

ROY COOPER
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MICHAEL S. REGAN
Secretary

MICHAEL ABRACZINSKAS
Director



NORTH CAROLINA
Environmental Quality

October 30, 2019

Mr. Mark Jordan
Plant Manager
Enviva Pellets Northampton, LLC
7200 Wisconsin Avenue
Bethesda, Maryland 20814

Dear Mr. Jordan:

SUBJECT: Air Quality Permit No. 10203R06
Facility ID: 6600167
Enviva Pellets Northampton, LLC
Garysburg, North Carolina
Northampton County
Fee Class: Title V

In accordance with your Air Permit Applications received on October 1, 2018 and amended version received on April 1, 2019, we are forwarding herewith Air Quality Permit No. 10203R06 to Enviva Pellets Northampton, LLC, 309 Enviva Boulevard, Garysburg, North Carolina, authorizing the construction and operation, of the emission source(s) and associated air pollution control device(s) specified herein. Additionally, any emissions activities determined from your Air Quality Permit Application as being insignificant per 15A North Carolina Administrative Code 02Q .0102 have been listed for informational purposes as an "ATTACHMENT." Please note the requirements for the annual compliance certification are contained in General Condition P in Section 3. 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 request a formal adjudicatory hearing within 30 days following receipt of this permit, identifying the specific issues to be contested. This hearing request must be in the form of a written petition, conforming to NCGS (North Carolina General Statutes) 150B-23, and filed with both the Office of Administrative Hearings, 6714 Mail Service Center, Raleigh, North Carolina 27699-6714 and the Division of Air Quality, Permitting Section, 1641 Mail Service Center, Raleigh, North Carolina 27699-1641. The form for requesting a formal adjudicatory hearing may be obtained upon request from the Office of Administrative Hearings. Please note that this permit will be stayed in its entirety upon receipt of the request for a hearing. Unless a request for a hearing is made pursuant to NCGS 150B-23, this Air Quality Permit shall be final and binding 30 days after issuance.



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

You may request modification of your Air Quality Permit through informal means pursuant to NCGS 150B-22. This request must be submitted in writing to the Director and must identify the specific provisions or issues for which the modification is sought. Please note that this Air Quality Permit will become final and binding regardless of a request for informal modification unless a request for a hearing is also made under NCGS 150B-23.

The construction of new air pollution emission source(s) and associated air pollution control device(s), or modifications to the emission source(s) and air pollution control device(s) described in this permit must be covered under an Air Quality Permit issued by the Division of Air Quality prior to construction unless the Permittee has fulfilled the requirements of 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 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, PM-10, and PM-2.5. This modification will result in an increase of 26.4 pounds per hour of NO_x, an increase of 4.6 pounds per hour of SO₂, a decrease of 0.7 pounds per hour of PM-10, and a decrease of 2.3 pounds per hour of PM-2.5.

This Air Quality Permit shall be effective from October 30, 2019 until February 28, 2025, 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 Richard Simpson at (919) 707-8476 or richard.simpson@ncdenr.gov.

Sincerely yours,



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

c: EPA Region 4
Ray Stewart, Supervisor, Raleigh Regional Office
Central Files
Connie Horne (Cover letter only)

