<b>Pellet Cooler Operation</b>			
PCF-1	Pellet Cooler Feed Operation No.1	PCFC-1	Cyclone (42 inches diameter)
PCF-2	Pellet Cooler Feed Operation No.2	PCFC-2	Cyclone (42 inches diameter)
PCF-3	Pellet Cooler Feed Operation No.3	PCFC-3	Cyclone (42 inches diameter)
PCF-4	Pellet Cooler Feed Operation No.4	PCFC-4	Cyclone (42 inches diameter)
PCF-5	Pellet Cooler Feed Operation No.5	PCFC-5	Cyclone (42 inches diameter)
PCF-6	Pellet Cooler Feed Operation No.6	PCFC-6	Cyclone (42 inches diameter)
PC-1	Pellet Cooler No.1	PCC-1 in series with BF-3	Cyclone (66 inches diameter) in series with Bagfilter (4902 square feet filter area)
PC-2	Pellet Cooler No.2	PCC-2 in series with BF-3	Cyclone (66 inches diameter) in series with Bagfilter (4902 square feet filter area)
PC-3	Pellet Cooler No.3	PCC-3 in series with BF-3	Cyclone (66 inches diameter) in series with Bagfilter (4902 square feet filter area)
PC-4	Pellet Cooler No.4	PCC-4 in series with BF-5	Cyclone (66 inches diameter) in series with Bagfilter (1404 square feet filter area)

<b>Emission Source ID</b>	<b>Emission Source Description</b>	<b>Control System ID</b>	<b>Control System Description</b>
PC-5	Pellet Cooler No.5	PCC-5 in series with BF-5	Cyclone (66 inches diameter) in series with Bagfilter (1404 square feet filter area)
PC-6	Pellet Cooler No.6	PCC-6 in series with BF-5	Cyclone (66 inches diameter) in series with Bagfilter (1404 square feet filter area)

in accordance with the completed application 8300104.15A received September 25, 2015 including any plans, specifications, previous applications, and other supporting data, all of which are filed with the Department of Environmental Quality, Division of Air Quality (DAQ) and are incorporated as part of this permit.

This permit is subject to the following specified conditions and limitations including any TESTING, REPORTING, OR MONITORING REQUIREMENTS:

#### **A. SPECIFIC CONDITIONS AND LIMITATIONS**

1. Any air emission sources or control devices authorized to construct and operate above must be operated and maintained in accordance with the provisions contained herein. The Permittee shall comply with applicable Environmental Management Commission Regulations, including Title 15A North Carolina Administrative Code (NCAC), Subchapter 2D .0200, 2D .0202, 2D .0515, 2D .0516, 2D .0521, 2D .0535, 2D .0540, 2D .0611, 2D .1100, 2D .1806, 2Q .0315, 2Q .0317 (Avoidance) and 2Q .0711.
2. RECORDKEEPING REQUIREMENTS FOR SAWDUST AND WOOD CHIPS - Pursuant to 15A NCAC 2D .0605, the Permittee shall combust only clean, untreated, and unadulterated greenwood chips and sawdust from the sawmill in the direct wood-fired rotary dryer (RD-1). The Permittee shall maintain the records of the sawdust and wood chips supplier certification on-site for each batch received. All records required under this section shall be maintained for a period of two years and made available to DAQ personnel upon request. The Permittee shall be deemed in noncompliance if recordkeeping requirements are not maintained.
3. PERMIT RENEWAL AND EMISSION INVENTORY REQUIREMENT - The Permittee, at least 90 days prior to the expiration date of this permit, shall request permit renewal by letter in accordance with 15A NCAC 2Q .0304(d) and (f). Pursuant to 15A NCAC 2Q .0203(i), no permit application fee is required for renewal of an existing air permit (without a modification request). The renewal request (with AA application form) should be submitted to the Regional Supervisor, DAQ. Also, at least 90 days prior to the expiration date of this permit, the Permittee shall submit the air pollution emission inventory report (with Certification Sheet) in accordance with 15A NCAC 2D .0202, pursuant to N.C. General Statute 143 215.65. The report shall be submitted to the Regional Supervisor, DAQ and shall document air pollutants emitted for the 2021 calendar year.

