ROY COOPER
Governor

MICHAEL S. REGAN
Secretary

MICHAEL ABRACZINSKAS
Director

NORTH CAROLINA
Environmental Quality

January 14, 2019

Mr. Royal Smith
EVP of Operations
Enviva Pellets Hamlet, LLC
7200 Wisconsin Avenue
Bethesda, Maryland 20814

Dear Mr. Smith:

SUBJECT: Air Quality Permit No. 10365R03
Facility ID: 7700096
Enviva Pellets Hamlet, LLC
Hamlet, North Carolina
Richmond County
PSD Status: Minor
Fee Class: Title V

In accordance with your Air Permit Application received on May 14, 2018 we are forwarding herewith Air Quality Permit No. 10365R03 to Enviva Pellets Hamlet, LLC, 1125 North NC Highway 177, Hamlet, North Carolina, authorizing the construction and operation, of the emission source(s) and associated air pollution control device(s) specified herein. Additionally, any emissions activities determined from your Air Quality Permit Application as being insignificant per 15A North Carolina Administrative Code 2Q .0503(8) have been listed for informational purposes as an "ATTACHMENT."

As the designated responsible official it is your responsibility to review, understand, and abide by all of the terms and conditions of the attached permit. It is also your responsibility to ensure that any person who operates any emission source and associated air pollution control device subject to any term or condition of the attached permit reviews, understands, and abides by the condition(s) of the attached permit that are applicable to that particular emission source.

If any parts, requirements, or limitations contained in this Air Quality 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. This hearing request must be in the form of a written petition, conforming to NCGS (North Carolina General Statutes) 150B-23, and filed with both the Office of Administrative Hearings, 6714 Mail Service Center, Raleigh, North Carolina 27699-6714 and the Division of Air Quality, Permitting Section, 1641 Mail Service Center, Raleigh, North Carolina 27699-1641. The form for requesting a formal adjudicatory hearing may be obtained upon request from the Office of Administrative Hearings. Please note that this permit will be stayed in its entirety upon receipt of the request for a hearing. Unless a request for a hearing is made pursuant to NCGS 150B-23, this Air Quality Permit shall be final and binding 30 days after issuance.

You may request modification of your Air Quality Permit through informal means pursuant to NCGS 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 this Air Quality Permit will become final and binding regardless of a request for informal modification unless a request for a hearing is also made under NCGS 150B-23.

The construction of new air pollution emission source(s) and associated air pollution control device(s), or modifications to the emission source(s) and air pollution control device(s) described in this permit must be covered under an Air Quality Permit issued by the Division of Air Quality prior to construction unless the Permittee has fulfilled the requirements of GS 143-215-108A(b) and received written approval from the Director of the Division of Air Quality to commence construction. Failure to receive an Air Quality Permit or written approval prior to commencing construction is a violation of GS 143-215.108A and may subject the Permittee to civil or criminal penalties as described in GS 143-215.114A and 143-215.114B.

Richmond County has triggered increment tracking under PSD for NOx, PM-10, and PM-2.5. This modification will result in an increase of 3.61 pounds per hour of NOx, a decrease of 7.12 pounds per hour of PM-10, and a decrease of 4.26 pounds per hour of PM-2.5.

This Air Quality Permit shall be effective from January 14, 2019 until February 28, 2021, is nontransferable to future owners and operators, and shall be subject to the conditions and limitations as specified therein. Should you have any questions concerning this matter, please contact Kevin Godwin at (919) 707-8480 or kevin.godwin@ncdenr.gov.

Sincerely yours,

for William D. Willets, P.E., Chief, Permitting Section
Division of Air Quality, NCDEQ

c: EPA Region 4
Heather Carter, Supervisor, Fayetteville Regional Office
Shannon Vogel, Stationary Source Compliance Branch
Central Files
Connie Horne (Cover letter only)

ATTACHMENT

Insignificant Activities per 15A NCAC 02Q .0503(8)

Emission Source ID No.	Emission Source Description
IES-CHIP-1	Log chipping (138 tons per hour)
IES-BARKHOG	Bark hog (25 tons per hour)
IES-GWH	Green wood handling operations
IES-GN	Emergency generator (671 brake horsepower)
IES-FWP	Fire water pump (131 brake horsepower)
IES-DRYSHAVE	Dried shaving material handling (25 tons per hour)
IES-TK-1	Diesel fuel storage tank (1,000 gallons capacity)
IES-TK-2	Diesel fuel storage tank (185 gallons capacity)
IES-TK-3	Diesel fuel storage tank (5,000 gallons capacity)
IES-GWSP-1 through IES-GWSP-4	Green wood storage piles
IES-BFSP-1 and IES-BFP-2	Bark fuel storage piles
IES-BFB	Bark fuel bin
IES-DEBARK-1	De-barker (275 tons per hour)