ATTACHMENT

Insignificant Activities per 15A NCAC 02Q .0102

Emission Source ID No.	Emission Source Description
IES-Debark	Debarker
IES-Bark	Bark Hog
IES-DDB-1 through IES-DDB-4	Four natural gas/propane-fired low NOx double duct burners (each rated at 1 MMBtu/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-DRYSHAVE-1	Dry shaving handling and storage systems with one bagfilter CD-DSR-BF (2,577 square feet of filter area)
IES-PVAP	Propane vaporizer
IES-ADD	Additive handling and storage with one bagfilter CD-ADD-BF (TBDXXX square feet of filter area)
IES-GN-1 NSPS III, GACT ZZZZ	One emergency use generator (350 brake horsepower)
IES-GN-2 NSPS III, GACT ZZZZ	One emergency use generator (671 brake horsepower)
IES-FWP NSPS III, GACT ZZZZ	One fire water pump (300 brake horsepower)
IES-TK1 and IES-TK2	Two 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 or that the Permittee is exempted from demonstrating compliance with any applicable requirement.
2. When applicable, emissions from stationary source activities identified above shall be included in determining compliance with the permit requirements for toxic air pollutants under 15A NCAC 02D .1100 "Control of Toxic Air Pollutants" or 02Q .0711 "Emission Rates Requiring a Permit."
3. For additional information regarding the applicability of MACT or GACT see the DAQ page titled "Specific Permit Conditions Regulatory Guide." The link to this site is as follows: <http://deq.nc.gov/about/divisions/air-quality/air-quality-permits/specific-permit-conditions-regulatory-guide>.

Summary of Changes to Permit

The following changes were made to Enviva Pellets Northampton, LLC, Garysburg, NC., Air Permit No. 10203R05 (*Table of Changes as sent to public notice July 19, 2019*).

Page No.	Section	Description of Changes
Cover Letter	N/A	Updated cover letter with application number, permit numbers, dates, fee class, and Director name.
NA	Insignificant Activities	Added new sources debarker IES-Debark, bark hog IES-Bark, four natural gas/propane double duct burners IES-DDB-1 through IES-DDB-4, dry shaving handling and storage systems IES-DRYSHAVE, dry shaving handling and storage systems IES-DRYSHAVE-1 with one bagfilter CD-DSR-BF, propane vaporizer IES-PVAP, additive handling and storage IES-ADD with one bagfilter CD-ADD-BF, one emergency use generator IES-GN-2, mobile diesel storage tank IES-TK3, and diesel storage tank IES-TK4.
NA	Insignificant Activities	Reclassified dry line hopper to an insignificant source and changed ID No. to IES-DLH.
NA	Insignificant Activities	Reclassified dry wood handling IES-DWH and green wood handling and storage IES-GWHS as significant sources and changed ID Nos. to ES-DWH-1 and ES-GWHS.
NA	Insignificant Activities	Pellet press system IES-PP was deleted since it is incorporated with the pellet coolers.
NA	Insignificant Activities	Finished product handling IES-FPH was deleted since it is incorporated with handling ES-FPH.
NA	Insignificant Activities	Log chipper IES-CHIP-1 was deleted since it is incorporated with chipper IES-EPWC.
NA	Insignificant Activities	Two electric powered wood re-chippers, IES-RCHP-1 and IES-RCHP-2, were deleted since they are being replaced by five new green hammermills (ES-GHM-1 through ES-GHM-5).
NA	Insignificant Activities	Generator ID No. was changed from IES-GN to IES-GN-1. Diesel storage tanks ID Nos. were changed from IS-TK1 and IS-TK2 to IES-TK1 and IES-TK2. IES-TK2 capacity was updated from 500 gallons to 600 gallons.
3, 6	Section 1 and Section 2.1 A.	Add five (5) new closed-loop green hammermills (ES-GHM-1 through ES-GHM-5) and route the exhaust to the existing wet electrostatic precipitator (CD-WESP-1) and the new regenerative thermal oxidizer (CD-RTO-1). The Green hammermills exhaust will also have the ability to be routed and controlled by new CD-WESP-2 and new CD-RTO-2 when the CD-WESP-1 and CD-RTO-1 are shut down. Simple cyclone CD-DC is for product handling and deleted from the permit as a control device.
3, 6	Section 1 and Section 2.1 A.	Updated wood dryer ID No. from (ES-DRYER) to (ES-DRYER-1). The exhaust will route to existing wet electrostatic precipitator (CD-WESP-1) and the new regenerative thermal oxidizer (CD-RTO-1).
3, 6	Section 1 and Section 2.1 A.	Added dryer 1 bypass ES-DRYERBYP-1 and furnace 1 bypass (ES-FURNACEBYP-1).
3, 6	Section 1 and Section 2.1 A.	Added a new direct heat wood fired dryer (ES-DRYER-2) controlled by new wet electrostatic precipitator CD-WESP-2 in series with a new regenerative thermal oxidizer (CD-RTO-2).
3, 6	Section 1 and Section 2.1 A.	Added dryer 2 bypass (ES-DRYERBYP-2) and furnace 2 bypass (ES-FURNACEBYP-2).