4. PARTICULATE CONTROL REQUIREMENT - As required by 15A NCAC 2D .0515 "Particulates from Miscellaneous Industrial Processes," particulate matter emissions from the emission sources shall not exceed allowable emission rates. The allowable emission rates are, as defined in 15A NCAC 2D .0515, a function of the process weight rate and shall be determined by the following equation(s), where P is the process throughput rate in tons per hour (tons/hr) and E is the allowable emission rate in pounds per hour (lbs/hr).

$$E = 4.10 * (P)^{0.67} \quad \text{for } P \leq 30 \text{ tons/hr, or}$$

$$E = 55 * (P)^{0.11} - 40 \quad \text{for } P > 30 \text{ tons/hr}$$

5. SULFUR DIOXIDE CONTROL REQUIREMENT - As required by 15A NCAC 2D .0516 "Sulfur Dioxide Emissions from Combustion Sources," sulfur dioxide emissions from the combustion sources shall not exceed 2.3 pounds per million Btu heat input.
6. VISIBLE EMISSIONS CONTROL REQUIREMENT - As required by 15A NCAC 2D .0521 "Control of Visible Emissions," visible emissions from the emission sources, manufactured after July 1, 1971, shall not be more than 20 percent opacity when averaged over a six-minute period, except that six-minute periods averaging not more than 87 percent opacity may occur not more than once in any hour nor more than four times in any 24-hour period. However, sources which must comply with 15A NCAC 2D .0524 "New Source Performance Standards" or .1110 "National Emission Standards for Hazardous Air Pollutants" must comply with applicable visible emissions requirements contained therein.
7. NOTIFICATION REQUIREMENT - As required by 15A NCAC 2D .0535, the Permittee of a source of excess emissions that last for more than four hours and that results from a malfunction, a breakdown of process or control equipment or any other abnormal conditions, shall:
- a. Notify the Director or his designee of any such occurrence by 9:00 a.m. Eastern time of the Division's next business day of becoming aware of the occurrence and describe:
    - i. the name and location of the facility,
    - ii. the nature and cause of the malfunction or breakdown,
    - iii. the time when the malfunction or breakdown is first observed,
    - iv. the expected duration, and
    - v. an estimated rate of emissions.
  - b. Notify the Director or his designee immediately when the corrective measures have been accomplished.

This reporting requirement does not allow the operation of the facility in excess of Environmental Management Commission Regulations.

8. FUGITIVE DUST CONTROL REQUIREMENT - As required by 15A NCAC 2D .0540 "Particulates from Fugitive Dust Emission Sources," the Permittee shall not cause or allow fugitive dust emissions to cause or contribute to substantive complaints or excess visible emissions beyond the property boundary. If substantive complaints or excessive fugitive dust emissions from the facility are observed beyond the property boundaries for six minutes in any one hour (using Reference Method 22 in 40 CFR, Appendix A), the owner or operator may be required to submit a fugitive dust plan as described in 2D .0540(f).

"Fugitive dust emissions" means particulate matter that does not pass through a process stack or vent and that is generated within plant property boundaries from activities such as: unloading and loading areas, process areas stockpiles, stock pile working, plant parking lots, and plant roads (including access roads and haul roads).

9. CYCLONE REQUIREMENTS - As required by 15A NCAC 2D .0611, particulate matter emissions shall be controlled as described in the permitted equipment list.
- a. Inspection and Maintenance Requirements - To comply with the provisions of this permit and ensure that emissions do not exceed the regulatory limits, the Permittee shall perform an annual (for each 12 month period following the initial inspection) inspection of the cyclone system. In addition, the Permittee shall perform periodic inspections and maintenance (I&M) as recommended by the manufacturer.
  - b. Recordkeeping Requirements - The results of all inspections and any variance from the manufacturer's recommendations or from those given in this permit (when applicable) shall be investigated with corrections made and dates of actions recorded in a cyclone logbook. Records of all maintenance activities shall be recorded in the logbook. The cyclone logbook (in written or electronic format) shall be kept on-site and made available to DAQ personnel upon request.
10. FABRIC FILTER REQUIREMENTS including cartridge filters, baghouses, and other dry filter particulate collection devices - As required by 15A NCAC 2D .0611, particulate matter emissions shall be controlled as described in the permitted equipment list.
- a. Inspection and Maintenance Requirements - To comply with the provisions of this permit and ensure that emissions do not exceed the regulatory limits, the Permittee shall perform, at a minimum, an annual (for each 12 month period following the initial inspection) internal inspection of each bagfilter system. In addition, the Permittee shall perform periodic inspections and maintenance as recommended by the equipment manufacturer.
  - b. Recordkeeping Requirements - The results of all inspections and any variance from manufacturer's recommendations or from those given in this permit (when applicable) shall be investigated with corrections made and dates of actions recorded in a logbook. Records of all maintenance activities shall be recorded in the logbook. The logbook (in written or electronic format) shall be kept on-site and made available to DAQ personnel upon request.

