

JOSH STEIN
Governor

D. REID WILSON
Secretary

MICHAEL ABRACZINSKAS
Director



January 31, 2025

Mr. Edgar Atkins
Plant Manager
Enviva Northampton
309 Enviva Boulevard
Garysburg, NC 27831

SUBJECT: Air Quality Permit No. 10203T13
Facility ID: 6600167
Enviva Pellets, LLC – Northampton Plant
Garysburg
Northampton County
Fee Class: Title V
PSD Class: Minor

Dear Mr. Atkins:

In accordance with your Air Permit Application for an ownership/name change of your Title V permit, we are forwarding, herewith, Air Quality Permit No. 10203T13 authorizing the construction and operation of the emission sources and associated air pollution control devices specified herein. Additionally, any emissions activities determined from your Air Quality Permit Application as being insignificant per 15A North Carolina Administrative Code 02Q .0503(8) have been identified as such in the permit. Please note, the requirements for the annual compliance certification are contained in General Condition P in Section 4. The current owner is responsible for submitting a compliance certification for the entire year regardless of who owned the facility during the year.

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 file a petition for a contested case hearing in the North Carolina Office of Administrative Hearings. Information regarding the right, procedure, and time limit for permittees and other persons aggrieved to file such a petition is contained in the attached "Notice Regarding the Right to Contest a Division of Air Quality Permit Decision."

The construction of new air pollution emission source(s) and associated air pollution control device(s), or modifications to existing 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 NCGS 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 NCGS



North Carolina Department of Environmental Quality | Division of Air Quality
217 West Jones Street | 1641 Mail Service Center | Raleigh, North Carolina 27699-1641
919.707.8400

Mr. Edgar Atkins
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143-215.108A and may subject the Permittee to civil or criminal penalties as described in NCGS 143-215.114A and 143-215.114B.

Northampton County has triggered increment tracking under PSD for NO_x, SO₂, PM₁₀, and PM_{2.5}. However, this permit does not consume or expand increments for any pollutants.

This Air Quality Permit shall be effective from January 31, 2025 until July 31, 2026 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 Connie Horne at (919) 707-8722 or Connie.Horne@deq.nc.gov.

Sincerely yours,



Mark J. Cuilla, EIT, CPM, Chief, Permitting Section
Division of Air Quality, NCDEQ

Enclosure

c: Brad Akers, EPA Region 4 (Permit and Review)
Laserfiche [6600167]

NOTICE REGARDING THE RIGHT TO CONTEST A DIVISION OF AIR QUALITY PERMIT DECISION

Right of the Permit Applicant or Permittee to File a Contested Case: Pursuant to NCGS 143-215.108(e), a permit applicant or permittee who is dissatisfied with the Division of Air Quality's decision on a permit application may commence a contested case by filing a petition under NCGS 150B-23 in the Office of Administrative Hearings within 30 days after the Division notifies the applicant or permittee of its decision. If the applicant or permittee does not file a petition within the required time, the Division's decision on the application is final and is not subject to review. The filing of a petition will stay the Division's decision until resolution of the contested case.

Right of Other Persons Aggrieved to File a Contested Case: Pursuant to NCGS 143-215.108(e1), a person other than an applicant or permittee who is a person aggrieved by the Division's decision on a permit application may commence a contested case by filing a petition under NCGS 150B-23 within 30 days after the Division provides notice of its decision on a permit application, as provided in NCGS 150B-23(f), or by posting the decision on a publicly available Web site. The filing of a petition under this subsection does not stay the Division's decision except as ordered by the administrative law judge under NCGS 150B-33(b).

General Filing Instructions: A petition for contested case hearing must be in the form of a written petition, conforming to NCGS 150B-23, and filed with the Office of Administrative Hearings, 1711 New Hope Church Road, Raleigh NC 27609, along with a fee in an amount provided in NCGS 150B-23.2. A petition for contested case hearing form may be obtained upon request from the Office of Administrative Hearings or on its website at <https://www.oah.nc.gov/hearings-division/filing/hearing-forms>. Additional specific instructions for filing a petition are set forth at 26 NCAC Chapter 03.

Service Instructions: A party filing a contested case is required to serve a copy of the petition, by any means authorized under 26 NCAC 03 .0102, on the process agent for the Department of Environmental Quality:

William F. Lane, General Counsel
North Carolina Department of Environmental Quality
1601 Mail Service Center
Raleigh, North Carolina 27699-1601

If the party filing the petition is a person aggrieved other than the permittee or permit applicant, the party **must also** serve the permittee in accordance with NCGS 150B-23(a).

* * *

Additional information is available at <https://www.oah.nc.gov/hearings-division/hearing-process/filing-contested-case>. Please contact the OAH at 984-236-1850 or oah.postmaster@oah.nc.gov with all questions regarding the filing fee and/or the details of the filing process.

Summary of Changes to Permit

The following changes were made to Air Permit No. 10203T12:*

Page(s)	Section	Description of Change(s)
Cover letter	---	Modified to reflect current permit number, issue and effective dates. Changed facility name from Enviva Pellets, LLC – Northampton Plant to Enviva Northampton.
All	Headers	Amended permit revision number.
Pages 1-48	Entire permit, where applicable	Modified to reflect current permit number, issue and effective dates, and associated ownership change/name change information.
Pages 39-46	Section 4	Updated General Conditions from version 7.0 (08/21/2023) to version 8.0 (07/10/24).

*This list is not intended to be a detailed record of every change made to the permit but a summary of those changes.



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
10203T13	10203T12	January 31, 2025	July 31, 2026

NOTE: Per General Condition K, a permit application for the renewal of this Title V permit shall be submitted no later than January 31, 2026.

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 02D and 02Q, and other applicable Laws.

Pursuant to Title 15A NCAC, Subchapter 02Q, 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 Northampton**
Facility ID: **6600167**
SIC Code: **2499 / Wood Products, Nec**
NAICS Code: **321999 / All Other Miscellaneous Wood Product Manufacturing**

Facility Site Location: **309 Enviva Boulevard**
City, County, State, Zip: **Garysburg, Northampton County, NC 27831**
Mailing Address: **309 Enviva Boulevard**
City, State, Zip: **Garysburg, NC 27831**

Application Number: **6600167.25A**
Complete Application Date: **January 8, 2025**

Division of Air Quality,
Regional Office Address: **Raleigh Regional Office**
3800 Barrett Drive
Raleigh, NC 27609

Permit issued this the 31st day of January 2025.

Mark J. Cuilla, EIT, CPM, Chief, Air Permitting Section
By Authority of the Environmental Management Commission

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List of Acronyms

AOS	Alternative Operating Scenario
BACT	Best Available Control Technology
BAE	Baseline Actual Emissions
Btu	British thermal unit
CAA	Clean Air Act
CAM	Compliance Assurance Monitoring
CEMS	Continuous Emission Monitoring System
CEDRI	Compliance and Emissions Data Reporting Interface
CFR	Code of Federal Regulations
CO	Carbon Monoxide
COMS	Continuous Opacity Monitoring System
CSAPR	Cross-State Air Pollution Rule
DAQ	Division of Air Quality
DEQ	Department of Environmental Quality
EMC	Environmental Management Commission
EPA	Environmental Protection Agency
FR	Federal Register
GACT	Generally Available Control Technology
GHGs	Greenhouse Gases
HAP	Hazardous Air Pollutant
LAER	Lowest Achievable Emission Rate
MACT	Maximum Achievable Control Technology
NAA	Non-Attainment Area
NAAQS	National Ambient Air Quality Standards
NAICS	North American Industry Classification System
NCAC	North Carolina Administrative Code
NCGS	North Carolina General Statutes
NESHAP	National Emission Standards for Hazardous Air Pollutants
NO_x	Nitrogen Oxides
NSPS	New Source Performance Standard
NSR	New Source Review
OAH	Office of Administrative Hearings
PAE	Projected Actual Emissions
PAL	Plantwide Applicability Limitation
PM	Particulate Matter
PM_{2.5}	Particulate Matter with Nominal Aerodynamic Diameter of 2.5 Micrometers or Less
PM₁₀	Particulate Matter with Nominal Aerodynamic Diameter of 10 Micrometers or Less
POS	Primary Operating Scenario
PSD	Prevention of Significant Deterioration
PTE	Potential to Emit
RACT	Reasonably Available Control Technology
SIC	Standard Industrial Classification
SIP	State Implementation Plan
SO₂	Sulfur Dioxide
TAP	Toxic Air Pollutant
tpy	Tons Per Year
VOC	Volatile Organic Compound

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-GWHS	Green wood handling and storage	NA	NA
ES-GHM-1 through ES-GHM-5	Five green hammermills	CD-WESP-1	One wet electrostatic precipitator (29,904 square feet of total collection plate area) in series with
		CD-RTO-1	One propane or natural gas-fired regenerative thermal oxidizer (24.8 million Btu per hour)
		OR	OR
		CD-WESP-2	One wet electrostatic precipitator (29,904 square feet of total collection plate area) in series with
		CD-RTO-2	One propane or natural gas-fired regenerative thermal oxidizer (24.8 million Btu per hour)
ES-DRYER-1	Direct heat, wood-fired dryer (175.3 million Btu per hour heat input, 71.71 ODT/hr) with integral cyclone	CD-WESP-1	One wet electrostatic precipitator (29,904 square feet of total collection plate area) in series with
		CD-RTO-1	One propane or natural gas-fired regenerative thermal oxidizer (24.8 million Btu per hour)
ES-FURNACEBYP-1	Furnace 1 bypass, diesel startup	NA	NA
ES-DRYER-2	Direct heat, wood-fired dryer (180 million Btu per hour heat input, 82.1 ODT/hr) with integral cyclone	CD-WESP-2	One wet electrostatic precipitator (29,904 square feet of total collection plate area) in series with
		CD-RTO-2	One propane or natural gas-fired regenerative thermal oxidizer (24.8 million Btu per hour)
ES-FURNACEBYP-2	Furnace 2 bypass, diesel startup	NA	NA
ES-DWH-1	Dried wood handling	CD-DWH-BV	Passive bin vent filter
ES-DWH-2	Dried wood handling	CD-DWH-BF-2	Bagfilter (TBD square feet of filter area)

Emission Source ID No.	Emission Source Description	Control Device ID No.	Control Device Description
ES-HM-1 through ES-HM-8	Eight dry hammermills with integral cyclones	CD-HM-BF-1 through CD-HM-BF-3 ¹ CD-WESP-1 CD-RTO-1 OR CD-HM-BF-1 through CD-HM-BF-3 ¹ ES-DRYER-1 CD-WESP-1 CD-RTO-1	Three bagfilters (6,250 square feet of filter area each) in series with One wet electrostatic precipitator (29,904 square feet of total collection plate area) in series with One propane or natural gas-fired regenerative thermal oxidizer (24.8 million Btu per hour) OR Three bagfilters (6,250 square feet of filter area each) in series with Direct heat, wood-fired dryer (175.3 million Btu per hour heat input) in series with One wet electrostatic precipitator (29,904 square feet of total collection plate area) in series with One propane or natural gas-fired regenerative thermal oxidizer (24.8 million Btu per hour)
ES-DLC-1	Dry line feed conveyor	NA	NA
ES-DSR	Dry shavings reception	CD-DSR-BF	One bagfilter (301 square feet of filter area)
ES-DSS	Dry shavings silo	CD-DSS-BF	One bagfilter (88 square feet of filter area)

Emission Source ID No.	Emission Source Description	Control Device ID No.	Control Device Description
ES-DSHM-1 and ES-DSHM-2	Dry shavings hammermill 1 and 2	CD-HM-BF-3 ¹ CD-WESP-1 and CD-RTO-1 OR CD-HM-BF-3 ¹ ES-DRYER-1 CD-WESP-1 CD-RTO-1	One bagfilter (6,250 square feet of filter area) in series with One wet electrostatic precipitator (29,904 square feet of total collection plate area) in series with One propane or natural gas-fired regenerative thermal oxidizer (24.8 million Btu per hour) OR One bagfilter (6,250 square feet of filter area) in series with Direct heat, wood-fired dryer (175.3 million Btu per hour heat input) in series with One wet electrostatic precipitator (29,904 square feet of total collection plate area) in series with One propane or natural gas-fired regenerative thermal oxidizer (24.8 million Btu per hour)
ES-PMFS	Pellet feed mill silo	CD-PMFS-BV	One bin vent filter (377 square feet of filter area)
ES-CLR-1 through ES-CLR-6	Pellet coolers	CD-CLR-1 through CD-CLR-6 CD-RCO-2*	Six high efficiency cyclones (54 inches in diameter each) in series with One propane or natural gas-fired regenerative catalytic oxidizer (12.4 million Btu per hour heat input) that can operate as a regenerative thermal oxidizer
ES-PCHP	Pellet cooler fines relay system	CD-PCHP-BF	One bagfilter (780 square feet of filter area)
ES-FPH	Finished product handling	CD-FPH-BF	One bagfilter (4,842 square feet of filter area)
ES-PB-1 through ES-PB-12	Twelve (12) pellet load-out bins		
ES-PL-1 ES-PL-2	Pellet mill load-out 1 and 2		

¹All air flow from the dry hammermills is controlled by bagfilters (ID Nos. CD-HM-BF-1 through CD-HM-BF-3), the WESP1 (ID No. CD-WESP-1), and the RTO1 (ID No. CD- RTO-1). All air flow from the dry shavings hammermills is controlled by bagfilter (ID Nos. CD-HM-BF-3), the WESP1 (ID No. CD-WESP-1), and the RTO-1 (ID No. CD- RTO-1). Under normal operations, all air flow from the bagfilters on the dry hammermills and dry shavings hammermills is ducted to the dryer furnace prior to treatment by the WESP-1 and the RTO-1. In the event of reduced furnace/dryer operation, a portion of the air flow from the bagfilters on the dry hammermills and from the bagfilter on dry shavings hammermills is ducted directly to the WESP-1 for treatment by the WESP-1 in series with the RTO-1. In the event of the shutdown of the furnace/dryer system, all air flow from the bagfilters on the dry hammermills and dry shavings hammermills is ducted directly to the WESP-1 and RTO-1.

*Pursuant to application 6600167.23B, these control device (**ID Nos. CD-RCO-2**) is listed as a minor modification per 15A NCAC 02Q .0515. The annual compliance certification as described in General Condition P is required. Unless otherwise notified by DAQ, the affected terms of this permit (excluding the permit shield as described General Condition R) for these control devices shall become final on May 7, 2024. Until this date, the affected permit terms herein reflect the proposed operating language that the Permittee shall operate these emission sources and control device pursuant to 15A NCAC 02Q .0515(f).

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 handling and storage (ID No. ES-GWHS);

Five (5) green hammermills (ID Nos. ES-GHM-1 through ES-GHM-5) controlled by a wet electrostatic precipitator (ID No. CD-WESP-1) and a regenerative thermal oxidizer (ID No. CD-RTO-1) or controlled by a wet electrostatic precipitator (ID No. CD-WESP-2) and a regenerative thermal oxidizer (ID No. CD-RTO-2);

Wood-fired direct heat drying system (ID No. ES-DRYER-1) with associated integral cyclone controlled by a wet electrostatic precipitator (ID No. CD-WESP-1) in series with a regenerative thermal oxidizer (ID No. CD-RTO-1);

Furnace 1 bypass (ID No. ES-FURNACEBYP-1);

Wood-fired direct heat drying system (ID No. ES-DRYER-2) with associated integral cyclone controlled by a wet electrostatic precipitator (ID No. CD-WESP-2) in series with a regenerative thermal oxidizer (ID No. CD-RTO-2);

Furnace 2 bypass (ID No. ES-FURNACEBYP-2).