Page No.	Section	Description of Changes
3, 6	Section 1 and Section 2.1 A.	Added a new dry wood handling (ES-DWH-2) controlled by a new bagfilter (CD-DWH-BF-2).
3, 6	Section 1 and Section 2.1 A.	Assigned source ID Nos. (ES-PS-1) and (ES-PS-2) to existing dry hammermill pre-screeners.
4, 6	Section 1 and Section 2.1 A.	The eight existing dry hammermills exhaust will also route through new wet scrubber (CD-WS-1) and regenerative catalytic oxidizer (CD-RCO-1) that can also operate as an RTO.
4, 6	Section 1 and Section 2.1 A.	Renamed existing nuisance system to dust control system (ES-DCS) and update the permit to reflect that the exhaust will route through new wet scrubber (CD-WS-1) and regenerative catalytic oxidizer (CD-RCO-1) that can operate as an RTO.
4, 6	Section 1 and Section 2.1 A.	Added a new dry shavings reception (ES-DSR) controlled by a new bagfilter (CD-DSR-BF).
4, 6	Section 1 and Section 2.1 A.	Added a new dry shavings silo (ES-DSS) controlled by a new bagfilter (CD-DSS-BF).
4, 6	Section 1 and Section 2.1 A.	Added two new dry shavings hammermills (ES-DSHM-1 and ES-DSHM-2) controlled by new wet scrubber (CD-WS-1) and regenerative catalytic oxidizer (CD-RCO-1) that can operate as an RTO.
5, 6	Section 1 and Section 2.1 A.	The six existing pellet coolers exhaust will also route through new wet scrubber (CD-WS-2) and regenerative catalytic oxidizer (CD-RCO-2) that can operate as an RTO.
5, 6	Section 1 and Section 2.1 A.	Rename the currently permitted Pellet Fines Bin (ES-PFB-1) and associated bin vent filter (CD-PFB-BV) to Pellet Cooler Fines Relay System (ES-PCHP) and baghouse (CD-PCHP-BV.)
NA	Section 1 and Section 2.1 A.	Since the sources will not be utilized, deleted bagging system conveyor and screens (ES-BSC-1, ES-BSS-1, and ES-BSS-2) and associated filters (CD-BS-BF-1 and CD-BS-BF-2).
NA	Section 1 and Section 2.1 A.	Since the sources will not be utilized, deleted bagging systems (ES-BSC-2, ES-BSC-3, ES-BSB-1, and ES-BSB-2).
6, 11	Section 2.1 A. and Section 2.1 4.	Added 15A NCAC 02D .0535 Excess emissions reporting and malfunctions rule to the table and section.
6	Section 2.1 A.	Added PM, NO _x , and CO to the table for PSD avoidance.
8	Section 2.1 A.1.c.	To demonstrate compliance with 15A NCAC 02D .0515, added particulate testing.
8, 9	Section 2.1 A.1.d through i.	Added the new control devices for monitoring requirements.
9	Section 2.1 A.1.j.	Added the recordkeeping requirements.
10	Section 2.1 A.2.	Added the new wood dryer to the 15A NCAC 02D .0516 requirements.
11	Section 2.2 A.	Added the table for the regulated pollutants and applicable standards.
12	Section 2.2 A.1.	Added regulation 15A NCAC 02D .0540 Particulates from Fugitive Dust Emissions.
12	Section 2.2 A.2.	Included existing PSD avoidance conditions until the facility meets Construction Schedule per Section 2.3. Also updated conditions to include dryer, dry hammermill, and pellet cooler systems throughput limitations along with associated percent softwood limitations on a rolling 12-month average basis.