1. Because an activity is insignificant does not mean that the activity is exempted from an applicable requirement or that the Permittee is exempted from demonstrating compliance with any applicable requirement.
2. When applicable, emissions from stationary source activities identified above shall be included in determining compliance with the permit requirements for toxic air pollutants under 15A NCAC 02D .1100 "Control of Toxic Air Pollutants" or 02Q .0711 "Emission Rates Requiring a Permit."
3. For additional information regarding the applicability of MACT or GACT see the DAQ page titled "Specific Permit Conditions Regulatory Guide." The link to this site is as follows: http://deq.nc.gov/about/divisions/air-quality/air-quality-permits/specific-permit-conditions-regulatory-guide.

Summary of Changes to Permit

The following changes were made to the existing Air Permit:

Page No.	Section	Description of Changes
N/A	Attachment – List of Insignificant Activities	Included the following sources: Log Chipping (ID No. IES-CHIP-1), Bark Hog (ID No. IES-BARKHOG), Emergency Generator (ID No. IES-GN), Fire water pump (ID No. IES-FWP), Dried shaving material handling (ID No. IES-DRYSHAVE), Bark fuel storage piles (ID No. IES-BFSP-1 and 2), Bark fuel bin (ID No. IES-BFB). Updated storage tank capacities as follows: Diesel fuel storage tank (ID No. IES-TK-1, 1,000 gallons capacity), Diesel fuel storage tank (ID No. IES-TK-2, 185 gallons capacity), Diesel fuel storage tanks (ID No. IES-TK-3, 5,000 gallons capacity).

Page No.	Section	Description of Changes
3	Table of Permitted Emission Sources	Removed the PSD designation throughout the table. Included the following sources and control devices: Hammermill collection conveyor (ID No. ES-HMC) controlled by bagfilter (ID No. CD-HMC-BH), Pellet cooler high-pressure fines relay (ID No. ES-PCHP) controlled by bagfilter (ID No. CD-PCHP-BH), Pellet cooler low-pressure fines relay (ID No. ES-PCLP) controlled by bagfilter (ID No. CD-PCLP-BH), Pellet dust collection transfer bin (ID No. PDCTB) controlled by bagfilter (ID No. CD-PDCTB-BH), Additive handling and storage (ID No. ES-ADD) controlled by bagfilter (ID No. CD-ADD-BH). Removed cyclones as control devices. Removed Hammermill Area (ID No. ES-HMA) emission point. Changed the Pellet Loadout Bins from eight (8) to two (2) bins (ID Nos. ES-PB-1 and 2) Included new regenerative thermal oxidizer (ID No. CD-RTO-1) installed on Green wood hammermills (ID No. GMH-1 through 3) and Rotary dryer (ID No. ES-DRYER). Included new wet scrubber (ID No. CD-WSB) and regenerative catalytic oxidizer (ID No. CD-RCO) installed on Pellet coolers (ID Nos. ES-CLR-1 through 6) Moved the following sources to the insignificant activity list: Log Chipping (ID No. IES-CHIP-1), Bark Hog (ID No. IES-BARKHOG), Emergency Generator (ID No. IES-GM), and Fire water pump (ID No. IES-FWP).
4	2.1 A.	Updated emission source description to reflect the proposed emission source configuration.
5	2.1 A.1	Updated the 15A NCAC 02D .0515 condition to reflect the proposed control device configuration.
8	2.2 A.2.	Removed the existing PSD condition and replaced with a PSD avoidance condition.

State of North Carolina
Department of Environmental Quality
Division of Air Quality

AIR QUALITY PERMIT

Permit No.	Replaces Permit No.(s)	Effective Date	Expiration Date
10365R03	10365R02	January 14, 2019	February 28, 2021

Until such time as this permit expires or is modified or revoked, the below named Permittee is permitted to construct and operate the emission source(s) and associated air pollution control device(s) specified herein, in accordance with the terms, conditions, and limitations within this permit. This permit is issued under the provisions of Article 21B of Chapter 143, General Statutes of North Carolina as amended, and Title 15A North Carolina Administrative Codes (15A NCAC), Subchapters 2D and 2Q, and other applicable Laws.

Pursuant to Title 15A NCAC, Subchapter 2Q, the Permittee shall not construct, operate, or modify any emission source(s) or air pollution control device(s) without having first submitted a complete Air Quality Permit Application to the permitting authority and received an Air Quality Permit, except as provided in this permit.