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

Pollutant	Limits/Standards	Applicable Regulation
Particulate Matter (PM)	$E = 4.10 \times P^{0.67}$ 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	(ID Nos. ES-DRYER-1, ES-DRYER-2, ES-FURNACEBYP-1, FURNACEBYP-2, CD-RTO-1, and CD-RTO-2) 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
Volatile organic compounds (VOC), and Carbon monoxide (CO)	Enforceable until all of the requirements from Section 2.3 A., “Actions to be Taken by the Permittee”, have been met. Less than 456.4 tons of VOC and 250 tons of CO per consecutive 12-month period, See Section 2.2 A.1.	15A NCAC 02Q .0317 for avoidance of 15A NCAC 02D .0530
Particulate Matter (PM/PM ₁₀ /PM _{2.5}) Volatile Organic Compounds Nitrogen Oxides Carbon Monoxide	Enforceable after all of the requirements from Section 2.3 A., “Actions to be Taken by the Permittee”, have been met. Less than 250 tons per consecutive 12-month period, Less than 250 tons per consecutive 12-month period, Less than 250 tons per consecutive 12-month period, 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

Pollutant	Limits/Standards	Applicable Regulation
Hazardous Air Pollutants (HAP)	Enforceable after all of the requirements from Section 2.3 A, "Actions to be Taken by the Permittee", have been met. Less than 25 tons for combined HAPs per consecutive 12-month period. Less than 10 tons for each single HAP per consecutive 12-month period. See Section 2.2 A.3	15A NCAC 02Q .0317 for avoidance of 15A NCAC 02D .1112(g) (112(g) Case by Case MACT)
Toxic Air Pollutants	State-enforceable only Enforceable until all of the requirements from Section 2.3 A, "Actions to be Taken by the Permittee", have been met. See Section 2.2 A.4	15A NCAC 02D .1100
Toxic Air Pollutants	State-enforceable only Enforceable after all of the requirements from Section 2.3 A, "Actions to be Taken by the Permittee", have been met. See Section 2.2 A.5	15A NCAC 02D .1100
Toxic Air Pollutants	State-enforceable only See Section 2.2 A.6	15A NCAC 02Q .0711
Odor Emissions	State-enforceable only odor control See Section 2.2 A.7	15A NCAC 02D .1806

1. 15A NCAC 02D .0515: PARTICULATES FROM MISCELLANEOUS INDUSTRIAL PROCESSES

- a. Emissions of particulate matter from these sources (**ID Nos. ES-GWHS, ES-GHM-1 through ES-GHM-5, ES-DRYER-1, ES-DRYER-2, ES-FURNACEBYP-1, and FURNACEBYP-2**) shall not exceed an allowable emission rate as calculated by the following equation:

$$E = 4.10 \times P^{0.67} \quad \text{for } P < 30 \text{ tph}$$

$$E = 55 \times P^{0.11} - 40 \quad \text{for } P \geq 30 \text{ tph}$$

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 .0508(f)]

- b. If emissions testing is required, the testing shall be performed in accordance with General Condition JJ. If the results of this test are above the limit given in Section 2.1 A.1.a above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0515.
- c. Under the provisions of North Carolina General Statute 143-215.108, the Permittee shall test the outlet of the regenerative thermal oxidizers (**ID Nos. CD-RTO-1 and CD-RTO-2**) for total suspended particulate (TSP) in accordance with a testing protocol approved by the DAQ. Testing shall be completed within 180 days of commencement of operation and the results submitted within 30 days of completion of the test unless an alternate date is approved by the DAQ. Testing shall be conducted as specified in Section 2.2 A.2.d. If the results of this test are above the limit given in Section 2.1 A.1.a above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0515.

Notification [15A NCAC 02Q .0508(f)]

- d. A notification of the actual date of initial startup of the new sources and/or new control devices shall be postmarked within 15 days after such date.

Monitoring/Recordkeeping/Reporting [15A NCAC 02Q .0508(f)]

- e. For these sources (**ID Nos. ES-GWHS, ES-FURNACEBYP-1, and ES-FURNACEBYP-2**), the Permittee shall maintain production records such that the process rates "P" in tons per hour, as specified by the formulas contained above can be derived and shall make these records available to a DAQ authorized representative upon request. The

Permittee shall be deemed in noncompliance with 15A NCAC 02D .0515 if the production records are not maintained.

- f. No reporting is required for particulate emissions from these sources (**ID Nos. ES-GWHS, ES-FURNACEBYP-1, and ES-FURNACEBYP-2**).

Monitoring [15A NCAC 02Q .0508(f)]

For wet electrostatic precipitators, and regenerative thermal oxidizers:

- g. Particulate matter emissions shall be controlled as follows:
- i. Particulate matter emissions from the green hammermills (**ID Nos. ES-GHM-1, through ES-GHM-5**) shall be controlled by a wet electrostatic precipitator (**ID No. CD-WESP-1**) in series with a regenerative thermal oxidizer (**ID No. CD-RTO-1**) or controlled by a wet electrostatic precipitator (**ID No. CD-WESP-2**) in series with a regenerative thermal oxidizer (**ID No. CD-RTO-2**)
 - ii. Particulate matter emissions from the wood-fired direct heat drying system (**ID No. ES-DRYER-1**) shall be controlled by a wet electrostatic precipitator (**ID No. CD-WESP-1**) in series with a regenerative thermal oxidizer (**ID No. CD-RTO-1**);
 - iii. Particulate matter emissions from the wood-fired direct heat drying system (**ID No. ES-DRYER-2**) shall be controlled by a wet electrostatic precipitator (**ID No. CD-WESP-2**) in series with a regenerative thermal oxidizer (**ID No. CD-RTO-2**);
- h. To ensure compliance and effective operation of the wet electrostatic precipitators (**ID No. CD-WESP-1 and CD-WESP-2**), the Permittee shall:
- i. operate the wet electrostatic precipitator with at least the minimum number of grids operating during compliance testing specified in Section 2.2 A.2;
 - ii. maintain the minimum secondary voltage and minimum current or the daily average total power input at or above the level established during compliance testing specified in Section 2.2 A.2;
 - iii. monitor and record the secondary voltage and secondary current, or the total power input for each grid of the precipitator daily. The daily observation must be made for each day of the calendar year period. The Permittee shall be allowed three (3) days of absent observations per semiannual period.
 - iv. 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. Until parametric operating values have been established, the permittee shall operate the control device in accordance with the manufacturer's recommended values.
- i. To ensure compliance, the Permittee shall perform inspections and maintenance on the wet electrostatic precipitators (**ID Nos. CD-WESP-1 and CD-WESP-2**), and the regenerative thermal oxidizers (**ID Nos. CD-RTO-1 and CD-RTO-2**) 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 units for leaks;
 - ii. an annual (for each 12-month period following the initial inspection) internal inspection of the heat transfer medium and associated inlet/outlet valves on the regenerative thermal oxidizers (**ID No. CD-RTO-1 and CD-RTO-2**); and
 - iii. an annual (for each 12-month period following the initial inspection) internal inspection of the wet electrostatic precipitators (**ID No. CD-WESP-1 and CD-WESP-2**). This inspection must include (but is not limited to) the following:
 - (A) visual checks of critical components,
 - (B) checks for any equipment that does not alarm when de-energized, to ensure it is operational,
 - (C) checks for signs of plugging in the hopper and gas distribution equipment, and replacement of broken equipment as required.

The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0515 if the wet electrostatic precipitators (**ID Nos. CD-WESP-1 and CD-WESP-2**), and the regenerative thermal oxidizers (**ID Nos. CD-RTO-1 and CD-RTO-2**) are not inspected and maintained.

Recordkeeping [15A NCAC 02Q .0508(f)]

- j. The results of inspection and maintenance shall be maintained in a logbook (written or electronic format) on-site for five years and made available to an authorized representative upon request. The logbook 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 on any control devices; and
 - iv. any variance from manufacturer's recommendations, if any, and corrections made.The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0515 if these records are not maintained.

Reporting [15A NCAC 02Q .0508(f)]

- k. The Permittee shall submit the results of any maintenance performed on any control device within 30 days of a written request by the DAQ.
- l. The Permittee shall submit a summary report of the monitoring and recordkeeping activities given in Sections 2.1 A.1.d and Sections 2.1 A.1. g through j above 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. All instances of deviations from the requirements of this permit must be clearly identified.

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

- a. Emissions of sulfur dioxide from these sources (**ID Nos. ES-DRYER-1, ES-DRYER-2, ES-FURNACEBYP-1, FURNACEBYP-2, CD-RTO-1, and CD-RTO-2**) 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.

Testing [15A NCAC 02Q .0508(f)]

- b. If emissions testing is required, the testing shall be performed in accordance with General Condition JJ. If the results of this test are above the limit given in Section 2.1 A.2.a above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0516.

Monitoring/Recordkeeping/Reporting [15A NCAC 02Q .0508(f)]

- c. No monitoring/recordkeeping/reporting is required for sulfur dioxide emissions from the firing of biomass in the wood-fired direct heat drying systems (**ID Nos. ES-DRYER-1 and ES-DRYER-2**), propane or natural gas for regenerative thermal oxidizers (**ID No. CD-RTO-1 and CD-RTO-2**), and diesel fuel in the furnace (**ID No. ES-FURNACEBYP-1 and ES-FURNACEBYP-2**).

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

- a. Visible emissions from these sources (**ID Nos. ES-GWHS, ES-GHM-1 through ES-GHM-5, ES-DRYER-1, ES-DRYER-2, ES-FURNACEBYP-1, and ES-FURNACEBYP-2**) 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.

Testing [15A NCAC 02Q .0508(f)]

- b. If emissions testing is required, the testing shall be performed in accordance with General Condition JJ. If the results of this test are above the limit given in Section 2.1 A.3.a above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0521.

Monitoring [15A NCAC 02Q .0508(f)]

- c. To ensure compliance, once a week the Permittee shall observe the emission points of these sources (**ID Nos. ES-GWHS, ES-GHM-1 through ES-GHM-5, ES-DRYER-1, and ES-DRYER-2**), for any visible emissions above normal. The weekly observation must be made for each week of the calendar year period to ensure compliance with this requirement. For all new emission sources or control devices listed in the above table, the Permittee shall establish "normal" in the first 30 days following the commencement of operation. If visible emissions from these sources 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 weekly 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 02D .2610 (Method 9) for 12 minutes is below the limit given in Section 2.1 A.3.a above.

The Permittee shall be deemed to be in noncompliance with 15A NCAC 02D .0521 if the required weekly observations are not conducted as required; if the above-normal emissions are not corrected within the monitoring period or the percent opacity demonstration cannot be made; or if “normal” is not established for these sources in the first 30 days following the effective date of this permit/of beginning operation.

Monitoring [15A NCAC 02Q .0508(f)]

- d. To ensure compliance and during idle mode operation, the Permittee shall observe the emission points of these sources (**ID Nos. ES-FURNACEBYP-1, and ES-FURNACEBYP-2**) for any visible emissions above normal. The idle mode observation must be made for each furnace idle mode of the calendar year period to ensure compliance with this requirement. If visible emissions from these sources 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 furnace idle mode 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 02D .2610 (Method 9) for 12 minutes is below the limit given in Section 2.1 A.3.a above.The Permittee shall be deemed to be in noncompliance with 15A NCAC 02D .0521 if the required observations are not conducted as required; if the above-normal emissions are not corrected within the monitoring period or the percent opacity demonstration cannot be made; or if “normal” is not established for these sources in the first idle bypass mode following the effective date of this permit or beginning of operation.

Recordkeeping [15A NCAC 02Q .0508(f)]

- e. The results of the monitoring shall be maintained in a logbook (written or electronic format) on-site for five years and made available to an authorized representative upon request. The logbook 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.The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0521 if these records are not maintained.

Reporting [15A NCAC 02Q .0508(f)]

- f. The Permittee shall submit a summary report of the monitoring and recordkeeping activities given in Sections 2.1 A.3.c and d above 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. All instances of deviations from the requirements of this permit must be clearly identified.

- B. Dried wood handling (ID No. ES-DWH-1) with associated bin vent filter (ID No. CD-DWH-BV);
Dried wood handling (ID No. ES-DWH-2) with associated bagfilter (ID No. CD-DWH-BF-2);**

Eight (8) dry hammermills (ID Nos. ES-HM-1 through ES-HM-8) with associated integral cyclones in series with three (3) bagfilters (ID Nos. CD-HM-BF-1 through CD-HM-BF-3) in series with a wet electrostatic precipitator (ID No. CD-WESP-1) in series with a regenerative thermal oxidizer (ID No. CD-RTO-1)

OR

Eight (8) dry hammermills (ID Nos. ES-HM-1 through ES-HM-8) with associated integral cyclones in series with three (3) bagfilters (ID Nos. CD-HM-BF-1 through CD-HM-BF-3) in series with a wood-fired direct heat drying system furnace (ID No. ES-DRYER-1) in series with a wet electrostatic precipitator (ID No. CD-WESP-1) in series with a regenerative thermal oxidizer (ID No. CD-RTO-1);

Dry line feed conveyor (ID No. ES-DLC-1).

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

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
Visible emissions	20 percent opacity when averaged over a 6-minute period	15A NCAC 02D .0521
Volatile organic compounds (VOC), and Carbon monoxide (CO)	Enforceable until all of the requirements from Section 2.3 A., "Actions to be Taken by the Permittee", have been met. Less than 456.4 tons of VOC and 250 tons of CO per consecutive 12-month period. See Section 2.2 A.1.	15A NCAC 02Q .0317 for avoidance of 15A NCAC 02D .0530
Particulate Matter (PM/PM ₁₀ /PM _{2.5}) Volatile Organic Compounds Nitrogen Oxides Carbon Monoxide	Enforceable after all of the requirements from Section 2.3 A., "Actions to be Taken by the Permittee", have been met. Less than 250 tons per consecutive 12-month period, Less than 250 tons per consecutive 12-month period, Less than 250 tons per consecutive 12-month period, 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
Hazardous Air Pollutants (HAP)	Enforceable after all of the requirements from Section 2.3 A., "Actions to be Taken by the Permittee", have been met. Less than 25 tons for combined HAPs per consecutive 12-month period. Less than 10 tons for each single HAP per consecutive 12-month period. See Section 2.2 A.3.	15A NCAC 02Q .0317 for avoidance of 15A NCAC 02D .1112(g) (112(g) Case by Case MACT)
Toxic air pollutants	State-enforceable only Enforceable until all of the requirements from Section 2.3 A., "Actions to be Taken by the Permittee", have been met. See Section 2.2 A.4.	15A NCAC 02D .1100
Toxic air pollutants	State-enforceable only Enforceable after all of the requirements from Section 2.3 A., "Actions to be Taken by the Permittee", have been met. See Section 2.2 A.5.	15A NCAC 02D .1100
Toxic air pollutants	State-enforceable only See Section 2.2 A.6.	15A NCAC 02Q .0711

Pollutant	Limits/Standards	Applicable Regulation
Odor Emissions	State-enforceable only odor control See Section 2.2 A.7	15A NCAC 02D .1806

1. 15A NCAC 02D .0515: PARTICULATES FROM MISCELLANEOUS INDUSTRIAL PROCESSES

- a. Emissions of particulate matter from these sources (**ID Nos. ES-DWH-1, ES-DWH-2, ES-HM-1 through ES-HM-8, and ES-DLC-1**) shall not exceed an allowable emission rate as calculated by the following equation:

$$E = 4.10 \times P^{0.67} \quad \text{for } P < 30 \text{ tph}$$

$$E = 55 \times P^{0.11} - 40 \quad \text{for } P \geq 30 \text{ tph}$$

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.

- b. If emissions testing is required, the testing shall be performed in accordance with General Condition JJ. If the results of this test are above the limit given in Section 2.1 B.1.a above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0515.

Notification [15A NCAC 02Q .0508(f)]

- c. A notification of the actual date of initial startup of the new sources and/or new control devices shall be postmarked within 15 days after such date.

Monitoring/Recordkeeping/Reporting [15A NCAC 02Q .0508(f)]

- d. For these sources (**ID Nos. ES-DLC-1**), the Permittee shall maintain production records such that the process rates "P" in tons per hour, as specified by the formulas contained above can be derived and shall make these records available to a DAQ authorized representative upon request. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0515 if the production records are not maintained.
- e. No reporting is required for particulate emissions from these sources (**ID No. ES-DLC-1**).