Page No.	Section	Description of Changes
13	Section 2.2 A.3.	Added regulation 15A NCAC 02Q .0317 Avoidance Condition for 15A NCAC 02D .0530: Prevention of Significant Deterioration facility-wide for PM, VOCs, and NOx. Conditions include throughput and softwood limits along with initial and periodic testing, monitoring, recordkeeping, and reporting for the proposed modification.
18	Section 2.2 A.4.	Added regulation 15A NCAC 02Q .0317 Avoidance Condition for 15A NCAC 02D .1111: Maximum Available Control Technology (MACT) Standards facility-wide for HAPs. Conditions include initial and periodic testing, monitoring, recordkeeping, and reporting.
18	Section 2.2 A.5.	Included existing 15A NCAC 02D .1100 Toxics Air Pollutant Emissions Limitation and Requirement until the facility meets Construction Schedule per Section 2.3.
19	Section 2.2 A.6.	Added eleven toxics pollutants and new associated equipment to 15A NCAC 02D .1100 Toxics Air Pollutant Emissions Limitation and Requirement.
20	Section 2.2 A.7.	Deleted the eleven toxics pollutants that were moved to Section 2.2 A.4.
22	Section 2.2 A.8.	Added regulation 15A NCAC 02Q .1806 Control and Prohibition of Odorous Emissions.
23	Section 2.2 A.9.	Added regulation 15A NCAC 02Q .0207 Annual Emissions Reporting.
23	Section 2.2 A.10.	Added regulation 15A NCAC 02Q .0304 Applications Annual Emissions Reporting.
23	Section 2.2 A.11.	Added regulation 15A NCAC 02Q .0504 Option for Obtaining Construction and Operation Permit.
23	Section 2.3.	Added Section 2.3 for a Construction Schedule.
25-27	Section 3	The General Conditions were updated to the latest version of DAQ shell.

Summary of Changes to Permit

The following changes were made to Enviva Pellets Northampton, LLC, Garysburg, NC., Air Permit No. 10203R05 (*Table of Changes in response to Hearing Officer's recommendations*).

Page No.	Section	Description of Changes
10	Section 2.1 A.1.l.	Added semiannual reporting requirements.
11	Section 2.1 A.3.e.	Added semiannual reporting requirements.
12	Section 2.2 A.2.b.i. and 2.2 A.2.b.ii.	Changed the word pellets to wood.
14	Section 2.2 A.3.c.vii.	Deleted dryer bypass malfunction hours and reserved the section
14	Section 2.2 A.3.c.viii.	Deleted furnace bypass malfunction hours. Added maximum heat input percentage for cold startup. Added description: "The cold startup period of time 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;"

Page No.	Section	Description of Changes
17	Section 2.2 A.3.o.	Deleted “for malfunctions”.
17	Section 2.2 A.3.q.	Added an equation to calculate monthly NOx emissions.
18	Section 2.2 A.3.t.	Added reporting requirements: “The monthly ODT of pellets per year for the previous 17 months.” and “The monthly hardwood/softwood mix for the previous 17 months.”
22	Section 2.2 A.6.b.	Added current shell language for 15A NCAC 02D .1100 regulations including the date the facility submitted the modeling analysis and the date the modeling analysis was reviewed and approved by the AQAB.
23	Section 2.2 A.11.a.	Changed 15A NCAC 02Q .0504 condition to: “Pursuant to 15A NCAC 02Q .0504, the Permittee filed its first time Title V Air Quality Permit Application (6600167.14B) on April 22, 2014.”
23	Section 2.2 A.11.b.	Changed 15A NCAC 02Q .0504 condition to: “The Permittee shall amend the first time Title V Air Quality Permit Application (6600167.14B) within 90 days of the issuance of Permit No. 10203R06.” Deleted the reporting requirements.