### 11. TOXIC AIR POLLUTANT EMISSIONS LIMITATION AND REPORTING

REQUIREMENT - Pursuant to 15A NCAC 2D .1100 "Control of Toxic Air Pollutants," and in accordance with the approved application for an air toxic compliance demonstration, the following permit limits shall not be exceeded:

Affected Source(s)	Toxic Air Pollutant	Emission Limit
Direct Wood-fired Rotary Dryer (maximum throughput 18.4 tons per hour) (RD-1)	Acrolein (107-02-8)	0.28 lb/hr
	Benzene (71-43-2)	665 lb/yr
	Formaldehyde (50-00-0)	1.77 lb/hr

- a. Restrictions - To ensure compliance with the above limits, the following restrictions shall apply:
- i. The amount of direct wood-fired rotary dryer production at the facility shall not exceed 141,450 tons per consecutive 12-month period.
  - ii. The direct wood-fired rotary dryer production shall be less than 18.4 tons per hour.
  - iii. The twin high efficiency cyclone structure (ID No. CD-7) shall be located no closer than 108 feet from the nearest property line or easement.
- b. Reporting Requirements - For compliance purposes, within 30 days after each calendar year, regardless of the actual emissions, the following shall be reported to the Regional Supervisor, DAQ:
- i. The monthly and annual totals of the amount of direct wood-fired rotary dryer production at the facility for the previous 12 months.
  - ii. The maximum direct wood-fired rotary dryer production in any day.
- c. Recordkeeping Requirements - The following recordkeeping requirements apply:
- i. The Permittee shall record the daily, monthly, and annual direct wood-fired rotary dryer production, in tons, for the previous 12 month period.

12. CONTROL AND PROHIBITION OF ODOROUS EMISSIONS - As required by 15A NCAC 2D .1806 "Control and Prohibition of Odorous Emissions" the Permittee shall not operate the facility without implementing management practices or installing and operating odor control equipment sufficient to prevent odorous emissions from the facility from causing or contributing to objectionable odors beyond the facility's boundary.

13. LIMITATION TO AVOID 15A NCAC 2Q .0501 - Pursuant to 15A NCAC 2Q .0315 "Synthetic Minor Facilities," to avoid the applicability of 15A NCAC 2Q .0501 "Purpose of Section and Requirement for a Permit," as requested by the Permittee, facility-wide emissions shall be less than the following:

Pollutant	Emission Limit (Tons per consecutive 12-month period)
PM <sub>10</sub>	100
VOC	100

- a. Operations Restrictions - To ensure emissions do not exceed the limitations above, the following restrictions shall apply:
- i. The raw wood feed throughput shall be less than 179,000 tons per consecutive 12-month period.
  - ii. The composition of the process feed shall not exceed 20% softwood.
  - iii. Particulate emissions shall be controlled as per the descriptions in the emission source chart.
  - iv. The Permittee shall inspect and maintain the cyclones and fabric filters and maintain records per the requirements set forth in the 2D .0611 "Cyclone Requirements" and 2D .0611 "Fabric Filter Requirements" Specific Conditions and Limitations.
- b. Recordkeeping Requirements
- i. The Permittee shall record monthly and total annually the following:
    - A. The amount of raw wood feed, in tons; and
    - B. The amounts of softwood and hardwood received, in tons.
- c. Reporting Requirements - Within 30 days after each calendar year, regardless of the actual emissions, the Permittee shall submit the following:
- i. emissions and/or operational data listed below. The data should include monthly and 12 month totals for the previous 12 month period.
    - A. The amount of raw wood feed, in tons; and
    - B. The amounts of softwood and hardwood received, in tons.