Monitoring [15A NCAC 02Q .0508(f)]

- f. Particulate matter emissions shall be controlled as follows:
- Particulate matter emissions from the dried wood handling operations (**ID Nos. ES-DWH-1 and ES-DWH-2**) shall be controlled by a bin vent filter and bagfilter (**ID Nos. CD-DWH-BV and CD-DWH-BF-2**);
 - Particulate matter emissions from the eight (8) dry hammermills (**ID Nos. ES-HM-1 through ES-HM-8**) with integral cyclones shall be controlled by bagfilter (**ID Nos. CD-HM-BF-1 through CD-HM-BF-3**) in series with a wet electrostatic precipitator (**ID No. CD-WESP-1**) in series with a regenerative thermal oxidizer (**ID No. CD-RTO-1**);
OR;
Particulate matter emissions from the eight (8) dry hammermills (**ID Nos. ES-HM-1 through ES-HM-8**) with integral cyclones shall be controlled by bagfilter (**ID Nos. CD-HM-BF-1 through CD-HM-BF-3**) shall be routed to a wood-fired direct heat drying system furnace (**ID No. ES-DRYER-1**), controlled by a wet electrostatic precipitator (**ID No. CD-WESP-1**) in series with a regenerative thermal oxidizer (**ID No. CD-RTO-1**);
- g. 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:
- a monthly visual inspection of the system ductwork and material collection units for leaks; and
 - an annual (for each 12-month period following the initial inspection) internal inspection of the bagfilters' structural integrity.
 - monitor the wet electrostatic precipitator (**ID No. CD-WESP-1**) and the thermal regenerative oxidizer (**ID No. CD-RTO-1**) as specified in Section 2.1 A.1.g and h.

The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0515 if the ductwork, bin vent filters, bagfilters, wet electrostatic precipitator, and regenerative thermal oxidizer are not inspected and maintained.

Recordkeeping [15A NCAC 02Q .0508(f)]

- h. The results of inspection and maintenance shall be maintained in a logbook (written or electronic format) on-site for five years and made available to an authorized representative upon request. The logbook 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 on any control devices; and
 - iv. any variance from manufacturer's recommendations, if any, and corrections made.The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0515 if these records are not maintained.

Reporting [15A NCAC 02Q .0508(f)]

- i. The Permittee shall submit the results of any maintenance performed on any control device within 30 days of a written request by the DAQ.
- j. The Permittee shall submit a summary report of the monitoring and recordkeeping activities given in Sections 2.1 B.1.c and 2.1. B.1.f through h above 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. All instances of deviations from the requirements of this permit must be clearly identified.

2. 15A NCAC 02D .0521: CONTROL OF VISIBLE EMISSIONS

- a. Visible emissions from these sources (**ID Nos. ES-DWH-1, ES-DWH-2, ES-HM-1 through ES-HM-8, and ES-DLC-1**) 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.

Testing [15A NCAC 02Q .0508(f)]

- b. If emissions testing is required, the testing shall be performed in accordance with General Condition JJ. If the results of this test are above the limit given in Section 2.1 B.2.a above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0521.

Monitoring [15A NCAC 02Q .0508(f)]

- c. To ensure compliance, once a week the Permittee shall observe the emission points of these sources (**ID Nos. ES-DWH-1, ES-DWH-2, ES-HM-1 through ES-HM-8, and ES-DLC-1**) for any visible emissions above normal. The weekly observation must be made for each week of the calendar year period to ensure compliance with this requirement. For all new emission sources or control devices listed in the above table, the Permittee shall establish "normal" in the first 30 days following the commencement of operation. If visible emissions from these sources 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 weekly 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 02D .2610 (Method 9) for 12 minutes is below the limit given in Section 2.1 B.2.a above.The Permittee shall be deemed to be in noncompliance with 15A NCAC 02D .0521 if the required weekly observations are not conducted as required; if the above-normal emissions are not corrected within the monitoring period or the percent opacity demonstration cannot be made; or if "normal" is not established for these sources in the first 30 days following the effective date of this permit / of beginning operation.

Recordkeeping [15A NCAC 02Q .0508(f)]

- d. The results of the monitoring shall be maintained in a logbook (written or electronic format) on-site for five years and made available to an authorized representative upon request. The logbook 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.The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0521 if these records are not maintained.

Reporting [15A NCAC 02Q .0508(f)]

- e. The Permittee shall submit a summary report of the monitoring and recordkeeping activities given in Sections 2.1

B.2.c and d above 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. All instances of deviations from the requirements of this permit must be clearly identified.

C. Dry shavings reception (ID No. ES-DSR) with associated bagfilter (ID No. CD- DSR-BF);

Dry shavings silo (ID No. ES-DSS) with associated bagfilter (ID No. CD-DSS-BF);

Two dry shavings hammermills (ID Nos. ES-DSHM-1 and ES-DSHM-2) with associated bagfilter (ID No. HM-BF-3) in series with a wet electrostatic precipitator (ID No. CD-WESP-1) in series with a regenerative thermal oxidizer (ID No. CD-RTO-1)

OR

Two dry shavings hammermills (ID Nos. ES-DSHM-1 and ES-DSHM-2) with associated bagfilter (ID No. HM-BF-3) in series with a wood-fired direct heat drying system furnace (ID No. ES-DRYER-1) in series with a wet electrostatic precipitator (ID No. CD-WESP-1) in series with a regenerative thermal oxidizer (ID No. CD-RTO-1).

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

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
Visible emissions	20 percent opacity when averaged over a 6-minute period	15A NCAC 02D .0521
Volatile organic compounds (VOC), and Carbon monoxide (CO)	Enforceable until all of the requirements from Section 2.3 A., "Actions to be Taken by the Permittee", have been met. Less than 456.4 tons of VOC and 250 tons of CO per consecutive 12-month period, See Section 2.2 A.1.	15A NCAC 02Q .0317 for avoidance of 15A NCAC 02D .0530
Particulate Matter (PM/PM ₁₀ /PM _{2.5}) Volatile Organic Compounds Nitrogen Oxides Carbon Monoxide	Enforceable after all of the requirements from Section 2.3 A., "Actions to be Taken by the Permittee", have been met. Less than 250 tons per consecutive 12-month period, Less than 250 tons per consecutive 12-month period, Less than 250 tons per consecutive 12-month period, 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
Hazardous Air Pollutants (HAP)	Enforceable after all of the requirements from Section 2.3 A., "Actions to be Taken by the Permittee", have been met. Less than 25 tons for combined HAPs per consecutive 12-month period. Less than 10 tons for each single HAP per consecutive 12-month period. See Section 2.2 A.3.	15A NCAC 02Q .0317 for avoidance of 15A NCAC 02D .1112(g) (112(g) Case by Case MACT)
Toxic air pollutants	State-enforceable only Enforceable until all of the requirements from Section 2.3 A., "Actions to be Taken by the Permittee", have been met. See Section 2.2 A.4.	15A NCAC 02D .1100
Toxic air pollutants	State-enforceable only Enforceable after all of the requirements from Section 2.3 A., "Actions to be Taken by the Permittee", have been met. See Section 2.2 A.5.	15A NCAC 02D .1100
Toxic air pollutants	State-enforceable only See Section 2.2 A.6.	15A NCAC 02Q .0711
Odor Emissions	State-enforceable only odor control See Section 2.2 A.7	15A NCAC 02D .1806

1. 15A NCAC 02D .0515: PARTICULATES FROM MISCELLANEOUS INDUSTRIAL PROCESSES

- a. Emissions of particulate matter from these sources (**ID Nos. ES-DSR, ES-DSS, ES-DSHM-1, and ES-DSHM-2**) shall not exceed an allowable emission rate as calculated by the following equation:

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

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 .0508(f)]

- b. If emissions testing is required, the testing shall be performed in accordance with General Condition JJ. If the results of this test are above the limit given in Section 2.1 C.1.a above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0515.

Notification [15A NCAC 02Q .0508(f)]

- c. A notification of the actual date of initial startup of the new sources and/or new control devices shall be postmarked within 15 days after such date.

Monitoring [15A NCAC 02Q .0508(f)]

- d. Particulate matter emissions shall be controlled as follows:
- Particulate matter emissions from the dry shavings reception (**ID No. ES-DSR**) shall be controlled by a bagfilter (**ID No. CD-DSR-BF**);
 - Particulate matter emissions from the dry shavings silo (**ID No. ES-DSS**) shall be controlled by a bagfilter (**ID No. CD-DSS-BF**);
 - Particulate matter emissions from the two (2) dry shavings hammermills (**ID Nos. ES-DSHM-1 and ES-DSHM-2**) shall be controlled by a bagfilter (**ID Nos. CD-HM-BF-3**) in series with a wet electrostatic precipitator (**ID No. CD-WESP-1**), in series with a regenerative thermal oxidizer (**ID No. CD-RTO-1**);
OR;
Particulate matter emissions from the two (2) dry shavings hammermills (**ID Nos. ES-DSHM-1 and ES-DSHM-2**) shall be controlled by a bagfilter (**ID Nos. CD-HM-BF-3**), routed to a wood-fired direct heat drying system furnace (**ID No. ES-DRYER-1**), controlled by a wet electrostatic precipitator (**ID No. CD-WESP-1**), in series with a regenerative thermal oxidizer (**ID No. CD-RTO-1**);
- e. 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:
- a monthly visual inspection of the system ductwork and material collection units for leaks; and
 - an annual (for each 12-month period following the initial inspection) internal inspection of the bagfilters' structural integrity.
 - monitor the wet electrostatic precipitator (**ID No. CD-WESP-1**) and the thermal regenerative oxidizer (**ID No. CD-RTO-1**) as specified in Section 2.1 A.1.g and h.

The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0515 if the ductwork, bagfilters, wet electrostatic precipitator, and regenerative thermal oxidizer are not inspected and maintained.

Recordkeeping [15A NCAC 02Q .0508(f)]

- f. The results of inspection and maintenance shall be maintained in a logbook (written or electronic format) on-site for five years and made available to an authorized representative upon request. The logbook shall record the following:
- the date and time of each recorded action;
 - the results of each inspection;
 - the results of any maintenance performed on any control devices; and
 - any variance from manufacturer's recommendations, if any, and corrections made.

The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0515 if these records are not maintained.

Reporting [15A NCAC 02Q .0508(f)]

- g. The Permittee shall submit the results of any maintenance performed on any control device within 30 days of a written request by the DAQ.
- h. The Permittee shall submit a summary report of the monitoring and recordkeeping activities given in Sections 2.1 C.1.e and f above 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. All instances of deviations from the requirements of this permit must be clearly identified.

2. 15A NCAC 02D .0521: CONTROL OF VISIBLE EMISSIONS

- a. Visible emissions from these sources (**ID Nos. ES-DSR, ES-DSS, ES-DSHM-1, and ES-DSHM-2**) 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.

Testing [15A NCAC 02Q .0508(f)]

- b. If emissions testing is required, the testing shall be performed in accordance with General Condition JJ. If the results of this test are above the limit given in Section 2.1 C.2.a above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0521.

Monitoring [15A NCAC 02Q .0508(f)]

- c. To ensure compliance, once a week the Permittee shall observe the emission points of these sources (**ID Nos. ES-DSR, ES-DSS, ES-DSHM-1, and ES-DSHM-2**) for any visible emissions above normal. The weekly observation must be made for each week of the calendar year period to ensure compliance with this requirement. For all new emission sources or control devices listed in the above table, the Permittee shall establish "normal" in the first 30 days following the commencement of operation. If visible emissions from these sources 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 weekly 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 02D .2610 (Method 9) for 12 minutes is below the limit given in Section 2.1 C.2.a above.The Permittee shall be deemed to be in noncompliance with 15A NCAC 02D .0521 if the required weekly observations are not conducted as required; if the above-normal emissions are not corrected within the monitoring period or the percent opacity demonstration cannot be made; or if "normal" is not established for these sources in the first 30 days following the effective date of this permit / of beginning operation.

Recordkeeping [15A NCAC 02Q .0508(f)]

- d. The results of the monitoring shall be maintained in a logbook (written or electronic format) on-site for five years and made available to an authorized representative upon request. The logbook 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.The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0521 if these records are not maintained.

Reporting [15A NCAC 02Q .0508(f)]

- e. The Permittee shall submit a summary report of the monitoring and recordkeeping activities given in Sections 2.1 C.2.c and d above 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. All instances of deviations from the requirements of this permit must be clearly identified.

D. Pellet mill feed silo (ID No. ES-PMFS) with associated bin vent filter (ID No. CD-PMFS-BV);

Pellet coolers (ID Nos. ES-CLR-1 through ES-CLR-6) with associated cyclones (ID Nos. CD-CLR-1 through CD-CLR-6) in series with a regenerative catalytic oxidizer (ID No. CD-RCO-2) that can also operate as a regenerative thermal oxidizer;

Pellet cooler high pressure fines relay system (ID No. ES-PCHP) with associated bagfilter (ID No. CD-PCHP-BF);

Finished product handling (ID No. ES-FPH), pellet load-out bins (ID Nos. ES-PB-1 through ES-PB-12), and pellet load-outs (ID Nos. ES-PL-1 and ES-PL-2) with associated bagfilter (ID No. CD-FPH-BF).

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

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	CD-RCO-2 only. 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
Volatile organic compounds (VOC), and Carbon monoxide (CO)	Enforceable until all of the requirements from Section 2.3 A., "Actions to be Taken by the Permittee", have been met. Less than 456.4 tons of VOC and 250 tons of CO per consecutive 12-month period, See Section 2.2 A.1.	15A NCAC 02Q .0317 for avoidance of 15A NCAC 02D .0530
Particulate Matter (PM/PM ₁₀ /PM _{2.5}) Volatile Organic Compounds Nitrogen Oxides Carbon Monoxide	Enforceable after all of the requirements from Section 2.3 A., "Actions to be Taken by the Permittee", have been met. Less than 250 tons per consecutive 12-month period, Less than 250 tons per consecutive 12-month period, Less than 250 tons per consecutive 12-month period, 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
Hazardous Air Pollutants (HAP)	Enforceable after all of the requirements from Section 2.3 A., "Actions to be Taken by the Permittee", have been met. Less than 25 tons for combined HAPs per consecutive 12-month period. Less than 10 tons for each single HAP per consecutive 12-month period. See Section 2.2 A.3.	15A NCAC 02Q .0317 for avoidance of 15A NCAC 02D .1112(g) (112(g) Case by Case MACT)
Toxic air pollutants	State-enforceable only Enforceable until all of the requirements from Section 2.3 A., "Actions to be Taken by the Permittee", have been met. See Section 2.2 A.4.	15A NCAC 02D .1100
Toxic air pollutants	State-enforceable only Enforceable after all of the requirements from Section 2.3 A., "Actions to be Taken by the Permittee", have been met.	15A NCAC 02D .1100

Pollutant	Limits/Standards	Applicable Regulation
	See Section 2.2 A.5.	
Toxic air pollutants	State-enforceable only See Section 2.2 A.6.	15A NCAC 02Q .0711
Odor Emissions	State-enforceable only odor control See Section 2.2 A.7	15A NCAC 02D .1806

1. 15A NCAC 02D .0515: PARTICULATES FROM MISCELLANEOUS INDUSTRIAL PROCESSES

- a. Emissions of particulate matter from these sources (**ID No. ES-PMFS, ES-CLR-1 through ES-CLR-6, ES-PCHP, ES-FPH, ES-PB-1 through ES-PB-12, ES-PL-1, and ES-PL-2**) shall not exceed an allowable emission rate as calculated by the following equation:

$$E = 4.10 \times P^{0.67} \quad \text{for } P < 30 \text{ tph}$$

$$E = 55 \times P^{0.11} - 40 \quad \text{for } P \geq 30 \text{ tph}$$

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 .0508(f)]

- b. If emissions testing is required, the testing shall be performed in accordance with General Condition JJ. Under the provisions of North Carolina General Statute 143-215.108, the Permittee shall test the outlet of the regenerative thermal oxidizers (**ID Nos. CD-RCO-2**) for total suspended particulate (TSP) in accordance with a testing protocol approved by the DAQ. Testing shall be completed within 180 days of commencement of operation and the results submitted within 30 days of completion of the test unless an alternate date is approved by the DAQ. Testing shall be conducted as specified in Section 2.2 A.2.d. If the results of this test are above the limit given in Section 2.1 D.1.a above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0515.