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
10203R06	10203R05	October 30, 2019	February 28, 2025

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 Pellets Northampton, LLC**
Facility ID: 6600167

Facility Site Location: 309 Enviva Boulevard
City, County, State, Zip: Garysburg, Northampton County, North Carolina, 27831

Mailing Address: 7200 Wisconsin Avenue
City, State, Zip: Bethesda, Maryland 20814

Application Number: 6600167.18A
Complete Application Date: October 1, 2018 and April 1, 2019

Primary SIC Code: 2499
Division of Air Quality,
Regional Office Address: Raleigh Regional Office
3800 Barrett Drive
Raleigh, North Carolina, 27609

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

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

Emission Source ID No.	Emission Source Description	Control Device ID No.	Control Device Description
ES-GWHS	Green wood handling and storage	NA	NA
ES-GHM-1 through ES-GHM-5	Five green hammermills	CD-WESP-1 and CD-RTO-1 OR CD-WESP-2 and CD-RTO-2	One wet electrostatic precipitator (29,904 square feet of total collection plate area) One propane or natural gas-fired regenerative thermal oxidizer (32 million Btu per hour) OR One wet electrostatic precipitator (29,904 square feet of total collection plate area) One propane or natural gas-fired regenerative thermal oxidizer (32 million Btu per hour)
ES-DRYER-1	Direct heat, wood-fired dryer (175.3 million Btu per hour heat input, 71.71 ODT/hr)	CD-WESP-1 and CD-RTO-1	One wet electrostatic precipitator (29,904 square feet of total collection plate area) One propane or natural gas-fired regenerative thermal oxidizer (32 million Btu per hour)
ES-DRYERBYP-1	Dryer 1 bypass	NA	NA
ES-FURNACEBYP-1	Furnace 1 bypass	NA	NA
ES-DRYER-2	Direct heat, wood-fired dryer (180 million Btu per hour heat input, 82.1 ODT/hr)	CD-WESP-2 and CD-RTO-2	One wet electrostatic precipitator (29,904 square feet of total collection plate area) One propane or natural gas-fired regenerative thermal oxidizer (32 million Btu per hour)
ES-DRYERBYP-2	Dryer 2 bypass	NA	NA
ES-FURNACEBYP-2	Furnace 2 bypass	NA	NA
ES-DWH-1	Dried wood handling	CD-DWH-BF-1	Bagfilter (2,577 square feet of filter area)
ES-DWH-2	Dried wood handling	CD-DWH-BF-2	Bagfilter (2,577 square feet of filter area)
ES-PS-1 and ES-PS-2	Dry hammermills pre-screeners 1 and 2	NA	NA

Emission Source ID No.	Emission Source Description	Control Device ID No.	Control Device Description
ES-HM-1 through ES-HM-8	Eight dry hammermills	CD-HM-CYC-1 through 8, and CD-HM-BF-1 through CD-HM-3, and CD-WS-1, and CD-RCO-1	Eight simple cyclones (120 inches in diameter each) Three bagfilters (6,250 square feet of filter area each) One wet scrubber (1,485 gallons per minute) One propane or natural gas-fired regenerative catalytic oxidizer (19.6 million Btu per hour heat input) that can also operate as a regenerative thermal oxidizer
ES-DCS	Dust control system	CD-HM-BF-3, and CD-WS-1, and CD-RCO-1	One bagfilter (6,250 square feet of filter area) One wet scrubber (1,485 gallons per minute) One propane or natural gas-fired regenerative catalytic oxidizer (19.6 million Btu per hour heat input) that can operate as a regenerative thermal oxidizer
ES-DLC-1	Dry line feed conveyor	NA	NA
ES-DSR	Dry shavings reception	CD-DSR-BF	One bagfilter (2,577 square feet of filter area)
ES-DSS	Dry shavings silo	CD-DSS-BF	One bagfilter (88 square feet of filter area)
ES-DSHM-1 and ES-DSHM-2	Dry shavings hammermill 1 and 2	CD-WS-1, and CD-RCO-1	One wet scrubber (1,485 gallons per minute) One propane or natural gas-fired regenerative catalytic oxidizer (19.6 million Btu per hour heat input) that can operate as a regenerative thermal oxidizer
ES-PMFS	Pellet feed mill silo	CD-PMFS-BV	One bin vent filter (377 square feet of filter area)