Permittee:	**Enviva Pellets Hamlet, LLC**
Facility ID:	**7700096**
Facility Site Location:	**1125 North NC Highway 177**
City, County, State, Zip:	**Hamlet, Richmond County, North Carolina, 28345**
Mailing Address:	**7200 Wisconsin Avenue**
City, State, Zip:	**Bethesda, Maryland 20814**
Application Number:	**7700096.18A**
Complete Application Date:	**June 6, 2017**
Primary SIC Code:	**2499**
Division of Air Quality, Regional Office Address:	**Fayetteville Regional Office** **Systel Building** **225 Green Street, Suite 714** **Fayetteville, North Carolina, 28301**

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SECTION 1- PERMITTED EMISSION SOURCE(S) AND ASSOCIATED AIR POLLUTION CONTROL DEVICE(S) AND APPURTENANCES

The following table contains a summary of all permitted emission sources and associated air pollution control devices and appurtenances:

Emission Source ID No.	Emission Source Description	Control Device ID No.	Control Device Description
ES-GHM-1, ES-GHM-2, and ES-GHM-3	Green wood hammermills	CD-WESP	One wet electrostatic precipitator (square feet of collector plate area to be determined) in series with
		CD-RTO-1	One natural gas-fired regenerative thermal oxidizer (32 million Btu per hour heat input)
ES-DRYER **02D .1112 Case-by-case MACT**	Green wood direct-fired rotary dryer system (250.4 million Btu per hour heat input)	CD-WESP	One wet electrostatic precipitator (square feet of collector plate area to be determined) in series with
		CD-RTO-1	One natural gas-fired regenerative thermal oxidizer (32 million Btu per hour heat input)
ES-DWH	Dried wood handling	CD-DWH-BH-1 and CD-DWH-BH-2	Two bagfilters (square feet filter surface to be determined) operating in parallel
ES-HM-1 through ES-HM-8 **02D .1112 Case-by-case MACT**	Eight (8) hammermills	CD-HM-BH-1 through CD-HM-BH-8	Eight (8) bagfilters (square feet filter surface area to be determined)
ES-HMC	Hammermill collection conveyor	CD-HMC-BH	One bagfilter (square feet filter surface area to be determined)
ES-PMFS	Pellet mill feed silo	CD-PMFS-BH	One bagfilter (square feet of filter surface area to be determined)
ES-CLR-1 through ES-CLR-6 **02D .1112 Case-by-case MACT**	Six (6) pellet coolers	CD-WSB	One wet scrubber (minimum liquid injection rate to be determined)
		CD-RCO	One natural gas-fired regenerative catalytic oxidizer (32 million Btu per hour heat input)
ES-PCHP	One pellet cooler high-pressure fines relay system	CD-PCHP-BH	One bagfilter (square feet of filter surface area to be determined)
ES-PCLP	One pellet cooler low-pressure fines relay system	CD-PCLP-BH	One bagfilter (square feet of filter surface area to be determined)
ES-PDCTB	One pellet dust collection transfer bin	CD-PDCTB-BH	One bagfilter (square feet of filter surface area to be determined)
ES-FPH, ES-PB1, ES-PB2, ES-PL-1 through ES-PL-3	Finished product handling and two (2) pellet loadout bins and three (3) pellet mill loadouts	CD-FPH-BH	One bagfilter (square feet of filter surface area to be determined)

Emission Source ID No.	Emission Source Description	Control Device ID No.	Control Device Description
ES-ADD	Additive handling and storage	CD-ADD-BH	One bagfilter (square feet of filter surface area to be determined)

SECTION 2 - SPECIFIC LIMITATIONS AND CONDITIONS

2.1- Emission Source(s) and Control Devices(s) Specific Limitations and Conditions

The emission source(s) and associated air pollution control device(s) and appurtenances listed below are subject to the following specific terms, conditions, and limitations, including the testing, monitoring, recordkeeping, and reporting requirements as specified herein:

A. Green wood hammermills (ID Nos. ES-GHM-1, 2, and 3), Rotary dryer system (ID No. ES-DRYER), Dried wood handling (ID No. ES-DWH), Hammermills (ID Nos. ES-HM-1 through ES-HM-8), Hammermill collection conveyor (ID No. ES-HMC), Pellet mill feed silo (ID No. ES-PMFS), Pellet coolers (ID Nos. ES-CLR-1 through ES-CLR-6), Pellet cooler high-pressure fines relay system (ID No. ES-PCHP), Pellet cooler low-pressure fines relay system (ID No. ES-PCLP), Pellet dust collection system transfer bin (ID No. ES-PDCTB), Finished product handling and load-out bins (ID Nos. ES-FPH, ES-PB-1 and ES-PB-2), and Additive handling and storage (ID No. ES-ADD)

The following table provides a summary of limits and standards for the emission source(s) described above:

Regulated Pollutant	Limits/Standards	Applicable Regulation
Particulate matter	$E = 4.10 \times P^{0.67}$ for $P < 30$ tph $E = 55 \times P^{0.11} - 40$ for $P \geq 30$ tph where, E = allowable emission rate (lb/hr) P = process weight rate (tph)	15A NCAC 02D .0515
Sulfur dioxide	2.3 pounds per million Btu	15A NCAC 02D .0516
Visible emissions	20 percent opacity when averaged over a 6-minute period	15A NCAC 02D .0521
Hazardous Air Pollutants (HAP)	See Section 2.1 A.4.	15A NCAC 02D .1112 [§ 112(g) Case-by-case MACT]

Regulated Pollutant	Limits/Standards	Applicable Regulation
Volatile organic compounds (VOC), Nitrogen Oxides (NOx), and Carbon Monoxide (CO)	Less than 250 tons per consecutive 12-month period, See Section 2.2 A.2.	15A NCAC 02Q .0317 for avoidance of 15A NCAC 02D .0530

1. **15A NCAC 02D .0515: PARTICULATES FROM MISCELLANEOUS INDUSTRIAL PROCESSES**
   a. Emissions of particulate matter from these sources shall not exceed an allowable emission rate as calculated by the following equation: [15A NCAC 02D .0515(a)]

      $E = 4.10 \times P^{0.67}$ for $P < 30$ tph
      $E = 55 \times P^{0.11} - 40$ for $P \geq 30$ tph

      Where E = allowable emission rate in pounds per hour
      P = process weight in tons per hour

      Liquid and gaseous fuels and combustion air are not considered as part of the process weight.

   Testing [15A NCAC 02Q .0308(a)]

   b. Under the provisions of NCGS 143-215.108, the Permittee shall test the outlet of the regenerative thermal oxidizer (ID No. CD-RTO-1) and the regenerative catalytic oxidizer (ID No. CD-RCO) for total suspended particulate (TSP) in accordance with a testing protocol approved by the DAQ. Testing shall be completed and the results submitted within 180 days of commencement of operation unless an alternate date is approved by the DAQ.

   Monitoring/Recordkeeping [15A NCAC 02Q .0308(a)]

   c. The Permittee shall maintain production records such that the process rates "P" in tons per hour, as specified by the formulas contained above (or the formulas contained in 15A NCAC 02D .0515), can be derived, and shall make these records available to a DAQ authorized representative upon request.

   d. Particulate matter emissions from the green wood hammermills (ID No. ES-GHM-1, 2, and 3) and rotary dryer (ID No. ES-DRYER) shall be controlled by one wet electrostatic precipitator (ID No. CD-WESP) in series with on regenerative thermal oxidizer (ID No. CD-RTO-1). Particulate matter emissions from dried wood handling (ID No. ES-DWH) shall be controlled by two bagfilters (ID Nos. CD-DWH-BH-1 and 2) operating in parallel. Particulate matter emissions from hammermills (ID No. ES-HM-1 through 8) shall be controlled by bagfilters (ID No. CD-HM-BH-1 through 8). Particulate matter emissions from the hammermill collection conveyor (ID No. ES-HMC) shall be controlled by a bagfilter (ID No. CD-HMC-BH). Particulate matter emissions from the pellet mill feed silo (ID No. ES-PMFS) shall be controlled by a bagfilter (ID No. CD-PMFS-BH). Particulate matter emissions from pellet coolers (ID Nos. ES-CLR-1 through 6) shall be controlled by a wet scrubber (ID No. CD-WSB) in series with a regenerative catalytic oxidizer (ID No. CD-RCO). Particulate matter emissions from the pellet cooler high-pressure fines relay system (ID No. ES-PCHP) shall be controlled by a bagfilter (ID No. CD-PCHP-BH). Particulate matter emissions from the pellet cooler low-pressure fines relay system (ID No. ES-PCLP) shall be controlled by a bagfilter (ID No. CD-PCLP). Particulate matter from the pellet dust collection transfer bin (ID No. ES-

PDCTB) shall be controlled by a bagfilter (ID No. CD-PDCTB-BH). Particulate matter emissions from the finished product handling (ID No. ES-FPH) and pellet loadout bins (ID No. ES-PB1 and 2) shall be controlled by a bagfilter (ID No. CD-FPH-BH). Particulate matter emissions from the additive handling and storage (ID No. ES-ADD) shall be controlled by a bagfilter (ID No. CD-ADD-BH).

For bagfilters:
To ensure compliance, the Permittee shall perform inspections and maintenance as recommended by the manufacturer. In addition to the manufacturer's inspection and maintenance recommendations, or if there are no manufacturer's inspection and maintenance recommendations, as a minimum, the inspection and maintenance requirement shall include the following:

i. a monthly visual inspection of the system ductwork and material collection unit for leaks, and
ii. an annual (for each 12-month period following the initial inspection) internal inspection of the bagfilters' structural integrity.