Notification [15A NCAC 02Q .0508(f)]

- c. A notification of the actual date of initial startup of the new sources and/or new control devices shall be postmarked within 15 days after such date.

Monitoring [15A NCAC 02Q .0508(f)]

- d. Particulate matter emissions shall be controlled as follows:
- Particulate matter emissions from the pellet mill feed silo (**ID No. ES-PMFS**) shall be controlled by bin vent (**ID No. CD-PMFS-BV**);
 - Particulate matter emissions from the pellet coolers (**ID Nos. ES-CLR-1 through CLR-6**) shall be controlled by cyclones (**ID Nos. CD-CLR-1 through CD-CLR-6**) in series with a regenerative catalytic/thermal oxidizer (**ID No. CD-RCO-2**);
 - 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-BF**);
 - Particulate matter emissions from finished product handling (**ID No. ES-FPH**), pellet load-out bins (**ID Nos. ES-PB-1 through PB-12**), and pellet load-out (**ID No. ES-PL-1 and PL-2**) shall be controlled by a bagfilter (**ID No. CD-FPH-BF**).
- e. 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:
- a monthly visual inspection of the system ductwork and material collection units for leaks; and
 - an annual (for each 12-month period following the initial inspection) internal inspection of the cyclones, bagfilters, and regenerative catalytic/ thermal oxidizers' structural integrity; and
 - an annual (for each 12-month period following the initial inspection) internal inspection of the heat transfer medium and associated inlet/outlet valves on the regenerative catalytic/ thermal oxidizer.

The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0515 if the ductwork, cyclones, bagfilters and regenerative catalytic/ thermal oxidizer are not inspected and maintained.

- f. 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. Until parametric operating values have been established, the permittee shall operate the control device in accordance with the manufacturer's recommended values.

Recordkeeping [15A NCAC 02Q .0508(f)]

- g. The results of inspection and maintenance shall be maintained in a logbook (written or electronic format) on-site for five years and made available to an authorized representative upon request. The logbook 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 on any control devices; and
 - iv. any variance from manufacturer's recommendations, if any, and corrections made.The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0515 if these records are not maintained.

Reporting [15A NCAC 02Q .0508(f)]

- h. The Permittee shall submit the results of any maintenance performed on any control device within 30 days of a written request by the DAQ.
- i. The Permittee shall submit a summary report of the monitoring and recordkeeping activities given in Sections 2.1 D.1.e and g above 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. All instances of deviations from the requirements of this permit must be clearly identified.

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

- a. Emissions of sulfur dioxide from these sources (**ID Nos. CD-RCO-2**) 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.

Testing [15A NCAC 02Q .0508(f)]

- b. If emissions testing is required, the testing shall be performed in accordance with General Condition JJ. If the results of this test are above the limit given in Section 2.1 D.2.a. above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0516.

Monitoring/Recordkeeping/Reporting [15A NCAC 02Q .0508(f)]

- c. No monitoring/recordkeeping/reporting is required for sulfur dioxide emissions from the firing of propane or natural gas in the regenerative catalytic/thermal oxidizer (**ID No. CD-RCO-2**).

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

- a. Visible emissions from these sources (**ID No. ES-PMFS, ES-CLR-1 through ES-CLR-6, ES-PCHP, ES-FPH, ES-PB-1 through ES-PB-12, ES-PL-1, and ES-PL-2**) 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.

Testing [15A NCAC 02Q .0508(f)]

- b. If emissions testing is required, the testing shall be performed in accordance with General Condition JJ. If the results of this test are above the limit given in Section 2.1 D.2.a above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0521.

Monitoring [15A NCAC 02Q .0508(f)]

- c. To ensure compliance, once a week the Permittee shall observe the emission points of these sources (**ID No. ES-PMFS, ES-CLR-1 through ES-CLR-6, ES-PCHP, ES-FPH, ES-PB-1 through ES-PB-12, ES-PL-1, and ES-PL-2**) for any visible emissions above normal. The weekly observation must be made for each week of the calendar year period to ensure compliance with this requirement. For all new emission sources or control devices listed in the

above table, the Permittee shall establish "normal" in the first 30 days following the commencement of operation. If visible emissions from these sources 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 weekly 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 02D .2610 (Method 9) for 12 minutes is below the limit given in Section 2.1 D.2.a above.

The Permittee shall be deemed to be in noncompliance with 15A NCAC 02D .0521 if the required weekly observations are not conducted as required; if the above-normal emissions are not corrected within the monitoring period or the percent opacity demonstration cannot be made; or if "normal" is not established for these sources in the first 30 days following the effective date of this permit / of beginning operation.

Recordkeeping [15A NCAC 02Q .0508(f)]

- d. The results of the monitoring shall be maintained in a logbook (written or electronic format) on-site for five years and made available to an authorized representative upon request. The logbook 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.

The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0521 if these records are not maintained.

Reporting [15A NCAC 02Q .0508(f)]

- e. The Permittee shall submit a summary report of the monitoring and recordkeeping activities given in Sections 2.1 D.2.c and d above 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. All instances of deviations from the requirements of this permit must be clearly identified.

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) described above:

Pollutant	Limits/Standards	Applicable Regulation
Volatile Organic Compounds Carbon Monoxide	Enforceable until all of the requirements from Section 2.3 A., “Actions to be Taken by the Permittee”, have been met. Less than 456.4 tons per 12-month period, Less than 250 tons per 12-month period See Section 2.2 A.1	15A NCAC 02Q .0317 for avoidance of 15A NCAC 02D .0530
Particulate Matter (PM/PM ₁₀ /PM _{2.5}) Volatile Organic Compounds Nitrogen Oxides Carbon Monoxide	Enforceable after all of the requirements from Section 2.3 A., “Actions to be Taken by the Permittee”, have been met. Less than 250 tons per 12-month period, Less than 250 tons per 12-month period, Less than 250 tons per 12-month period, Less than 250 tons per 12-month period. See Section 2.2 A.2	15A NCAC 02Q .0317 for avoidance of 15A NCAC 02D .0530
Hazardous Air Pollutants (HAP)	Enforceable after all of the requirements from Section 2.3 A., “Actions to be Taken by the Permittee”, have been met. Less than 25 tons for combined HAPs per consecutive 12-month period. Less than 10 tons for each single HAP per consecutive 12-month period. See Section 2.2 A.3	15A NCAC 02Q .0317 for avoidance of 15A NCAC 02D .1112(g) (112(g) Case by Case MACT)
Toxic Air Pollutants	State-enforceable only Enforceable until all of the requirements from Section 2.3 A., “Actions to be Taken by the Permittee”, have been met. Less than modeled emission rates. Section 2.2 A.4	15A NCAC 02D .1100
Toxic Air Pollutants	State-enforceable only Enforceable after all of the requirements from Section 2.3 A., “Actions to be Taken by the Permittee”, have been met. Less than modeled emission rates. Section 2.2 A.5	15A NCAC 02D .1100
Toxic Air Pollutants	State-enforceable only Less than toxic permitted emission rates See Section 2.2 A.6	15A NCAC 02Q .0711
Odor Emissions	State-enforceable only odor control See Section 2.2 A.7	15A NCAC 02D .1806

1. 15A NCAC 02Q .0317: AVOIDANCE CONDITIONS for 15A NCAC 02D .0530: PREVENTION OF SIGNIFICANT DETERIORATION

- a. The following conditions in this section are enforceable until all of the requirements from Section 2.3 A., “Actions to be Taken by the Permittee”, have been met. Until such time as this condition (Section 2.2 A.1) is no longer applicable, the facility remains classified as PSD major.
- b. In order to avoid applicability of 15A NCAC 02D .0530(g), facility-wide emission sources shall discharge into the atmosphere less than 456.4 tons of volatile organic compounds (VOC) and 250 tons of carbon monoxide (CO) per consecutive 12-month period. To ensure compliance with the above limitations, the Permittee shall:
 - i. not process more than 537,625 oven-dried tons (ODT) of wood per year with an average maximum of 30% softwood from the wood-fired dryer system (**ID No. ES-DRYER-1**); and
 - ii. not process more than 531,441 ODT of wood per year with an average maximum of 30% softwood from the dry

- hammermill system (**ID No. ES-HM-1 through ES-HM-8**); and
- iii. not process more than 625,225 ODT of pellets per year with an average maximum of 30% softwood from the pellet cooler system (**ID No. ES-CLR-1 through ES-CLR-6**).

Monitoring and Recordkeeping [15A NCAC 02Q .0508(f)]

- c. The Permittee shall demonstrate compliance with the facility-wide VOC and CO emission limitations by calculating the rolling 12-month annual facility-wide VOC and CO emissions on a monthly basis (by the 30th day following the end of each calendar month) as follows. The VOC and CO emissions shall be calculated in a manner consistent with the calculation methodologies in the air permit supporting this limitation. Emission factors used in the calculations for each source shall be appropriate for the annual average softwood content that has been processed in the previous 12-month period. All emission factors used shall be reviewed and approved by DAQ.
- i. The process rates and percent softwood from the dryer, dry hammermill, and pellet cooler systems shall be recorded monthly in a logbook (written or electronic format) kept on-site and made available to an authorized representative upon request.
- ii. Calculations of CO emissions from the dryer system (**ID No. ES-DRYER-1**) shall be made at the end of each month. CO emissions shall be determined by multiplying the approved CO emission factor (0.23 lb/ODT) by the process rate.
- iii. Calculations and the facility-wide VOC and dryer CO emissions shall be recorded monthly in a logbook (written or electronic format).

The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0530 if the monitoring and recordkeeping are not kept or if the facility exceeds the limits in Section 2.2 A.1.a and b above.

Reporting Requirements [15A NCAC 02Q .0508(f)]

- d. The Permittee shall submit the results of any maintenance performed on the wet electrostatic precipitator, cyclones, and/or baghouses within 30 days of a written request by the DAQ.
- e. The Permittee shall submit a semiannual 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 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. The monthly ODT of pellets per year for the previous 17 months.
- iii. The monthly hardwood/softwood mix for the previous 17 months.

**2. 15A NCAC 02Q .0317: AVOIDANCE CONDITIONS
for 15A NCAC 02D .0530: PREVENTION OF SIGNIFICANT DETERIORATION**

- a. The following conditions in this section are enforceable after all of the requirements from Section 2.3 A., "Actions to be Taken by the Permittee", have been met. Following the applicability of this condition (Section 2.2 A.2), the facility will be classified as PSD minor.
- b. In order to avoid applicability of 15A NCAC 02D .0530(g), facility-wide emission sources shall discharge into the atmosphere less than 250 tons of particulate matter, particulate matter with aerodynamic diameter less than 10 micrometers, particulate matter with aerodynamic diameter less than 2.5 micrometers, volatile organic compounds (VOC), nitrogen oxides (NOx), and carbon monoxide (CO) per consecutive 12-month period.
- c. To ensure compliance with the above limitations, the Permittee shall:
- i. not process more than 781,255 oven dried tons of wood per year (ODT/year) with a maximum of 80% softwood, on a rolling 12-month average basis;
- ii. control the green hammermills and wood dryers using wet electrostatic precipitators (**ID No. CD-WESP-1 and CD-WESP-2**) in series with regenerative thermal oxidizers (**ID No. CD-RTO-1 and CD-RTO-2**);
- iii. control the dry hammermills with associated integral cyclones in series with three (3) bagfilters (**ID Nos. CD-HM-BF-1 through CD-HM-BF-3**) in series with:
- (A) a wood-fired direct heat drying system furnace (**ID No. ES-DRYER-1**) in series with wet electrostatic precipitator (**ID No. CD-WESP-1**) in series with a regenerative thermal oxidizer (**ID No. CD-RTO-1**);
- or;
- (B) a wet electrostatic precipitator (**ID No. CD-WESP-1**) in series with a regenerative thermal oxidizer (**ID No. CD-RTO-1**);

In the event of reduced furnace/dryer operation, a portion of the air flow from the bagfilters on the dry hammermills is ducted directly to the **CD-WESP-1** in series with the **CD-RTO-1**. In the event of the shutdown of the furnace/dryer system, all air flow from the bagfilters on the dry hammermills is ducted directly to the **CD-WESP-1** and RTO-1;

- iv. control the dry shavings hammermills (**ID Nos. ES-DSHM-1 and ES-DSHM-2**) by bagfilter (**ID No. DSHM-BF**) in series with:
 - (A) a wood-fired direct heat drying system furnace (**ID No. ES-DRYER-1**) in series with a wet electrostatic precipitator (**ID No. CD-WESP-1**) in series with a regenerative thermal oxidizer (**ID No. CD-RTO-1**);
 - or;
 - (B) a wet electrostatic precipitator (**ID No. CD-WESP-1**) in series with a regenerative thermal oxidizer (**ID No. CD-RTO-1**);

In the event of reduced furnace/dryer operation, a portion of the air flow from the bagfilter on the dry shavings hammermills is ducted directly to the **CD-WESP-1** in series with **CD-RTO-1**. In the event of the shutdown of the furnace/dryer system, all air flow from the bagfilter on the dry shavings hammermills is ducted directly to the **CD-WESP-1** and **CD-RTO-1**;

- iv. control the pellet coolers by cyclones (**ID Nos. CD-CLR-1 through CD-CLR-6**) in series with a regenerative catalytic oxidizer (**ID No. CD-RCO-2**) that can also operate as a regenerative thermal oxidizer;
- Reserved;
- v. limit the furnace bypasses (**ID Nos. ES-FURNACEBYP-1 and ES-FURNACEBYP-2**) to no more than 50 hours per year per furnace for start-ups (for temperature control) and shutdowns. The furnace bypasses shall not be utilized at the same time and shall be limited to a cold startup of 15% maximum heat input or 26.3 million Btu/hr for furnace 1 and 27.0 million Btu/hr for furnace 2. The cold startup period begins when a wood-fired furnace is started up and lasts until the wood-fired furnace's refractory is heated to a temperature sufficient to sustain combustion operations at a minimal level or 8 hours, whichever is less.
- vi. limit the furnace bypasses (**ID Nos. ES-FURNACEBYP-1 and ES-FURNACEBYP-2**) in idle mode, defined as maximum heat input of 10 million Btu per hour each, to no more than 500 hours per year per furnace;
- v. at all times, including periods of startup, shutdown, and malfunction to the extent practicable, maintain and operate all emission sources including associated control devices in a manner consistent with good air pollution control practice for minimizing emissions. Determination of whether acceptable operating and maintenance procedures are being used will be based on information available to the Administrator, which may include, but is not limited to, monitoring results, opacity observations, review of operating and maintenance procedures, and inspection of the source.

The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0530 if the facility exceeds the limits in Section 2.2 A.2.a, b, and c.