14. LIMITATION TO AVOID 15A NCAC 2D .0530 "PREVENTION OF SIGNIFICANT DETERIORATION" - In accordance with 15A NCAC 2Q .0317, to comply with this permit and avoid the applicability of 15A NCAC 2D .0530 "Prevention of Significant Deterioration," as requested by the Permittee, emissions shall be limited as follows:

Affected Source(s)	Pollutant	Emission Limit (Tons Per Consecutive 12-month Period)
Facility Wide	PM(TSP)	250
Facility Wide	PM <sub>10</sub>	250

a. Operations Restrictions - To ensure emissions do not exceed the limitations above, the following restrictions shall apply:

- i. By complying with the operations restrictions, recordkeeping requirements, and reporting requirements listed in stipulation 15A NCAC 2Q .0315, Limitation to Avoid 15A NCAC 2Q .0501 (Permit Condition 13), the Permittee shall have also complied with the requirements for 15A NCAC 2Q .0317, Limitation to Avoid 15A NCAC 2D .0530.

15. TOXIC AIR POLLUTANT EMISSIONS LIMITATION REQUIREMENT - Pursuant to 15A NCAC 2Q .0711 "Emission Rates Requiring a Permit," for each of the below listed toxic air pollutants (TAPs), the Permittee has made a demonstration that facility-wide actual emissions, where one or more emission release points are obstructed or non-vertically oriented, do not exceed the Toxic Permit Emission Rates (TPERs) listed in 15A NCAC 2Q .0711(a). The facility shall be operated and maintained in such a manner that emissions of any listed TAPs from the facility, including fugitive emissions, will not exceed TPERs listed in 15A NCAC 2Q .0711(a).

- a. A permit to emit any of the below listed TAPs shall be required for this facility if actual emissions from all sources will become greater than the corresponding TPERs.
- b. PRIOR to exceeding any of these listed TPERs, the Permittee shall be responsible for obtaining a permit to emit TAPs and for demonstrating compliance with the requirements of 15A NCAC 2D .1100 "Control of Toxic Air Pollutants".

- c. In accordance with the approved application, the Permittee shall maintain records of operational information demonstrating that the TAP emissions do not exceed the TPERs as listed below:

Pollutant	Carcinogens (lb/yr)	Chronic Toxicants (lb/day)	Acute Systemic Toxicants (lb/hr)	Acute Irritants (lb/hr)
Acetaldehyde (75-07-0)				6.8
MEK (methyl ethyl ketone, 2- butanone) (78-93-3)		78		22.4
Methylene chloride (75-09-2)	1600		0.39	
Phenol (108-95-2)			0.24	
Styrene (100-42-5)			2.7	
Toluene (108-88-3)		98		14.4
Xylene (mixed isomers) (1330-20-7)		57		16.4

## B. GENERAL CONDITIONS AND LIMITATIONS

1. In accordance with G.S. 143-215.108(c)(1), TWO COPIES OF ALL DOCUMENTS, REPORTS, TEST DATA, MONITORING DATA, NOTIFICATIONS, REQUESTS FOR RENEWAL, AND ANY OTHER INFORMATION REQUIRED BY THIS PERMIT shall be submitted to the:

Regional Supervisor  
North Carolina Division of Air Quality  
Fayetteville Regional Office  
Systel Building  
225 Green Street, Suite 714  
Fayetteville, NC 28301-5094  
910-433-3300

For identification purposes, each submittal should include the facility name as listed on the permit, the facility identification number, and the permit number.

2. RECORDS RETENTION REQUIREMENT - In accordance with 15A NCAC 2D .0605, any records required by the conditions of this permit shall be kept on site and made available to DAQ personnel for inspection upon request. These records shall be maintained in a form suitable and readily available for expeditious inspection and review. These records must be kept on site for a minimum of 2 years, unless another time period is otherwise specified.
3. ANNUAL FEE PAYMENT - Pursuant to 15A NCAC 2Q .0203(a), the Permittee shall pay the annual permit fee within 30 days of being billed by the DAQ. Failure to pay the fee in a timely manner will cause the DAQ to initiate action to revoke the permit.
4. EQUIPMENT RELOCATION - In accordance with 15A NCAC 2Q .0301, a new air permit shall be obtained by the Permittee prior to establishing, building, erecting, using, or operating the emission sources or air cleaning equipment at a site or location not specified in this permit.
5. REPORTING REQUIREMENT - In accordance with 15A NCAC 2Q .0309, any of the following that would result in previously unpermitted, new, or increased emissions must be reported to the Regional Supervisor, DAQ:
  - a. changes in the information submitted in the application regarding facility emissions;
  - b. changes that modify equipment or processes of existing permitted facilities; or
  - c. changes in the quantity or quality of materials processed.