For WESP:
To ensure compliance, the Permittee shall perform inspections and maintenance as recommended by the manufacturer. In addition to the manufacturer's inspection and maintenance recommendations, or if there are no manufacturer's inspection and maintenance recommendations, as a minimum, the inspection and maintenance requirement shall include the following:

> The Permittee shall establish the minimum primary voltage and minimum current within the first 30 days following the commencement of operation of the dryer. To assure compliance and effective operation of the wet electrostatic precipitator, the Permittee shall monitor and record the primary voltage and minimum current through the precipitator for each day of the calendar year period that the dryer system is operated. The Permittee shall be allowed three (3) days of absent observations per semi-annual period.

For RTO and RCO:
To ensure compliance, the Permittee shall perform inspections and maintenance as recommended by the manufacturer.

e. The results of inspection and maintenance shall be maintained in a log (written or electronic format) on-site and made available to an authorized representative upon request. The log shall record the following:
   i. the date and time of each recorded action;
   ii. the results of each inspection;
   iii. the results of any maintenance performed; and
   iv. any variance from manufacturer's recommendations, if any, and corrections made.

Reporting

f. The Permittee shall submit the results of any maintenance performed on the WESP, bagfilters, and bin vent filters within 30 days of a written request by the DAQ.

2. 15A NCAC 02D .0516: SULFUR DIOXIDE EMISSIONS FROM COMBUSTION SOURCES

a. Emissions of sulfur dioxide from these sources shall not exceed 2.3 pounds per million Btu heat input. Sulfur dioxide formed by the combustion of sulfur in fuels, wastes, ores, and other substances shall be included when determining compliance with this standard. [15A NCAC 2D .0516]

Testing [15A NCAC 02Q .0308(a)]

b. If emissions testing is required, the testing shall be performed in accordance with General Condition 17. found in Section 3.

Monitoring/Recordkeeping/Reporting [15A NCAC 02Q .0308(a)]

c. No monitoring/recordkeeping/reporting is required for sulfur dioxide emissions from firing biomass in the dryer system or natural gas in the thermal oxidizers.

3. 15A NCAC 02D .0521: CONTROL OF VISIBLE EMISSIONS

a. Visible emissions from these sources shall not be more than 20 percent opacity when averaged over a six-minute period. However, six-minute averaging periods may exceed 20 percent not more than once in any hour and not more than four times in any 24-hour period. In no event shall the six-minute average exceed 87 percent opacity. [15A NCAC 02D .0521 (d)]

Testing [15A NCAC 02Q .0308(a)]

b. If emissions testing is required, the testing shall be performed in accordance with General Condition 17. found in Section 3.

Monitoring [15A NCAC 02Q .0308(a)]

c. To ensure compliance, once a month the Permittee shall observe the emission points of these sources for any visible emissions above normal. The monthly observation must be made for each month of the calendar year period to ensure compliance with this requirement. The Permittee shall establish "normal" for the source in the first 30 days following the effective date of the permit. If visible emissions from this source are observed to be above normal, the Permittee shall either:
   i. take appropriate action to correct the above-normal emissions as soon as practicable and within the monitoring period and record the action taken as provided in the recordkeeping requirements below, or
   ii. demonstrate that the percent opacity from the emission points of the emission source in accordance with 15A NCAC 2D .2610 (Method 9) for 12 minutes is below the limit given in Section 2.1 A.3. a. above.

Recordkeeping [15A NCAC 02Q .0308(a)]

d. The results of the monitoring shall be maintained in a log (written or electronic format) on-site and made available to an authorized representative upon request. The log shall record the following:
   i. the date and time of each recorded action;
   ii. the results of each observation and/or test noting those sources with emissions that were observed to be in noncompliance along with any corrective actions taken to reduce visible emissions; and
   iii. the results of any corrective actions performed.

Reporting [15A NCAC 02Q .0308(a)]

e. No reporting is required.