Testing [15A NCAC 02Q .0508(f)]

- d. **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.b. above by conducting an initial performance test on the green hammermills (**ID Nos. ES-GHM-1 through ES-GHM-5**), the wood-fired direct heat drying systems (**ID No. ES-DRYER-1 and ES-DRYER-2**), the dry hammermills (**ID Nos. ES-HM-1 to ES-HM-8**), the dry shavings hammermills (**ID Nos. ES-DSHM-1 and ES-DSHM-2**), and the pellet 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	Pollutants
Green hammermills , dryer system 1, dry hammermills, and dry shavings hammermills, controlled via oxidizer CD-RTO-1	VOC
	PM/PM10/PM2.5
	NO _x
	CO
Green hammermills and dryer system 2 controlled via oxidizer CD-RTO-2	VOC
	PM/PM10/PM2.5
	NO _x
	CO

Emission Sources	Pollutants
Pellet coolers controlled via cyclones and oxidizer CD-RCO-2	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 DAQ at least 45 days prior to initial compliance testing and shall submit a notification of initial compliance testing at least 15 days in advance of the 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 regenerative thermal oxidizers and the regenerative catalytic/thermal oxidizer (**ID Nos. CD-RTO-1, CD-RTO-2, and CD-RCO-2**) are each comprised of multiple fireboxes, with each firebox containing two temperature probes. During the initial compliance test, the Permittee shall establish the minimum average firebox temperature for each firebox(s) comprising each regenerative thermal oxidizer/regenerative catalytic oxidizer (**ID Nos. CD-RTO-1, CD-RTO-2, and CD-RCO-2**), and the minimum average firebox temperature (same as the inlet temperature of the catalyst) of the regenerative catalytic oxidizer/regenerative thermal oxidizer. "Average firebox temperature" means the average temperature of the two temperature probes in each firebox. The minimum average firebox temperature for each firebox shall be based upon the average temperature of the two temperature probes over the span of the test runs. Documentation for the minimum average firebox temperature for each firebox shall be submitted to the DAQ as part of the initial compliance test report.
- vii. Testing shall be completed within 180 days of commencement of operation of the new equipment unless an alternate date is approved in advance by DAQ.
- viii. The Permittee shall submit a written report of the test results to the Regional Supervisor, DAQ, no later than 30 days following sample collection test in accordance with 15A NCAC 02D .2602(f), unless an alternative date is approved in advance by DAQ.

If the results of these tests are above the limits given in Section 2.1 A.2.b above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0530.

- e. **Periodic Performance Tests** – Under the provisions of North Carolina General Statute 143-215.108, the Permittee shall demonstrate compliance with the PSD avoidance limits in Section 2.2 A.2.b. above by conducting periodic performance tests on the green hammermills (**ID Nos. ES-GHM-1 through ES-GHM-5**), the wood-fired direct heat drying systems (**ID No. ES-DRYER-1 and ES-DRYER-2**), the dry hammermills (**ID Nos. ES-HM-1 to ES-HM-8**), the dry shavings hammermills (**ID Nos. ES-DSHM-1 and ES-DSHM-2**), and the pellet coolers (**ID Nos. ES-CLR-1 through ES-CLR-6**). Periodic testing shall be conducted in accordance with the following for all control option operating scenarios:
 - i. The pollutants and emission sources to be tested during the periodic performance tests are listed in the following table:

Emission Sources	Pollutants
Green hammermills, dryer system 1, dry hammermills, and dry shavings hammermills, controlled via oxidizer CD-RTO-1	VOC
	PM/PM10/PM2.5
	NOx
	CO
Green hammermills and dryer system 2 controlled via oxidizer CD-RTO-2	VOC
	PM/PM10/PM2.5
	NOx
	CO
Pellet coolers controlled via cyclones and oxidizer CD-RCO-2	VOC
	PM/PM10/PM2.5

- ii. The Permittee shall conduct periodic compliance testing in accordance with a testing protocol approved by the DAQ. Testing shall be conducted in accordance with Section 2.2 A.2.d.ii through viii. above.
- iii. The Permittee shall submit a protocol to DAQ at least 45 days prior to periodic compliance testing and shall submit a notification of periodic compliance testing at least 15 days in advance of the 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.
- v. To the extent possible, testing shall be conducted at the maximum normal operating softwood percentage.
- vi. The Permittee shall conduct periodic performance tests when the following conditions are met:
 - (A) The monthly average softwood content exceeds the average softwood percentage documented during prior performance testing by more than 10 percentage points, or
 - (B) The monthly production rate exceeds the average production rate documented during prior performance testing by more than 10 percentage points, or
 - (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.
- vii. The Permittee shall notify the DAQ within 15 days when the conditions specified in Section 2.2 A.2.e.vi (A) or (B) are met.
- viii. The Permittee shall conduct the periodic performance test and submit a written report of the test results to the DAQ within 90 days from the date the monthly softwood content or overall production rate increased as described in Section 2.2 A.2.e.vi. (A) and (B) above, unless an alternate date is approved in advance by DAQ,
- ix. When periodic performance testing has occurred at 80 percent softwood and at 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, no later than 30 days following sample collection test in accordance with 15A NCAC 02D .2602(f), unless an alternative date is approved in advance by DAQ.
- x. The Permittee may request that the performance tests be conducted less often for a given pollutant if the performance tests for at least 3 consecutive years show compliance of less than 80% with each emission limit. If the request is granted, the Permittee shall conduct a performance test no more than 36 months after the previous performance test for the given pollutant.
- xi. If a performance test shows noncompliance with an emission limit for a given pollutant, the Permittee shall return to conducting annual performance tests (no later than 13 months after the previous performance test) for that pollutant.
- xii. Except as specified in Section 2.2 A.2.e.viii above, the Permittee shall submit a written report of results for any periodic performance test to the DAQ, not later than 30 days after sample collection, in accordance with 15A NCAC 02D .2602(f) unless an alternative date is approved in advance by DAQ.
- xiii. The Permittee may re-establish any parametric operating value during periodic testing. Compliance with previously approved parametric operating values is not required during periodic testing or other tests undertaken to re-establish parametric operating values by the Permittee.
- xiv. If the new parametric operating values re-established during periodic testing are more stringent, the Permittee shall submit a request to revise the value(s) in the permit at the same time the test report required pursuant to General Condition JJ is submitted and the permit revision will be processed pursuant to 15A NCAC 02Q .0514. If during performance testing, the new parametric operating values are less stringent, the Permittee may request to revise the value(s) in the permit pursuant to 15A NCAC 02Q .0515.
- xv. The Permittee shall comply with applicable emission standards at all times, including during periods of testing. If the results of these tests are above the limits given in Section 2.2 A.2.b above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0530.

Monitoring and Recordkeeping [15A NCAC 02Q .0508(f)]

- f. 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 oxidizers and the regenerative catalytic/thermal oxidizer (**ID Nos. CD-RTO-1, CD-RTO-2, and CD-RCO-2**) to monitor the temperature in the combustion chamber. The facility shall ensure the average combustion temperature does not drop below the temperature range established during the initial or the most recent performance test. To ensure compliance and effective operation of oxidizers (**ID Nos. CD-RTO-1, CD-RTO-2, and CD-RCO-2**), the Permittee shall:
 - i. maintain a 3-hour rolling average firebox temperature for the oxidizers at or above the minimum average temperatures established during the most recent performance testing. For the regenerative thermal oxidizer (**ID No. CD-RTO-1**), the minimum 3-hour average firebox temperature for Chambers A/B is 1,613°F and the minimum 3-hour average firebox temperature for Chambers C/D is 1,620°F, as measured during the most recent

performance tests on April 25, 2023. For the regenerative catalytic/thermal oxidizer (**ID No. CD-RCO-2**), the minimum 3-hour average firebox temperature for Chambers A/B is 772°F as measured during the most recent performance tests on August 22, 2023. For the regenerative thermal oxidizer (**ID No. CD-RTO-2**), the minimum 3-hour average firebox temperature for Chambers A/B and C/D have yet to be determined since the oxidizer has not been constructed, operated, or tested.

- ii. maintain records of the 3-hour rolling average temperatures for each firebox.
- iii. perform inspections and maintenance on the regenerative thermal oxidizers and the regenerative catalytic/thermal oxidizer (**ID Nos. CD-RTO-1, CD-RTO-2, and CD-RCO-2**), as specified above in Section 2.1 A.1.i.
- g. 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 implemented. 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.
- h. The Permittee shall perform periodic inspection and maintenance for the oxidizers as recommended by the manufacturer. The Permittee shall perform periodic catalyst activity check for the regenerative catalytic oxidizer as recommended by the manufacturer. At a minimum, the Permittee shall perform an annual (not to exceed 12-month) internal inspection of the primary heat exchanger and associated inlet/outlet valves of the control device to ensure structural integrity.
- i. To ensure compliance and effective operation of the wet electrostatic precipitators (**ID No. CD-WESP-1 and CD-WESP-2**), the Permittee shall perform inspections and maintenance as specified above in Section 2.1 A.1.i. The Permittee shall also maintain the minimum secondary voltage and minimum current, or the total power input of the wet electrostatic precipitator as specified above in Section 2.1 A.1.h.
- j. To ensure compliance and effective operation of the bagfilters and cyclones, the Permittee shall perform inspections and maintenance as specified above in Sections 2.1 B.1.g, 2.1 C.1.e, and 2.1 D.1.e.
- k. The Permittee shall not process more than 781,255 oven-dried tons (ODT) of pellets per year. The monthly pellet production in oven dried tons (ODT), the rolling 12-month total pellet production in ODT, monthly average softwood content, and 12-month rolling average softwood content shall be recorded monthly in a logbook kept on site. The results of the calculations and the total amount of facility-wide PM, PM10, PM2.5, 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.
- l. The Permittee shall install a time monitoring and recording system for the bypass hours on the dryers and furnaces during startup, shutdowns, and malfunctions. The bypass hours for each source shall be recorded weekly in a logbook (written or electronic format) kept on-site and made available to an authorized representative upon request. The Permittee must develop and maintain a written malfunction plan for the time monitoring and recording system that describes, in detail, the operating procedures for periods of malfunctions.
- m. To ensure compliance and effective operation of the furnace bypasses (**ID Nos. ES-FURNACEBYP-1 and ES-FURNACEBYP-2**) at idle mode, defined as maximum heat input of 10 million Btu per hour each, and at cold startup mode, defined as 15% maximum heat input each, the Permittee shall record the hours and heat input for each source weekly in a logbook (written or electronic format) kept on-site and made available to an authorized representative upon request.
- n. The Permittee shall calculate the total emissions of NOx, CO, VOC, and filterable PM monthly and shall record the emissions monthly in a logbook (written or electronic format) kept on-site and made available to DAQ personnel upon request.
 - i. Monthly NOx emissions, in tons, shall be calculated by the following equations and emission factors (excluding the new wood dryer controls in the event the second dryer is not installed) until site-specific NOx emission factors established through stack testing and approved by DAQ:

$$E_{\text{NOx(Total)}} = \sum E_{\text{NOx(Dryer1)}} + \sum E_{\text{NOx(Dryer2)}} + \sum E_{\text{NOx(RTO1)}} + \sum E_{\text{NOx(RTO2)}} + \sum E_{\text{NOx(RCO2)}} + 0.72$$

$$E_{\text{NOx(Dryer1 or Dryer2)}} = \frac{(0.47 \times Q_D)}{2,000}$$

$$E_{\text{NOx(RTO1 or RTO2)}} = \left(\frac{(3.53 \times P_{\text{RTO}}) + (2.43 \times NG_{\text{RTO}})}{2,000} \right)$$

Where:

- $E_{\text{NOx(Total)}}$ = total tons of NOx emissions per month from the facility.
- $E_{\text{NOx(Dryer1 or 2)}}$ = total tons of NOx emissions per month from each dryer.
- $E_{\text{NOx(RTO1)}}$ = number of tons of NOx emissions per month from RTO1 fuel combustion.
- $E_{\text{NOx(RTO2)}}$ = number of tons of NOx emissions per month from RTO2 fuel combustion.
- $E_{\text{NOx(RCO2)}}$ = number of tons of NOx emissions per month from RCO2 fuel combustion.
- Q_D = the oven dried tons of processed wood through the dryers per month.
- 0.47 = dryer line NOx emission factor of 0.47 lb/ODT is derived from the October 2013 site specific stack test of 33.48 lb/hr at a maximum throughput.
- $P_{\text{RTO1 or RTO2}}$ = propane hours per month when oxidizer deemed "in operation", is not bypassed, and oxidizer temperature is greater than or equal to the hourly block average temperature specified per stack test with an emission factor of 3.53 lb/hr (from DAQ combustion spreadsheet).
- $NG_{\text{RTO1 or RTO2}}$ = natural gas hours per month when oxidizer deemed "in operation", is not bypassed, and oxidizer temperature is greater than or equal to the hourly block average temperature specified per stack test with an emission factor of 2.43 lb/hr (from DAQ combustion spreadsheet).
- 0.72 = equates to the monthly potential to emit (PTE) tons for the miscellaneous sources including; double duct burners, propane vaporizer, bypass stacks, emergency generators, and a fire water pump (per application 6600167.20A).

- ii. Monthly VOC emissions, in tons, shall be calculated by the following equations and emission factors (excluding the new wood dryer controls in the event the second dryer is not installed) until site-specific VOC emission factors are established through stack testing and approved by DAQ:

$$E_{\text{VOC(Total)}} = \sum E_{\text{VOC(RTO1)}} + \sum E_{\text{VOC(RTO2)}} + \sum E_{\text{VOC(RCO2)}} + 5.16$$

$$E_{\text{VOC(RTO1)}} = \frac{(0.113 \times Q_{D1})}{2,000} \quad E_{\text{VOC(RTO2)}} = \frac{(0.066 \times Q_{D2})}{2,000}$$

$$E_{\text{VOC(RCO2)}} = \frac{(0.0722 \times Q_P)}{2,000}$$

Where:

- $E_{\text{VOC (Total)}}$ = total tons of VOC emissions per month from the facility.
- $E_{\text{VOC (RTO1 or RTO2)}}$ = total tons of VOC emissions per month from each thermal oxidizer.
- $E_{\text{VOC (RCO2)}}$ = total tons of VOC emissions per month from RCO2 outlet.
- Q_{D1} = the oven dried tons of processed wood through the dryer 1 per month.
- Q_{D2} = the oven dried tons of processed wood through the dryer 2 per month.
- Q_P = the oven dried tons of processed wood through the pellet coolers per month.
- 0.113 for RTO1 E_{VOC} = dryer line 1 VOC emission factor of 0.113 lb/ODT is based on facility process knowledge and an appropriate contingency based on engineering judgement at outlet of the RTO1 and includes emissions from the green hammermills, dry hammermills, dry shavings hammermills. Factor represents controlled emissions with an RTO control efficiency at 97.5%.
- 0.066 for RTO2 E_{VOC} = upon construction of dryer line 2 but prior to completion and approval of initial stack testing, dryer line 2 VOC emission factor of 0.066 lb/ODT shall be used based on facility process knowledge and an appropriate contingency based on engineering judgement at outlet of RTO2. Factor represents controlled emissions with an RTO control efficiency at 97.5%.
- 0.0722 for RCO2 E_{VOC} = pellet cooler VOC emission factor of 0.0722 lb/ODT is based on facility process knowledge and an appropriate contingency based on engineering judgement at

outlet of the RCO2. Factor represents controlled emissions with an RCO2 control efficiency at 95%.

5.16 = equates to the monthly VOC PTE tons for the miscellaneous sources including, double duct burners, propane vaporizer, bypass stacks, emergency generators, fire water pump, dry wood handling, dry shaving material handling and storage, green wood handling and storage, electric chipper, back hog, and diesel tanks (per application 6600167.20A).

- iii. Monthly CO emissions, in tons, shall be calculated by the following equations and emission factors (excluding the new wood dryer controls in the event the second dryer is not installed) site-specific approved CO emission factors established through stack testing:

$$E_{CO(Total)} = \sum E_{CO(RTO1)} + \sum E_{CO(RTO2)} + \sum E_{CO(RCO2)} + 0.73$$

$$E_{CO(RTO1)} = \frac{(0.40 \times Q_{D1})}{2,000} \quad E_{CO(RTO2)} = \frac{(0.40 \times Q_{D2})}{2,000}$$

$$E_{CO(RCO2)} = \frac{(0.009 \times Q_P)}{2,000}$$

Where:

$E_{CO(Total)}$ = total tons of CO emissions per month from the facility.
 $E_{CO(RTO1 \text{ or } RTO2)}$ = total tons of CO emissions per month from each thermal oxidizer.
 $E_{CO(RCO2)}$ = total tons of CO emissions per month from RCO2 outlet.
 Q_{D1} = the oven dried tons of processed wood through the dryer 1 per month.
 Q_{D2} = the oven dried tons of processed wood through the dryer 2 per month.
 Q_P = the oven dried tons of processed wood through the pellet coolers per month.