If appropriate, modifications to the permit may then be made by the DAQ to reflect any necessary changes in the permit conditions. In no case are any new or increased emissions allowed that will cause a violation of the emission limitations specified herein.

6. In accordance with 15A NCAC 2Q .0309, this permit is subject to revocation or modification by the DAQ upon a determination that information contained in the application or presented in the support thereof is incorrect, conditions under which this permit was granted have changed, or violations of conditions contained in this permit have occurred. In accordance with G.S. 143-215.108(c)(1), the facility shall be properly operated and maintained at all times in a manner that will effect an overall reduction in air pollution. Unless otherwise specified by this permit, no emission source may be operated without the concurrent operation of its associated air cleaning device(s) and appurtenances.
7. In accordance with G.S. 143-215.108(c)(1), this permit is nontransferable by the Permittee. Future owners and operators must obtain a new air permit from the DAQ.
8. In accordance with G.S. 143-215.108(c)(1), this issuance of this permit in no way absolves the Permittee of liability for any potential civil penalties which may be assessed for violations of State law which have occurred prior to the effective date of this permit.
9. In accordance with G.S. 143-215.108(c)(1), this permit does not relieve the Permittee of the responsibility of complying with all applicable requirements of any Federal, State, or Local water quality or land quality control authority.
10. In accordance with 15A NCAC 2D .0605, reports on the operation and maintenance of the facility shall be submitted by the Permittee to the Regional Supervisor, DAQ at such intervals and in such form and detail as may be required by the DAQ. Information required in such reports may include, but is not limited to, process weight rates, firing rates, hours of operation, and preventive maintenance schedules.
11. A violation of any term or condition of this permit shall subject the Permittee to enforcement pursuant to G.S. 143-215.114A, 143-215.114B, and 143-215.114C, including assessment of civil and/or criminal penalties.
12. Pursuant to North Carolina General Statute 143-215.3(a)(2), no person shall refuse entry or access to any authorized representative of the DAQ who requests entry or access for purposes of inspection, and who presents appropriate credentials, nor shall any person obstruct, hamper, or interfere with any such representative while in the process of carrying out his official duties. Refusal of entry or access may constitute grounds for permit revocation and assessment of civil penalties.
13. In accordance with G.S. 143-215.108(c)(1), this permit does not relieve the Permittee of the responsibility of complying with any applicable Federal, State, or Local requirements governing the handling, disposal, or incineration of hazardous, solid, or medical wastes, including the Resource Conservation and Recovery Act (RCRA) administered by the Division of Waste Management.
14. PERMIT RETENTION REQUIREMENT - In accordance with 15A NCAC 2Q .0110, the Permittee shall retain a current copy of the air permit at the site. The Permittee must make available to personnel of the DAQ, upon request, the current copy of the air permit for the site.

15. CLEAN AIR ACT SECTION 112(r) REQUIREMENTS - Pursuant to 15A NCAC 2D .2100 "Risk Management Program," if the Permittee is required to develop and register a risk management plan pursuant to Section 112(r) of the Federal Clean Air Act, then the Permittee is required to register this plan with the USEPA in accordance with 40 CFR Part 68.
16. PREVENTION OF ACCIDENTAL RELEASES - GENERAL DUTY - Pursuant to Title I Part A Section 112(r)(1) of the Clean Air Act "Hazardous Air Pollutants - Prevention of Accidental Releases - Purpose and General Duty," although a risk management plan may not be required, if the Permittee produces, processes, handles, or stores any amount of a listed hazardous substance, the Permittee has a general duty to take such steps as are necessary to prevent the accidental release of such substance and to minimize the consequences of any release. **This condition is federally-enforceable only.**
17. GENERAL EMISSIONS TESTING AND REPORTING REQUIREMENTS - If emissions testing is required by this permit, or the DAQ, or if the Permittee submits emissions testing to the DAQ in support of a permit application or to demonstrate compliance, the Permittee shall perform such testing in accordance with 15A NCAC 2D .2600 and follow all DAQ procedures including protocol approval, regional notification, report submittal, and test results approval.

Permit issued this the 10<sup>th</sup> of November, 2015.

NORTH CAROLINA ENVIRONMENTAL MANAGEMENT COMMISSION



Steven F. Vozzo

Regional Supervisor

By Authority of the Environmental Management Commission

Air Permit No. 10012R03