Emission Source ID No.	Emission Source Description	Control Device ID No.	Control Device Description
ES-CLR-1 through ES-CLR-6	Pellet coolers	CD-CLR-1 through CD-CLR-6, and CD-WS-2, and CD-RCO-2	Six high efficiency cyclones (54 inches in diameter each) One wet scrubber (990 gallons per minute) One propane or natural gas-fired regenerative catalytic oxidizer (19.6 million Btu per hour heat input) that can operate as a regenerative thermal oxidizer
ES-PCHP	Pellet cooler fines relay system	CD-PCHP-BV	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		

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) controlled by a wet electrostatic precipitator (ID No. CD-WESP-1) and a regenerative thermal oxidizer (ID No. CD-RTO-1);

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

Wood-fired direct heat drying system (ID No. ES-DRYER-2) controlled by a wet electrostatic precipitator (ID No. CD-WESP-1) and a regenerative thermal oxidizer (ID No. CD-RTO-2);

Dryer 2 bypass (ID No. ES-DRYERBYP-2) and Furnace 2 bypass (ID No. ES-FURNACEBYP-2);

Dry wood handling (ID No. ES-DWH-1) with associated bagfilter (ID No. CD-DWH-BF-1);

Dry wood handling (ID No. ES-DWH-2) with associated bagfilter (ID No. CD-DWH-BF-2);

Two (2) dry hammermill pre-screensers (ID No. ES-PS-1 and ES-PS-2);

Eight (8) hammermills (ID Nos. ES-HM-1 through ES-HM-8) with associated cyclones (ID Nos. CD-HM-CYC-1 through CD-HM-CYC-8) in series with three bagfilters (ID Nos. CD-HM-BF-1 through CD-HM-BF-3) in series with a wet scrubber (CD-WS-1) in series with a regenerative catalytic oxidizer (ID No. CD-RCO-1) that can also operate as a regenerative thermal oxidizer;

Dust control system (ID No. ES-DCS) with associated bagfilter (ID No. CD-HM-BF-3) in series with a wet scrubber (CD-WS-1) in series with a regenerative catalytic oxidizer (ID No. CD-RCO-1) that can also operate as a regenerative thermal oxidizer;

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

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) controlled by a wet scrubber (CD-WS-1) in series with a regenerative catalytic oxidizer (ID No. CD-RCO-1) that can also operate as a regenerative thermal oxidizer;

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 wet scrubber (CD-WS-2) in series with a regenerative catalytic oxidizer (ID No. CD-RCO-2) that can also operate as a regenerative thermal oxidizer;

Pellet cooler 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 mill 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:

Regulated Pollutant	Limits/Standards	Applicable Regulation
Particulate matter	$E = 4.10 \times P^{0.67}$ for $P < 30$ tph $E = 55 \times P^{0.11} - 40$ for $P \geq 30$ tph where, E = allowable emission rate (lb/hr) P = process weight rate (tph)	15A NCAC 02D .0515
Sulfur dioxide	<i>ID Nos. ES-DRYER-1 and ES-DRYER-2 only:</i> 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
n/a	Excess emissions reporting and malfunctions	15A NCAC 02D .0535
Fugitive dust	State-enforceable only Minimize fugitive dust beyond property boundary See Section 2.2 A.1.	15A NCAC 02D .0540
Volatile organic compounds (VOC), and Carbon monoxide (CO)	Less than 456.4 tons of VOC and 250 tons of CO per consecutive 12-month period, See Section 2.2 A.2.	15A NCAC 02Q .0317 for avoidance of 15A NCAC 02D .0530
PM/PM10/PM2.5 VOC NOx CO	Less than 250 tons per 12-month period, Less than 250 tons per 12-month period, Less than 250 tons per 12-month period Less than 250 tons per 12-month period See Section 2.2 A.3.	15A NCAC 02Q .0317 for avoidance of 15A NCAC 02D .0530
Hazardous Air Pollutants (HAP)	See Section 2.2 A.4.	15A NCAC 02Q .0317 for avoidance of 15A NCAC 02D .1111 MACT
Toxic air pollutants	State-enforceable only See Section 2.2 A.5. and 2.2 A.6.	15A NCAC 02D .1100
Toxic air pollutants	State-enforceable only See Section 2.2 A.7.	15A NCAC 02D .0711