0.40 for RTO1 or RTO2 E_{CO}

= dryer line 1 and 2 CO emission factor of 0.40 lb/ODT is based on facility process knowledge and/or information from NCASI database and includes appropriate contingency based on engineering judgement. Factor used based on the outlet of RTO1 and/or RTO2.

0.009 for RCO2 E_{CO} = pellet cooler CO emission factor of 0.009 lb/ODT is based on facility process knowledge and/or AP-42 emission factors. Factor used based on the outlet of RCO2.

0.73 = equates to the monthly CO PTE tons for the miscellaneous sources including; double duct burners, propane vaporizer, bypass stacks, emergency generators, and a fire water pump (per application 6600167.20A).

- p. For the wood-fired direct heat drying systems (**ID Nos. ES-DRYER-1 and ES-DRYER-2**), GHG (CO₂e) 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. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0530 if these records are not kept or the emissions exceed the limits in Section 2.2.A.2.b above.

Reporting Requirements: [15A NCAC 02Q .0508(f)]

- q. The Permittee shall submit the results of any maintenance performed on any control device within 30 days of a written request by the DAQ.
- r. The Permittee shall submit a semiannual summary report of monitoring and recordkeeping activities given in Section 2.2 A.2. f through q. above 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 facility-wide PM, PM₁₀, PM_{2.5}, VOC, NO_x, 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. The monthly and 12-month facility-wide total pellet production [as required in Condition 2.2 A.2.k above.
- iii. The monthly and 12-month rolling hardwood/softwood mix [as required in Condition 2.2 A.2.k above.
- iv. A report indicating and explaining all instances of the average minimum regenerative thermal oxidizer and regenerative catalytic oxidizer combustion chamber temperature falling below the minimum temperature range established during the performance test or noting that no such instances have occurred.
- s. All instances of deviations from the requirements of this permit must be clearly identified.

3. 15A NCAC 02Q .0317: AVOIDANCE CONDITIONS

for 15A NCAC 02D .1112: 112(g) Case-by-Case Maximum Available Control Technology (MACT) Standards

- a. The following conditions in this section are enforceable after all of the requirements from Section 2.3 A., “Actions to be Taken by the Permittee”, have been met. Following the applicability of this condition (Section 2.2 A.3), the facility will be classified as HAP minor.
- b. In order to remain classified a minor source for hazardous air pollutants (HAP) and avoid applicability of 15A NCAC 02D .1112, "112(g) Case-by-Case Maximum Achievable Control Technology," facility-wide HAP emissions shall be less than the following limitations:
 - i. 25 tons per consecutive 12-month period of total, combined HAP; and,
 - ii. 10 tons per consecutive 12-month period of any individual HAP.

Testing [15A NCAC 02Q .0508(f)]

- c. **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 green hammermills (**ID Nos. ES-GHM-1 through ES-GHM-5**), the wood-fired direct heat drying systems (**ID No. ES-DRYER-1 and ES-DRYER-2**), the dry hammermills (**ID Nos. ES-HM-1 to ES-HM-8**), the dry shavings hammermills (**ID Nos. ES-DSHM-1 and ES-DSHM-2**), and the pellet 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	Pollutants
Green hammermills, dryer system 1, dry hammermills, and dry shavings hammermills, controlled via oxidizer CD-RTO-1	Acetaldehyde Acrolein Formaldehyde
Green hammermills and dryer system 2 controlled via oxidizer CD-RTO-2	Methanol Phenol
Pellet coolers controlled via cyclones and oxidizer CD-RCO-2	Propionaldehyde

- ii. Initial testing shall be conducted in accordance with Section 2.2 A.2.d.ii through viii above. If the results of these tests are above the limits given in Section 2.2 A.3.b above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .1112.
- d. **Periodic Performance Tests** – Under the provisions of North Carolina General Statute 143-215.108, the Permittee shall establish emission factors for HAPs by conducting performance test on the green hammermills (**ID Nos. ES-GHM-1 through ES-GHM-5**), the wood-fired direct heat drying systems (**ID No. ES-DRYER-1 and ES-DRYER-2**), the dry hammermills (**ID Nos. ES-HM-1 to ES-HM-8**), the dry shavings hammermills (**ID Nos. ES-DSHM-1 and ES-DSHM-2**), and the pellet 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 testing are listed in the following table:

Emission Source	Pollutants
Green hammermills, dryer system 1, dry hammermills, and dry shavings hammermills, controlled via oxidizer CD-RTO-1	Acetaldehyde Acrolein Formaldehyde Methanol

Green hammermills and dryer system 2 controlled via oxidizer CD-RTO-2	Phenol Propionaldehyde
Pellet coolers controlled via cyclones and oxidizer CD-RCO-2	

- ii. Periodic testing shall be conducted in accordance with Section 2.2 A.2.e.ii through xv above. If the results of these tests are above the limits given in Section 2.2 A.3.b above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .1112.
- e. The Permittee may update HAP emission factors established during periodic testing. If the new parametric operating values re-established during periodic testing are more stringent, the Permittee shall submit a request to revise the value(s) in the permit at the same time the test report required pursuant to General Condition JJ is submitted and the permit revision will be processed pursuant to 15A NCAC 02Q .0514. If during performance testing, the new parametric operating values are less stringent, the Permittee may request to revise the value(s) in the permit pursuant to 15A NCAC 02Q .0515.

Monitoring/Recordkeeping [15A NCAC 02Q .0508(f)]

- f. Monitoring and recordkeeping shall be performed in accordance with Section 2.2 A.2.g through o above.
- g. The Permittee shall calculate HAP emissions from the regenerative thermal or catalytic/thermal oxidizers (**ID No. CD-RTO-1, CD-RTO-2, and CD-RCO-2**) using emission factors developed from the most recent stack tests. The Permittee shall calculate HAP emissions from the furnace bypasses (**ID Nos. ES-FURNACEBYP-1 and ES-FURNACEBYP-2**), the diesel-fired fire water pump (**ID No. IES-FWP**), the diesel-fired emergency generators (**ID Nos. IES-GN-1 and IES-GN-2**), the duct burners (**ID Nos. IES-DDB-1 through IES-DDB-4**), electric wood chipper (**ID No. IES-EPWC**), the bark hog (**ID No. IES-Bark**), the propane vaporizer (**ID No. IES-PVAP**), and the dry wood handling (**ID Nos. ES-DWH-1 and ES-DWH-2**) using HAP emission factors as provided in Air Permit Application No. 6600167.20A.
- h. Calculations of HAP emissions as specified in Sections 2.2 A.3.g and h above shall be made at the end of each month. Calculations and the total amount of HAP emissions shall be recorded monthly in a logbook (written or electronic format) and made available to an authorized representative upon request. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1112 if the records are not maintained.

Reporting Requirements [15A NCAC 02Q .0508(f)]

- i. The Permittee shall submit a semiannual summary report of monitoring and recordkeeping activities given in Section 2.2 A.3. f through i. above 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 summarize emissions of hazardous air pollutants containing the following:
- greatest quantity in pounds of an individual hazardous air pollutant emitted:
 - for each month during the semiannual period, and
 - for each 12-month period ending on each month during the semiannual period using a 12-month rolling total.
 - pounds of all hazardous air pollutants emitted:
 - for each month during the semiannual period, and
 - for each 12-month period ending on each month during the semiannual period using a 12-month rolling total.
 - All instances of deviations from the requirements of this permit must be clearly identified.

State-enforceable only

4. **TOXIC AIR POLLUTANT EMISSIONS LIMITATION AND REQUIREMENT** - The following emission limitations and requirements in this section are enforceable until all of the requirements from Section 2.3 A., “Actions to be Taken by the Permittee”, have been met. Pursuant to 15A NCAC 02D .1100 and in accordance with the approved application for an air toxic compliance demonstration, the following permit limit shall not be exceeded.

EMISSION SOURCE	TOXIC AIR POLLUTANTS	EMISSION LIMITS
Dryer system (ID No. ES-DRYER-1)	Acrolein	2.93 lb/hr
	Formaldehyde	6.65 lb/hr

Hammermill Filter #1	Acrolein Formaldehyde	0.177 lb/hr 0.299 lb/hr
Hammermill Filter #2	Acrolein Formaldehyde	0.177 lb/hr 0.299 lb/hr
Hammermill Filter #3	Acrolein Formaldehyde	0.118 lb/hr 0.199 lb/hr
Pellet Cooler #1 Aspiration Stack	Acrolein Formaldehyde	0.149 lb/hr 0.0945 lb/hr
Pellet Cooler #2 Aspiration Stack	Acrolein Formaldehyde	0.149 lb/hr 0.0945 lb/hr
Pellet Cooler #3 Aspiration Stack	Acrolein Formaldehyde	0.149 lb/hr 0.0945 lb/hr
Pellet Cooler #4 Aspiration Stack	Acrolein Formaldehyde	0.149 lb/hr 0.0945 lb/hr
Pellet Cooler #5 Aspiration Stack	Acrolein Formaldehyde	0.149 lb/hr 0.0945 lb/hr
Pellet Cooler #6 Aspiration Stack	Acrolein Formaldehyde	0.149 lb/hr 0.0945 lb/hr
Emergency generator (ID No. IES-GN)	Acrolein Formaldehyde	2.27E-04 lb/hr 2.89E-03 lb/hr
Fire water pump (ID No. IES-FWP)	Acrolein Formaldehyde	1.94E-04 lb/hr 2.48E-03 lb/hr

- a. No reporting is required.
- b. The Permittee has submitted a toxic air pollutant dispersion modeling analysis dated June 2, 2015 for the facility's toxic air pollutant emissions as listed in the above table. The modeling analysis was reviewed and approved by the AQAB on June 15, 2015. Placement of the emission sources, configuration of the emission points, and operation of the sources shall be in accordance with the submitted dispersion modeling analysis and should reflect any changes from the original analysis submittal as outlined in the AQAB review memo.

State-enforceable only

5. **TOXIC AIR POLLUTANT EMISSIONS LIMITATION AND REQUIREMENT** - The following conditions in this section are enforceable after all of the requirements from Section 2.3 A., "Actions to be Taken by the Permittee", have been met. Pursuant to 15A NCAC 02D .1100 and in accordance with the approved application for an air toxic compliance demonstration, the following permit limit shall not be exceeded.

TOXIC AIR POLLUTANTS (CAS NUMBER)	UNITS	RTO1	FBYP-1 and 2 EACH IDLE-MODE	FBYP1 Cold startup	RTO2	FBYP2 Cold startup	RTO2 with GWH
Acrolein (107-02-8)	lb/hour	3.0E-01	4.0E-02	1.1E-01	2.3E-01	1.1E-01	2.8E-01
Arsenic and compounds	lb/year	2.5E+00	1.1E-01	2.9E-02	2.6E+00	3.0E-02	2.6E+00
Benzene (71-43-2)	lb/year	3.6E+02	--	--	3.6E+02	--	3.6E+02
Cadmium (7440-43-9)	lb/year	7.6E-01	2.1E-02	5.4E-03	7.7E-01	5.5E-03	7.7E-01
Chlorine (7782-50-5)	lb/hour lb/day	1.4E-01 3.3E+00	7.9E-03 1.9E-01	2.1E-02 5.0E-01	1.4E-01 3.4E+00	2.1E-02 5.1E-01	1.4E-01 3.4E+00
Formaldehyde (50-00-0)	lb/hour	3.5E-01	4.4E-02	1.2E-01	3.4E-01	1.2E-01	3.6E-01
Hydrogen chloride (7647-01-0)	lb/hour	3.3E-01	1.9E-01	5.0E-01	3.4E-01	5.1E-01	3.4E-01
Manganese & compounds	lb/day	4.9E-01	3.8E-01	1.0E+00	5.0E-01	1.0E+00	5.0E-01

Phenol (108-95-2)	lb/hour	1.3E-01	5.1E-04	1.3E-03	1.2E-01	1.4E-03	1.4E-01
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TOXIC AIR POLLUTANTS (CAS NUMBER)	UNITS	RCO2	DWH 1 and 2 EACH	PVAP	DDB 1 through 4 EACH	GN1	FWP	GN2
Acrolein (107-02-8)	lb/hour	3.6E-01	4.4E-08	--	4.4E-08	2.3E-04	1.9E-04	3.7E-05
Arsenic and compounds	lb/year	3.4E-02	4.3E-03	--	4.3E-03	--	--	--
Benzene (71-43-2)	lb/year	1.2E+02	1.6 E+01	6.2E+00	1.6E+01	1.1E+00	9.8E-01	1.8+00
Cadmium (7440-43-9)	lb/year	1.9E-01	2.4E-02	--	2.4E-02	--	--	--
Chlorine (7782-50-5)	lb/hour lb/day	--	--	--	--	--	--	--
Formaldehyde (50-00-0)	lb/hour	7.4E-02	3.8E-03	1.5E-03	3.8E-03	2.9E-03	2.5E-03	3.7E-04
Hydrogen chloride (7647-01-0)	lb/hour	--	--	--	--	--	--	--
Manganese & compounds	lb/day	1.8E-04	2.2E-05	--	2.2E-05	--	--	--
Phenol (108-95-2)	lb/hour	1.8E-01	--	--	--	--	--	--

- a. For each furnace (**ID No. ES-FURNACEBYP-1 and FURNACEBYP-2**), diesel fuel as a startup accelerant shall be limited to 30 gallons per startup and 200 gallons per year. To ensure compliance with the diesel fuel usage for cold startups, the Permittee shall record the gallons used for each cold startup source and the gallons used per year in a logbook (written or electronic format) kept on-site and made available to an authorized representative upon request.;
- b. The Permittee has submitted a toxic air pollutant dispersion modeling analysis dated June 11, 2020 for the facility's toxic air pollutant emissions as listed in the above table. The modeling analysis was reviewed and approved by the AQAB on June 24, 2020. Placement of the emission sources, configuration of the emission points, and operation of the sources shall be in accordance with the submitted dispersion modeling analysis and should reflect any changes from the original analysis submittal as outlined in the AQAB review memo.

State-enforceable only

6. 15A NCAC 02Q .0711: EMISSION RATES REQUIRING A PERMIT

- a. The facility shall be operated and maintained in such a manner that any new, existing or increased actual emissions of any Toxic Air Pollutant (TAP) listed in 15A NCAC 02Q .0711 or in this permit from all sources at the facility (excluding those sources exempt under 15A NCAC 02Q .0702 "Exemptions"), including fugitive emissions and emission sources not otherwise required to have a permit, will not exceed its respective TAP permitting emission rates (TPER) listed in 15A NCAC 02Q .0711 without first obtaining an air permit to construct or operate.
- b. PRIOR to exceeding any of the TPERs listed in 15A NCAC 02Q .0711, the Permittee shall be responsible for obtaining an air permit to emit TAPs and for demonstrating compliance with the requirements found in 15A NCAC 02D .1100 "Control of Toxic Air Pollutants."
- c. The Permittee shall maintain at the facility records of operational information sufficient for demonstrating to the Division of Air Quality staff that actual TAPs are less than the rate listed in 15A NCAC 02Q .0711.
- d. The TPER table listed below is provided to assist the Permittee in determining when an air permit is required pursuant to 15A NCAC 02Q .0711 and may not represent all TAPs being emitted from the facility. This table will be updated at such time as the permit is either modified or renewed.