4. 15A NCAC 02D .1112 National Emissions Standards for Hazardous Air Pollutants, 112(g) Case-by-Case Maximum Achievable Control Technology

Testing [15A NCAC 02Q .0308(a)]

a. Initial Performance Tests – Under the provisions of North Carolina General Statute 143-215.108, the Permittee shall establish emission factors for HAPs by conducting an initial performance test on the wood-fired direct heat drying system (ID No. ES-DRYER), the green wood hammermills (ID Nos. ES-GHM-1, ES-GHM-2, and ES-GHM-3), the dry hammermills (ID Nos. ES-HM-1 to ES-HM-8), the dry wood handling operations (ID Nos. ES-DWH), and the pellet presses and coolers (ID Nos. ES-CLR-1 through ES-CLR-6). Initial testing shall be conducted in accordance with the following:
   i. The pollutants and emission sources to be tested during the initial performance test are listed in the following table:

Emission Source	Pollutant
Dryer system/greenwood hammermills controlled via a RTO	Acetaldehyde Acrolein Formaldehyde Methanol Phenol Propionaldehyde
Pellet coolers pellet presses controlled via a RCO	
One dry hammermill	
Dry wood handling operations	

ii. Initial testing shall be conducted in accordance with Section 2.2 A.2. c. ii. through x. below.

b. Periodic Performance Tests – Under the provisions of North Carolina General Statute 143-215.108, the Permittee shall establish emission factors for HAPs by conducting an initial performance test on the wood-fired direct heat drying system (ID No. ES-DRYER), the green wood hammermills (ID Nos. ES-GHM-1, ES-GHM-2, and ES-GHM-3), the dry hammermills (ID Nos. ES-HM-1 to ES-HM-8), the dry wood handling operations (ID Nos. ES-DWH), and the pellet presses and coolers (ID Nos. ES-CLR-1 through ES-CLR-6). Periodic testing shall be conducted in accordance with the following:

i. The pollutants and emission sources to be tested during the periodic performance tests are listed in the following table:

Emission Sources	Pollutant
Dryer system/greenwood hammermills controlled via a RTO	Acetaldehyde Acrolein Formaldehyde Methanol Phenol Propionaldehyde
Pellet coolers pellet presses controlled via a RCO	
One dry hammermill	
Dry wood handling operations	

ii. Periodic testing shall be conducted in accordance with Section 2.2 A.2. d. ii. through ix. below.

c. **Monitoring/Recordkeeping/Reporting** [15A NCAC 02Q .0308(a)]
Monitoring, recordkeeping, and reporting shall be performed in accordance with 2.2 A.2.

2.2- Multiple Emission Source(s) Specific Limitations and Conditions

A. Facility-wide Emission Sources

The following table provides a summary of limits and standards for the emission source(s) describe above:

Regulated Pollutant	Limits/Standards	Applicable Regulation
Fugitive dust	Minimize fugitive dust beyond property boundary	15A NCAC 02D .0540
VOC NOx CO	Less than 250 tons per 12-month period, Less than 250 tons per 12-month period, Less than 250 tons per 12-month period	15A NCAC 02Q .0317 for avoidance of 15A NCAC 02D .0530

1. **Fugitive Dust Control Requirement** [15A NCAC 02D .0540] - STATE ENFORCEABLE ONLY
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 02D .0540(f).
"Fugitive dust emissions" means particulate matter from process operations 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).

2. **15A NCAC 02Q .0317 for avoidance of 15A NCAC 02D .0530: PREVENTION OF SIGNIFICANT DETERIORATION**
   a. In order to avoid applicability of 15A NCAC 2D .0530(g), the above emission sources shall discharge into the atmosphere less than 250 tons of volatile organic compounds (VOC), nitrogen oxides (NOx), and carbon monoxide (CO) per consecutive 12-month period. [15A NCAC 2D .0530]

   b. To ensure that the limits established above are not exceeded,
      i. the greenwood hammermills and pellet dryer will be controlled by a regenerative thermal oxidizer (ID No. CD-RTO-1),
      ii. the pellet mills and pellet coolers will be controlled by a regenerative catalytic oxidizer (ID No. CD-RCO), and
      iii. the facility will not process more than 625,011 oven dried tons per year (ODT/year) with a maximum of 85% softwood, on a rolling 12-month average basis.

   Testing [15A NCAC 02Q .0308(a)]
   c. Initial Performance Tests – Under the provisions of North Carolina General Statute 143-215.108, the Permittee shall demonstrate compliance with PSD avoidance limits in Section 2.2 A.2.a. above by conducting an initial performance test on the wood-fired direct heat drying system (ID No. ES-DRYER), the green wood hammermills (ID Nos. ES-GHM-1, ES-GHM-2, and ES-GHM-3), the dry hammermills (ID Nos. ES-HM-1 to ES-HM-8), the dry wood handling operations (ID Nos. ES-DWH), and the pellet presses and coolers (ID Nos. ES-CLR-1 through ES-CLR-6). Initial testing shall be conducted in accordance with the following:
      i. The pollutants and emission sources to be tested during the initial performance test are listed in the following table:

Emission Sources	Pollutant
Dryer system/greenwood hammermills controlled via a RTO	VOC
	PM/PM10/PM2.5
	NOx
	CO
Pellet coolers pellet presses controlled via a RCO	VOC
	PM/PM10/PM2.5
One dry hammermill	VOC
	PM/PM10/PM2.5
Dry wood handling operations	VOC
	PM/PM10/PM2.5

      ii. The Permittee shall utilize EPA reference methods contained in 40 CFR 60, Appendix A, 40 CFR Part 63, and OTM 26 AND in accordance with a testing protocol (using testing protocol submittal form) approved by the DAQ.
      iii. The Permittee shall submit a protocol to the DAQ at least 45 days prior to compliance testing.

iv. The Permittee shall be responsible for ensuring, within practicable limits, that the equipment or processes being tested are operated at or near the maximum normal production rate or at a lesser rate if specified by the Director or his delegate.
v. To the extent possible, testing shall be conducted at the maximum normal operating softwood percentage.
vi. The Permittee shall establish the firebox temperature of the regenerative thermal oxidizer (ID No. CD-RTO-1) during testing. The firebox temperature shall be based upon the average temperature over the span of the test runs. Documentation for the firebox temperature shall be submitted to the DAQ as part of the test report for the regenerative thermal oxidizer.
vii. The Permittee shall establish the temperature at the inlet of the catalytic oxidizer (ID No. CD-RCO) during testing when operating in both modes. The inlet temperature shall be based upon the average temperature over the span of the test runs. Documentation for the inlet temperature shall be submitted to the DAQ as part of the test report for the catalytic oxidizer.
viii. Testing is required on only one of the dry hammermills. The Permittee shall ensure that the dry hammermill selected for testing is representative of operations of all the dry hammermills.
ix. Testing shall be completed within 180 days of commencement of operation.
x. The Permittee shall submit a written report of the test results to the Regional Supervisor, DAQ, within 60 days of completion of the test.

d. Periodic Performance Tests – Under the provisions of North Carolina General Statute 143-215.108, the Permittee shall demonstrate compliance with the PSD avoidance in Section 2.2 A.2.a. above by conducting periodic performance tests on the wood-fired direct heat drying system (ID No. ES-DRYER), the green wood hammermills (ID Nos. ES-GHM-1, ES-GHM-2, and ES-GHM-3), the dry hammermills (ID Nos. ES-HM-1 to ES-HM-8), the dry wood handling operations (ID Nos. ES-DWH), and the pellet presses and coolers (ID Nos. ES-CLR-1 through ES-CLR-6). Periodic testing shall be conducted in accordance with the following:
i. The pollutants and emission sources to be tested during the periodic performance tests are listed in the following table:

Emission Source	Pollutant
Dryer system/greenwood hammermills controlled via a RTO	VOC
	PM/PM10/PM2.5
	NOx
	CO
Pellet coolers pellet presses controlled via a RCO	VOC
	PM/PM10/PM2.5
One dry hammermill	VOC
	PM/PM10/PM2.5
Dry wood handling operations	VOC
	PM/PM10/PM2.5

ii. Testing shall be conducted in accordance with Section 2.2 A.2. c. ii. through v. above.
iii. Testing is required on only one of the dry hammermills. The Permittee shall ensure that the dry hammermill selected for testing is representative of operations of all the dry hammermills. A different hammermill shall be tested for each periodic performance tests, until all the hammermills have been tested.
iv. The Permittee shall conduct performance tests when the following conditions are met:
(A) As the softwood content increases by more than 10 percentage points over what was established during the initial test up to 85%, or
(B) As the production rate increases by more than 10 percentage points over what was established during the initial test up to 625,011 ODT/year.

(C) At a minimum testing shall be conducted annually. Annual performance tests shall be completed no later than 13 months after the previous performance test.

v. The Permittee shall conduct the periodic performance test and submit a written report of the test results to the Regional Supervisor, DAQ, within 90 days from the date the monthly softwood content or overall production rate increased as described in Section 2.2 A.2.d.iv (A) and (B) above. The Permittee shall submit a written report of results for the periodic performance test as described in Section 2.2.A.2.d.iv (C) to the Regional Supervisor, DAQ, within 60 days of completion of the test.

vi. When performance testing has occurred at 85 percent softwood AND 90 percent of the maximum permitted throughput, subsequent periodic performance testing shall occur on an annual basis and shall be completed no later than 13 months after the previous performance test. The Permittee shall submit a written report of the periodic performance test results to the Regional Supervisor, DAQ, within 60 days of completion of the test.

vii. The Permittee may re-establish any parametric operating value during periodic testing. Compliance with previously approved parametric operating values is not required during periodic required testing or other tests undertaken to re-establish parametric operating values by the Permittee.

viii. When establishing new parametric monitoring values via source testing, the Permittee shall include an application for an Administrative Amendment to the permit with the submittal of the test results.

ix. The Permittee shall comply with applicable emission standards at all times, including during periods of testing.