Pollutant (CAS Number)	Carcinogens (lb/yr)	Chronic Toxicants (lb/day)	Acute Systemic Toxicants (lb/hr)	Acute Irritants (lb/hr)
1,3-Butadiene (106-99-0)	11			
Acetaldehyde (75-07-0)				6.8
Ammonia (7664-41-7)				0.68
Beryllium (7440-41-7)	0.28			
Benzo(a)pyrene (50-32-8)	2.2			
Carbon tetrachloride (56-23-5)	460			
Chlorobenzene (108-90-7)		46		
Chloroform (67-66-3)	290			
Di(2-ethylhexyl)phthalate (117-81-7)		0.63		
Ethylene dichloride (107-06-2)	260			
Hexachlorodibenzo-p-dioxin (57653-85-7)	0.0051			
Mercury, vapor (7439-97-6)		0.013		
Methyl chloroform (71-55-6)		250		
Methyl ethyl ketone (78-93-3)		78		
Methyl isobutyl ketone (108-10-1)		52		7.6
Methylene chloride (75-09-2)	1600		0.39	
Nickel (7440-02-0)		0.13		
Pentachlorophenol (87-86-5)		0.063	0.0064	
Perchloroethylene (127-18-4)	13000			
Polychlorinated biphenyls (1336-36-3)	5.6			
Styrene (100-42-5)			2.7	
Tetrachlorodibenzo-p-dioxin (1746-01-6)	0.00020			
Trichloroethylene (79-01-6)	4000			
Toluene (108-88-3)		98		14.4
Trichlorofluoromethane (75-01-4)			140	
Vinyl chloride (75-01-4)	26			
Xylene (1330-20-7)		57		16.4

State-enforceable only**7. 15A NCAC 02D .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.

2.3 Construction Schedule

The new pollution control devices are subject to the construction schedule described below.

- A. **Actions to be Taken by the Permittee** - The Permittee shall comply with the following construction schedule:
Within 24 months from 10203R06 permit issuance dated October 30, 2019, the Permittee shall complete installation of new control devices (**ID Nos. CD-RTO-1, CD-RCO-2, CD-DWH-2, CD-DSR-BF, and CD-DSS-BF excluding Dryer Line 2 controls (ID Nos. CD-WESP-2 and CD-RTO-2) in the event Line 2 equipment is not installed**); and demonstrate initial compliance with 15A NCAC 02D .0515, .0521, .1100, 15A NCAC 02Q .0317 for avoidance of 15A NCAC 02D .0530, and 15A NCAC 02Q .0317 for avoidance of 15A NCAC 02D .1112 MACT.
- B. **Activity Reporting** - No later than 30 calendar days after any date identified for accomplishment of any activity listed above, the Permittee shall submit written notice of what action was taken to the DAQ. If the action dates above are not met, the notice shall include an explanation of why the action date was not met, remedial action(s) taken, and a statement identifying the extent to which subsequent dates or times for accomplishment of listed activities may be affected.

SECTION 3 - INSIGNIFICANT ACTIVITIES PER 15A NCAC 02Q .0503(8)

Emission Source ID No.	Emission Source Description ^{1,2}
IES-Debark	Debarker
IES-Bark	Bark Hog
IES-DDB-1 through IES-DDB-4	Four (4) natural gas/propane-fired low NOx double duct burners (each rated at 2.5 million Btu per hour)
IES DLH	Dry line hopper
IES-EPWC	Electric powered green wood chipper
IES-GWFB	Green wood fuel storage bin
IES-DRYSHAVE	Dry shaving handling and storage systems
IES-PVAP	Propane vaporizer
IES-ADD	Additive handling and storage
IES-EB01 and IES-EB02	Two (2) electric boilers
IES-GN-1 NSPS IIII, GACT ZZZZ	One emergency use generator (350 brake horsepower)
IES-GN-2 NSPS IIII, GACT ZZZZ	One emergency use generator (671 brake horsepower)
IES-FWP NSPS IIII, GACT ZZZZ	One fire water pump (300 brake horsepower)
IES-TK1 and IES-TK2	Two (2) diesel storage tanks (2,500 gallon and 600 gallon capacity)
IES-TK3	Mobile diesel storage tank (5,000 gallon)
IES-TK4	Diesel storage tank (1,000 gallon)

¹ Because an activity is insignificant does not mean that the activity is exempted from an applicable requirement (Federal or State) 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."

SECTION 4 - GENERAL CONDITIONS (version 8.0, 07/10/2024)

This section describes terms and conditions applicable to this Title V facility.

A. **General Provisions** [NCGS 143-215 and 15A NCAC 02Q .0508(i)(16)]

1. Terms not otherwise defined in this permit shall have the meaning assigned to such terms as defined in 15A NCAC 02D and 02Q.
2. The terms, conditions, requirements, limitations, and restrictions set forth in this permit are binding and enforceable pursuant to NCGS 143-215.114A and 143-215.114B, including assessment of civil and/or criminal penalties. Any unauthorized deviation from the conditions of this permit may constitute grounds for revocation and/or enforcement action by the DAQ.
3. This permit is not a waiver of or approval of any other Department permits that may be required for other aspects of the facility which are not addressed in this permit.
4. This permit does not relieve the Permittee from liability for harm or injury to human health or welfare, animal or plant life, or property caused by the construction or operation of this permitted facility, or from penalties therefore, nor does it allow the Permittee to cause pollution in contravention of state laws or rules, unless specifically authorized by an order from the North Carolina Environmental Management Commission.
5. Except as identified as state-only requirements in this permit, all terms and conditions contained herein shall be enforceable by the DAQ, the EPA, and citizens of the United States as defined in the Federal Clean Air Act.
6. Any stationary source of air pollution shall not be operated, maintained, or modified without the appropriate and valid permits issued by the DAQ, unless the source is exempted by rule. The DAQ may issue a permit only after it receives reasonable assurance that the installation will not cause air pollution in violation of any of the applicable requirements. A permitted installation may only be operated, maintained, constructed, expanded, or modified in a manner that is consistent with the terms of this permit.

B. **Permit Availability** [15A NCAC 02Q .0507(k) and .0508(i)(9)(B)]

The Permittee shall have available at the facility a copy of this permit and shall retain for the duration of the permit term one complete copy of the application(s) and any information submitted in support of the application package. The permit and application shall be made available to an authorized representative of the Department of Environmental Quality upon request.

C. **Severability Clause** [15A NCAC 02Q .0508(i)(2)]

In the event of an administrative challenge to a final and binding permit in which a condition is held to be invalid, the provisions in this permit are severable so that all requirements contained in the permit, except those held to be invalid, shall remain valid and must be complied with.

D. **Submissions** [15A NCAC 02Q .0507(e) and 02Q .0508(i)(16)]

Except as otherwise specified herein, one copy of all documents, reports, test data, monitoring data, notifications, request for renewal, and any other information required by this permit shall be submitted to the appropriate Regional Office. Refer to the Regional Office address on the cover page of this permit. For continuous emissions monitoring systems (CEMS) reports, continuous opacity monitoring systems (COMS) reports, quality assurance (QA)/quality control (QC) reports, acid rain CEM certification reports, and NOx budget CEM certification reports, one copy shall be sent to the appropriate Regional Office and one copy shall be sent to:

Supervisor, Stationary Source Compliance
North Carolina Division of Air Quality
1641 Mail Service Center
Raleigh, NC 27699-1641

All submittals shall include the facility name and Facility ID number (refer to the cover page of this permit).

E. **Duty to Comply** [15A NCAC 02Q .0508(i)(3)]

The Permittee shall comply with all terms, conditions, requirements, limitations and restrictions set forth in this permit. Noncompliance with any permit condition except conditions identified as state-only requirements constitutes a violation of the Federal Clean Air Act. 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.

F. **Circumvention** - STATE ENFORCEABLE ONLY

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 pollution control device(s) and appurtenances.

G. **Title V Permit Modifications**

1. Administrative Permit Amendments [15A NCAC 02Q .0514]
The Permittee shall submit an application for an administrative permit amendment in accordance with 15A NCAC 02Q .0514.
2. Transfer in Ownership or Operation and Application Submittal Content [15A NCAC 02Q .0524 and 02Q .0505]
The Permittee shall submit an application for an ownership change in accordance with 15A NCAC 02Q.0524 and 02Q .0505.
3. Minor Permit Modifications [15A NCAC 02Q .0515]
The Permittee shall submit an application for a minor permit modification in accordance with 15A NCAC 02Q .0515.
4. Significant Permit Modifications [15A NCAC 02Q .0516]
The Permittee shall submit an application for a significant permit modification in accordance with 15A NCAC 02Q .0516.
5. Reopening for Cause [15A NCAC 02Q .0517]
The Permittee shall submit an application for reopening for cause in accordance with 15A NCAC 02Q .0517.

H. **Changes Not Requiring Permit Modifications**

1. Reporting Requirements [15A NCAC 02Q .0508(f)]
Any of the following that would result in new or increased emissions from the emission source(s) listed in Section 1 must be reported to the Regional Supervisor, DAQ:
 - a. changes in the information submitted in the application;
 - b. changes that modify equipment or processes; 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.
2. Section 502(b)(10) Changes [15A NCAC 02Q .0523(a)]
 - a. "Section 502(b)(10) changes" means changes that contravene an express permit term or condition. Such changes do not include changes that would violate applicable requirements or contravene federally enforceable permit terms and conditions that are monitoring (including test methods), recordkeeping, reporting, or compliance certification requirements.
 - b. The Permittee may make Section 502(b)(10) changes without having the permit revised if:
 - i. the changes are not a modification under Title I of the Federal Clean Air Act;
 - ii. the changes do not cause the allowable emissions under the permit to be exceeded;
 - iii. the Permittee notifies the Director and EPA with written notification at least seven days before the change is made; and
 - iv. the Permittee shall attach the notice to the relevant permit.
 - c. The written notification shall include:
 - i. a description of the change;
 - ii. the date on which the change will occur;
 - iii. any change in emissions; and
 - iv. any permit term or condition that is no longer applicable as a result of the change.
 - d. Section 502(b)(10) changes shall be made in the permit the next time that the permit is revised or renewed, whichever comes first.
3. Off Permit Changes [15A NCAC 02Q .0523(b)]
The Permittee may make changes in the operation or emissions without revising the permit if:
 - a. the change affects only insignificant activities and the activities remain insignificant after the change; or
 - b. the change is not covered under any applicable requirement.
4. Emissions Trading [15A NCAC 02Q .0523(c)]
To the extent that emissions trading is allowed under 15A NCAC 02D, including subsequently adopted maximum achievable control technology standards, emissions trading shall be allowed without permit revision pursuant to 15A NCAC 02Q .0523(c).

I.A. Reporting Requirements for Excess Emissions [15A NCAC 02D .0535(f) and 02Q .0508(f)(2)]

1. **"Excess Emissions"** - means an emission rate that exceeds any applicable emission limitation or standard allowed by any rule in Sections .0500, .0900, .1200, or .1400 of Subchapter 02D; or by a permit condition; or that exceeds an emission limit established in a permit issued under 15A NCAC 02Q .0700. *(Note: Definitions of excess emissions under 02D .1110 and 02D .1111 shall apply where defined by rule.)*
2. If a source is required to report excess emissions under NSPS (15A NCAC 02D .0524), NESHAPS (15A NCAC 02D .1110 or .1111), or the operating permit provides for periodic (e.g., quarterly) reporting of excess emissions, reporting shall be performed as prescribed therein.
3. If the source is not subject to NSPS (15A NCAC 02D .0524), NESHAPS (15A NCAC 02D .1110 or .1111), or these rules do NOT define "excess emissions," the Permittee shall report excess emissions in accordance with 15A NCAC 02D .0535 as follows:
 - a. Pursuant to 15A NCAC 02D .0535, if excess emissions last for more than four hours resulting from a malfunction, a breakdown of process or control equipment, or any other abnormal condition, the owner or operator shall:
 - i. notify the Regional Supervisor or Director 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 provide:
 - name and location of the facility;
 - nature and cause of the malfunction or breakdown;
 - time when the malfunction or breakdown is first observed;
 - expected duration; and
 - estimated rate of emissions;
 - ii. notify the Regional Supervisor or Director immediately when corrective measures have been accomplished; and
 - iii. submit to the Regional Supervisor or Director within 15 days a written report as described in 15A NCAC 02D .0535(f)(3).

I.B. Reporting Requirements for Permit Deviations [15A NCAC 02D .0535(f) and 02Q .0508(f)(2)]

1. **"Permit Deviations"** - for the purposes of this condition, any action or condition not in accordance with the terms and conditions of this permit including those attributable to upset conditions as well as excess emissions as defined above lasting less than four hours.
2. Pursuant to 15A NCAC 02Q .0508(f)(2), the Permittee shall report deviations from permit requirements (terms and conditions) quarterly by notifying the Regional Supervisor or Director of all other deviations from permit requirements not covered under 15A NCAC 02D .0535. A written report to the Regional Supervisor shall include the probable cause of such deviation and any corrective actions or preventative actions taken. The responsible official shall certify all deviations from permit requirements.

I.C. Other Requirements under 15A NCAC 02D .0535

The Permittee shall comply with all other applicable requirements contained in 15A NCAC 02D .0535, including 15A NCAC 02D .0535(c) as follows:

1. Any excess emissions that do not occur during start-up and shut-down shall be considered a violation of the appropriate rule unless the owner or operator of the sources demonstrates to the Director that the excess emissions are a result of a malfunction. The Director shall consider, along with any other pertinent information, the criteria contained in 15A NCAC 02D .0535(c)(1) through (7).
2. 15A NCAC 02D .0535(g). Excess emissions during start-up and shut-down shall be considered a violation of the appropriate rule if the owner or operator cannot demonstrate that excess emissions are unavoidable.

J. RESERVED

K. Permit Renewal [15A NCAC 02Q .0508(e) and 02Q .0513(b)]

This 15A NCAC 02Q .0500 permit is issued for a fixed term not to exceed five years and shall expire at the end of its term. Permit expiration terminates the facility's right to operate unless a complete 15A NCAC 02Q .0500 renewal application is submitted at least six months before the date of permit expiration. If the Permittee or applicant has complied with 15A NCAC 02Q .0512(b)(1), this 15A NCAC 02Q .0500 permit shall not expire until the renewal permit has been issued or denied. Permit expiration under 15A NCAC 02Q .0400 terminates the facility's right to operate unless a complete 15A NCAC 02Q .0400 renewal application is submitted at least six months before the date of permit expiration for facilities subject to 15A NCAC 02Q .0400 requirements. In either of these events, all terms and conditions of these permits shall remain in effect until the renewal permits have been issued or denied.

L. **Need to Halt or Reduce Activity Not a Defense** [15A NCAC 02Q .0508(i)(4)]

It shall not be a defense for a Permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

M. **Duty to Provide Information (submittal of information)** [15A NCAC 02Q .0508(i)(9)]

1. The Permittee shall furnish to the DAQ, in a timely manner, any reasonable information that the Director may request in **writing** to determine whether cause exists for modifying, revoking and reissuing, or terminating the permit or to determine compliance with the permit.
2. The Permittee shall furnish the DAQ copies of records required to be kept by the permit when such copies are requested by the Director. For information claimed to be confidential, the Permittee may furnish such records directly to the EPA upon request along with a claim of confidentiality.

N. **Duty to Supplement** [15A NCAC 02Q .0507(f)]

The Permittee, upon becoming aware that any relevant facts were omitted or incorrect information was submitted in the permit application, shall promptly submit such supplementary facts or corrected information to the DAQ. The Permittee shall also provide additional information as necessary to address any requirement that becomes applicable to the facility after the date a complete permit application was submitted but prior to the release of the draft permit.

O. **Retention of Records** [15A NCAC 02Q .0508(f) and 02Q .0508(l)]

The Permittee shall retain records of all required monitoring data and supporting information for a period of at least five years from the date of the monitoring sample, measurement, report, or application. Supporting information includes all calibration and maintenance records and all original strip-chart recordings for continuous monitoring information, and copies of all reports required by the permit. These records shall be maintained in a form suitable and readily available for expeditious inspection and review. Any records required by the conditions of this permit shall be kept on site and made available to DAQ personnel for inspection upon request.