Monitoring and Recordkeeping [15A NCAC 02Q .0308(a)]
Regenerative Thermal Oxidizer and Regenerative Catalytic Oxidizer

e. The Permittee shall install, calibrate, operate, maintain, and inspect a continuous temperature monitoring, and recording system, in accordance with manufacturer's recommendations, for the regenerative thermal oxidizer and regenerative catalytic oxidizer (ID Nos. CD-RTO-1 and CD-RCO) to monitor the temperature in the combustion chamber (the second half of the oxidizer away from the flame zone) to ensure the average combustion temperature does not drop below the temperature range established during the performance test.

f. The Permittee shall develop and maintain a written malfunction plan for the temperature monitoring and recording system that describes, in detail, the operating procedures for periods of malfunction and a protocol to address malfunctions so that corrective actions can immediately be investigated. The malfunction plan shall identify malfunctions, as described by the manufacturer, and ensure the operators are prepared to correct such malfunctions as soon as practical. The Permittee shall keep any necessary parts for routine repairs of the temperature monitoring and recording system readily available.

g. The Permittee shall perform periodic inspection and maintenance for the oxidizers as recommended by the manufacturer. At a minimum, the Permittee shall perform an annual internal inspection of the primary heat exchanger and associated inlet/outlet valves of the control device to ensure structural integrity.

h. The process rate and hardwood/softwood mix shall be recorded in a monthly log kept on site.

The results of the calculations and the total amount of VOC, NOx, and CO emissions shall be recorded monthly in a logbook (written or electronic format) and made available to an authorized representative upon request.

i. For the dryer system, GHG (CO_2e) emissions shall be calculated on a monthly basis and compliance demonstrated using the applicable Part 98 emission factors. Compliance shall be documented on a 12-month rolling basis.

Reporting [15A NCAC 02Q .0308(a)]

j. The Permittee shall submit a semi-annual summary report, acceptable to the Regional Air Quality Supervisor, of monitoring and recordkeeping activities postmarked on or before January 30 of each calendar year for the preceding six-month period between July and December, and July 30 of each calendar year for the preceding six-month period between January and June. The report shall contain the following:

i. The monthly VOC, NOx, and CO emissions for the previous 17 months. The emissions must be calculated for each of the 12-month periods over the previous 17 months.
ii. A report indicating and explaining all instances of the average minimum regenerative thermal oxidizer and regenerative catalytic oxidizer combustion chamber temperature falling below the temperature range established during the performance test or noting that no such instances have occurred.

k. All instances of deviations from the requirements of this permit must be clearly identified.

3. **15A NCAC 02Q .0207: ANNUAL EMISSIONS REPORTING**
The Permittee shall report by **June 30** of each year the actual emissions of each air pollutant listed in 15A NCAC 02Q .0207(a) from each emission source within the facility during the previous calendar year. The report shall be in or on such form as may be established by the Director. The accuracy of the report shall be certified by the responsible official of the facility.

4. **15A NCAC 02Q. 0304: APPLICATIONS**
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 02Q .0304(d) and (f). Pursuant to 15A NCAC 02Q .0203(i), no permit application fee is required for renewal of an existing air permit. The renewal request should be submitted to the Regional Supervisor, DAQ.

5. **15A NCAC 02Q .0504: OPTION FOR OBTAINING CONSTRUCTION AND OPERATION PERMIT**
The Permittee shall file a Title V Air Quality Permit Application pursuant to 15A NCAC 02Q .0504. to modify the construction and operation permit on or before **12 months after commencing operation of any of the sources listed in this permit**.

SECTION 3 - GENERAL CONDITIONS

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:

   Heather Carter
   Regional Air Quality Supervisor
   North Carolina Division of Air Quality
   Fayetteville Regional Office
   Systel Building
   225 Green Street, Suite 714
   Fayetteville, NC 28301-5043
   (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), the 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.

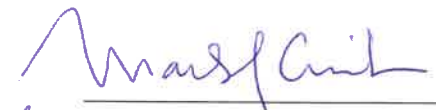
15. CLEAN AIR ACT SECTION 112(r) REQUIREMENTS - Pursuant to 15A NCAC 2D .2100 "Risk Management Program," if the Permittee is required to develop and register a risk management plan pursuant to Section 112(r) of the Federal Clean Air Act, then the Permittee is required to register this plan with the USEPA 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 14th day of January, 2019.

NORTH CAROLINA ENVIRONMENTAL MANAGEMENT COMMISSION



for William D. Willets, P.E., Chief, Permitting Section
Division of Air Quality, NCDEQ
By Authority of the Environmental Management Commission