P. **Compliance Certification** [15A NCAC 02Q .0508(n)]

The Permittee shall submit to the DAQ and the EPA (Air Enforcement Branch, EPA, Region 4, 61 Forsyth Street SW, Atlanta, GA 30303 or through the EPA CEDRI) postmarked on or before March 1 a compliance certification (for the preceding calendar year) by a responsible official with all terms and conditions in the permit (including emissions limitations, standards, or work practices), except for conditions identified as being State-enforceable Only. It shall be the responsibility of the current owner to submit a compliance certification for the entire year regardless of who owned the facility during the year. The compliance certification shall comply with additional requirements as may be specified under Sections 114(a)(3) or 504(b) of the Federal Clean Air Act. The compliance certification shall specify:

1. the identification of each term or condition of the permit that is the basis of the certification;
2. the compliance status (with the terms and conditions of the permit for the period covered by the certification);
3. whether compliance was continuous or intermittent;
4. the method(s) used for determining the compliance status of the source during the certification period;
5. each deviation and take it into account in the compliance certification; and
6. as possible exceptions to compliance, any periods during which compliance is required and in which an excursion or exceedance as defined under 40 CFR Part 64 (CAM) occurred.

Q. **Certification by Responsible Official** [15A NCAC 02Q .0520]

A responsible official shall certify the truth, accuracy, and completeness of any application form, report, or compliance certification required by this permit. All certifications shall state that based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.

R. **Permit Shield for Applicable Requirements** [15A NCAC 02Q .0512]

1. Compliance with the terms and conditions of this permit shall be deemed compliance with applicable requirements, where such applicable requirements are included and specifically identified in the permit as of the date of permit issuance.
2. A permit shield shall not alter or affect:
 - a. the power of the Commission, Secretary of the Department, or Governor under NCGS 143-215.3(a)(12), or EPA under Section 303 of the Federal Clean Air Act;
 - b. the liability of an owner or operator of a facility for any violation of applicable requirements prior to the effective date of the permit or at the time of permit issuance;
 - c. the applicable requirements under Title IV; or

- d. the ability of the Director or the EPA under Section 114 of the Federal Clean Air Act to obtain information to determine compliance of the facility with its permit.
3. A permit shield does not apply to any change made at a facility that does not require a permit or permit revision made under 15A NCAC 02Q .0523.
4. A permit shield does not extend to minor permit modifications made under 15A NCAC 02Q .0515.

S. **Termination, Modification, and Revocation of the Permit** [15A NCAC 02Q .0519]

The Director may terminate, modify, or revoke and reissue this permit if:

1. the information contained in the application or presented in support thereof is determined to be incorrect;
2. the conditions under which the permit or permit renewal was granted have changed;
3. violations of conditions contained in the permit have occurred;
4. the EPA requests that the permit be revoked under 40 CFR 70.7(g) or 70.8(d); or
5. the Director finds that termination, modification, or revocation and reissuance of the permit is necessary to carry out the purpose of NCGS Chapter 143, Article 21B.

T. **Insignificant Activities** [15A NCAC 02Q .0503]

Because an emission source or activity is insignificant does not mean that the emission source or activity is exempted from any applicable requirement or that the owner or operator of the source is exempted from demonstrating compliance with any applicable requirement. The Permittee shall have available at the facility at all times and made available to an authorized representative upon request, documentation, including calculations, if necessary, to demonstrate that an emission source or activity is insignificant.

U. **Property Rights** [15A NCAC 02Q .0508(i)(8)]

This permit does not convey any property rights in either real or personal property or any exclusive privileges.

V. **Inspection and Entry** [15A NCAC 02Q .0508(l) and NCGS 143-215.3(a)(2)]

1. Upon presentation of credentials and other documents as may be required by law, the Permittee shall allow the DAQ, or an authorized representative, to perform the following:
 - a. enter the Permittee's premises where the permitted facility is located or emissions-related activity is conducted, or where records are kept under the conditions of the permit;
 - b. have access to and copy, at reasonable times, any records that are required to be kept under the conditions of the permit;
 - c. inspect at reasonable times and using reasonable safety practices any source, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under the permit; and
 - d. sample or monitor substances or parameters, using reasonable safety practices, for the purpose of assuring compliance with the permit or applicable requirements at reasonable times.

Nothing in this condition shall limit the ability of the EPA to inspect or enter the premises of the Permittee under Section 114 or other provisions of the Federal Clean Air Act.

2. No person shall refuse entry or access to any authorized representative of the DAQ who requests entry for purposes of inspection, and who presents appropriate credentials, nor shall any person obstruct, hamper, or interfere with any such authorized 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.

W. **Annual Fee Payment** [15A NCAC 02Q .0508(i)(10)]

1. The Permittee shall pay all fees in accordance with 15A NCAC 02Q .0200.
2. Payment of fees may be by check or money order made payable to the N.C. Department of Environmental Quality. Annual permit fee payments shall refer to the permit number.
3. If, within 30 days after being billed, the Permittee fails to pay an annual fee, the Director may initiate action to terminate the permit under 15A NCAC 02Q .0519.

X. **Annual Emission Inventory Requirements** [15A NCAC 02Q .0207]

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 a responsible official of the facility.

- Y. **Confidential Information** [15A NCAC 02Q .0107 and 02Q .0508(i)(9)]
Whenever the Permittee submits information under a claim of confidentiality pursuant to 15A NCAC 02Q .0107, the Permittee may also submit a copy of all such information and claim directly to the EPA upon request. All requests for confidentiality must be in accordance with 15A NCAC 02Q .0107.
- Z. **Construction and Operation Permits** [15A NCAC 02Q .0100 and .0300]
A construction and operating permit shall be obtained by the Permittee for any proposed new or modified facility or emission source which is not exempted from having a permit prior to the beginning of construction or modification, in accordance with all applicable provisions of 15A NCAC 02Q .0100 and .0300.
- AA. **Standard Application Form and Required Information** [15A NCAC 02Q .0505 and .0507]
The Permittee shall submit applications and required information in accordance with the provisions of 15A NCAC 02Q .0505 and .0507.
- BB. **Financial Responsibility and Compliance History** [15A NCAC 02Q .0507(d)(3)]
The DAQ may require an applicant to submit a statement of financial qualifications and/or a statement of substantial compliance history.
- CC. **Refrigerant Requirements (Stratospheric Ozone and Climate Protection)** [15A NCAC 02Q .0501(d)]
 1. If the Permittee has appliances or refrigeration equipment, including air conditioning equipment, which use Class I or II ozone-depleting substances such as chlorofluorocarbons and hydrochlorofluorocarbons listed as refrigerants in 40 CFR Part 82 Subpart A Appendices A and B, the Permittee shall service, repair, and maintain such equipment according to the work practices, personnel certification requirements, and certified recycling and recovery equipment specified in 40 CFR Part 82 Subpart F.
 2. The Permittee shall not knowingly vent or otherwise release any Class I or II substance into the environment during the repair, servicing, maintenance, or disposal of any such device except as provided in 40 CFR Part 82 Subpart F.
 3. The Permittee shall comply with all reporting and recordkeeping requirements of 40 CFR 82.166. Reports shall be submitted to the EPA or its designee as required.
- DD. **Prevention of Accidental Releases - Section 112(r)** [15A NCAC 02Q .0508(h)]
If the Permittee is required to develop and register a Risk Management Plan with EPA pursuant to Section 112(r) of the Clean Air Act, then the Permittee is required to register this plan in accordance with 40 CFR Part 68.
- EE. **National Emission Standards Asbestos – 40 CFR Part 61, Subpart M** [15A NCAC 02D .1110]
The Permittee shall comply with all applicable standards for demolition and renovation activities pursuant to the requirements of 40 CFR Part 61, Subpart M. The permittee shall not be required to obtain a modification of this permit in order to perform the referenced activities.
- FF. **Title IV Allowances** [15A NCAC 02Q .0508(i)(1)]
This permit does not limit the number of Title IV allowances held by the Permittee, but the Permittee may not use allowances as a defense to noncompliance with any other applicable requirement. The Permittee's emissions may not exceed any allowances that the facility lawfully holds under Title IV of the Federal Clean Air Act.
- GG. **Air Pollution Emergency Episode** [15A NCAC 02D .0300]
Should the Director of the DAQ declare an Air Pollution Emergency Episode, the Permittee will be required to operate in accordance with the Permittee's previously approved Emission Reduction Plan or, in the absence of an approved plan, with the appropriate requirements specified in 15A NCAC 02D .0300.
- HH. **Registration of Air Pollution Sources** [15A NCAC 02D .0202]
The Director of the DAQ may require the Permittee to register a source of air pollution. If the Permittee is required to register a source of air pollution, this registration and required information will be in accordance with 15A NCAC 02D .0202(b).
- II. **Ambient Air Quality Standards** [15A NCAC 02D .0501(c)]
In addition to any control or manner of operation necessary to meet emission standards specified in this permit, any source of air pollution shall be operated with such control or in such manner that the source shall not cause the ambient air quality standards in 15A NCAC 02D .0400 to be exceeded at any point beyond the premises on which the source is located. When controls more stringent than named in the applicable emission standards in this permit are required to prevent violation of

the ambient air quality standards or are required to create an offset, the permit shall contain a condition requiring these controls.

JJ. **General Emissions Testing and Reporting Requirements** [15A NCAC 02Q .0508(i)(16)]

Emission compliance testing shall be by the procedures of Section .2600, except as may be otherwise required in Rules .0524, .1110, or .1111 of Subchapter 02D. If emissions testing is required by this permit or the DAQ or if the Permittee submits emissions testing to the DAQ to demonstrate compliance for emission sources subject to Rules .0524, .1110, or .1111, the Permittee shall provide and submit all notifications, conduct all testing, and submit all test reports in accordance with the requirements of 15A NCAC 02D .0524, .1110, or .1111, as applicable. Otherwise, if emissions testing is required by this permit or the DAQ or if the Permittee submits emissions testing to the DAQ to demonstrate compliance, the Permittee shall perform such testing in accordance with 15A NCAC 02D .2600 and follow the procedures outlined below:

1. The owner or operator of the source shall arrange for air emission testing protocols to be provided to the Director prior to air pollution testing. Testing protocols are not required to be pre-approved by the Director prior to air pollution testing. The Director shall review air emission testing protocols for pre-approval prior to testing if requested by the owner or operator at least **45 days** before conducting the test.
2. Any person proposing to conduct an emissions test to demonstrate compliance with an applicable standard shall notify the Director at least **15 days** before beginning the test so that the Director may at his option observe the test.
3. The owner or operator of the source shall arrange for controlling and measuring the production rates during the period of air testing. The owner or operator of the source shall ensure that the equipment or process being tested is operated at the production rate that best fulfills the purpose of the test. The individual conducting the emission test shall describe the procedures used to obtain accurate process data and include in the test report the average production rates determined during each testing period.
4. Two copies of the final air emission test report shall be submitted to the Director not later than **30 days** after sample collection unless otherwise specified in the specific conditions. The owner or operator may request an extension to submit the final test report. The Director shall approve an extension request if he finds that the extension request is a result of actions beyond the control of the owner or operator.
 - a. The Director shall make the final determination regarding any testing procedure deviation and the validity of the compliance test. The Director may:
 - i. Allow deviations from a method specified under a rule in this Section if the owner or operator of the source being tested demonstrates to the satisfaction of the Director that the specified method is inappropriate for the source being tested.
 - ii. Prescribe alternate test procedures on an individual basis when he finds that the alternative method is necessary to secure more reliable test data.
 - iii. Prescribe or approve methods on an individual basis for sources or pollutants for which no test method is specified in 15A NCAC 02D .2600 if the methods can be demonstrated to determine compliance of permitted emission sources or pollutants.
 - b. The Director may authorize the DAQ to conduct independent tests of any source subject to a rule in 15A NCAC 02D to determine the compliance status of that source or to verify any test data submitted relating to that source. Any test conducted by the Division of Air Quality using the appropriate testing procedures described in 15A NCAC 02D .2600 has precedence over all other tests.

KK. **Reopening for Cause** [15A NCAC 02Q .0517]

1. A permit shall be reopened and revised under the following circumstances:
 - a. additional applicable requirements become applicable to a facility with remaining permit term of three or more years;
 - b. additional requirements (including excess emission requirements) become applicable to a source covered by Title IV;
 - c. the Director or EPA finds that the permit contains a material mistake or that inaccurate statements were made in establishing the emissions standards or other terms or conditions of the permit; or
 - d. the Director or EPA determines that the permit must be revised or revoked to assure compliance with the applicable requirements.
2. Any permit reopening shall be completed or a revised permit issued within 18 months after the applicable requirement is promulgated. No reopening is required if the effective date of the requirement is after the expiration of the permit term unless the term of the permit was extended pursuant to 15A NCAC 02Q .0513(c).
3. Except for the state-enforceable only portion of the permit, the procedures set out in 15A NCAC 02Q .0507, .0521, or .0522 shall be followed to reissue the permit. If the State-enforceable only portion of the permit is reopened, the procedures in 15A NCAC 02Q .0300 shall be followed. The proceedings shall affect only those parts of the permit for which cause to reopen exists.

4. The Director shall notify the Permittee at least 60 days in advance of the date that the permit is to be reopened, except in cases of imminent threat to public health or safety the notification period may be less than 60 days.
5. Within 90 days, or 180 days if the EPA extends the response period, after receiving notification from the EPA that a permit needs to be terminated, modified, or revoked and reissued, the Director shall send to the EPA a proposed determination of termination, modification, or revocation and reissuance, as appropriate.

LL. Reporting Requirements for Non-Operating Equipment [15A NCAC 02Q .0508(i)(16)]

The Permittee shall maintain a record of operation for permitted equipment noting whenever the equipment is taken from and placed into operation. When permitted equipment is not in operation, the requirements for testing, monitoring, and recordkeeping are suspended until operation resumes.

MM. Fugitive Dust Control Requirement [15A NCAC 02D .0540]

As required by 15A NCAC 02D .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).

NN. Specific Permit Modifications [15A NCAC 02Q .0501 and .0523]

1. For modifications made pursuant to 15A NCAC 02Q .0501(b)(2), the Permittee shall file a Title V Air Quality Permit Application for the air emission source(s) and associated air pollution control device(s) on or before 12 months after commencing operation.
2. For modifications made pursuant to 15A NCAC 02Q .0501(c)(2), the Permittee shall not begin operation of the air emission source(s) and associated air pollution control device(s) until a Title V Air Quality Permit Application is filed and a construction and operation permit following the procedures of Section .0500 (except for Rule .0504 of this Section) is obtained.
3. For modifications made pursuant to 502(b)(10), in accordance with 15A NCAC 02Q .0523(a)(1)(C), the Permittee shall notify the Director and EPA (Air Permitting Branch, EPA, Region 4, 61 Forsyth Street SW, Atlanta, GA 30303 or through the EPA CEDRI) in writing at least seven days before the change is made.
 - a. The written notification shall include:
 - i. a description of the change at the facility;
 - ii. the date on which the change will occur;
 - iii. any change in emissions; and
 - iv. any permit term or condition that is no longer applicable as a result of the change.
 - b. In addition to this notification requirement, with the next significant modification or Air Quality Permit renewal, the Permittee shall submit a page "E5" of the application forms signed by the responsible official verifying that the application for the 502(b)(10) change/modification, is true, accurate, and complete. Further note that modifications made pursuant to 502(b)(10) do not relieve the Permittee from satisfying preconstruction requirements.

OO. Third Party Participation and EPA Review [15A NCAC 02Q .0521, .0522 and .0525(7)]

For permits modifications subject to 45-day review by the federal EPA, EPA's decision to not object to the proposed permit is considered final and binding on the EPA and absent a third party petition, the failure to object is the end of EPA's decision-making process with respect to the revisions to the permit. The time period available to submit a public petition pursuant to 15A NCAC 02Q .0518 begins at the end of the 45-day EPA review period.