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

- a. Emissions of particulate matter from these sources shall not exceed an allowable emission rate as calculated by the following equation:

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

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

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 .0308(a)]

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

- c. Under the provisions of North Carolina General Statute 143-215.108, the Permittee shall demonstrate compliance with emission limit in Section 2.1 A.1.a for the wood-fired direct heat drying systems (**ID Nos. ES-DRYER-1 and ES-DRYER-2**), green hammermills (**ID Nos. ES-GHM-1 through ES-GHM-5**), the dry hammermills (**ID Nos. ES-HM-1 through ES-HM-8**) and pellet coolers (**ID Nos. ES-CLR-1 through CLR-6**). Testing shall be conducted as specified in Section 2.2 A.2.

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

For baghouses and/or cyclones:

- d. Particulate matter emissions shall be controlled as follows:
- i. Particulate matter emissions from the dry wood handling operations (**ID Nos. ES-DWH-1 and ES-DWH-2**) shall be controlled by baghouses (**ID Nos. CD-DWH-BF-1 and CD-DWH-BF-2**);
 - ii. Particulate matter emission from eight (8) dry hammermills (**ID Nos. ES-HM-1 through ES-HM-8**) shall be controlled by cyclones (**ID Nos. CD-HM-CYC-1 through CD-HM-CYC-8**) in series with baghouses (**ID Nos. CD-HM-BH1 through CD-HM-BH3**);
 - iii. Particulate matter emission from the dust control system (**ID No. ES-DCS**) shall be controlled by baghouse (**ID No. CD-HM-BF-3**);
 - iv. Particulate matter emissions from the dry shavings reception (**ID No. ES-DSR**) shall be controlled by a baghouse (**ID No. CD-DSR-BF**);
 - v. Particulate matter emissions from the dry shavings silo (**ID No. ES-DSS**) shall be controlled by a baghouse (**ID No. CD-DSS-BF**);
 - vi. Particulate matter emissions from the pellet mill feed silo (**ID No. ES-PMFS**) shall be controlled by baghouse (**ID No. CD-PMFS-BV**);
 - vii. Particulate matter emissions from the pellet coolers (**ID Nos. ES-CLR-1 through CLR-6**) shall be controlled cyclones (**ID Nos. CD-CLR-1 through CD-CLR-6**);
 - viii. Particulate matter emissions from pellet cooler fines relay system (**ID No. ES-PCHP**) shall be controlled by baghouse (**ID No. CD-PCHP-BV**);
 - xi. 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 mill load-out (**ID No. ES-PL-1 and PL-2**) shall be controlled by baghouse (**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:
- i. a monthly visual inspection of the system ductwork and material collection units for leaks; and
 - ii. an annual (for each 12-month period following the initial inspection) internal inspection of the baghouses' structural integrity.

For wet electrostatic precipitator, wet scrubbers, and regenerative thermal or catalytic oxidizers:

- f. 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**);
 - iv. Particulate matter emissions from the eight (8) dry hammermills (**ID Nos. ES-HM-1 through**

- ES-HM-8)** shall be controlled by a wet scrubber (**ID No. CD-WS-1**) in series with a regenerative catalytic/thermal oxidizer (**ID No. CD-RCO-1**);
- v. Particulate matter emissions from pellet coolers (**ID Nos. ES-CLR-1 through CLR-6**) shall be controlled by a wet scrubber (**ID No. CD-WS-2**) in series with a regenerative catalytic/thermal oxidizer (**ID No. CD-RCO-2**);
- g. 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 at the level established during compliance testing specified in Section 2.2 A.2;
 - iii. monitor and record the secondary voltage and current 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.
- h. To ensure compliance and effective operation of the wet scrubbers (**ID No. CD-WS-1 and CD-WS-2**), the Permittee shall maintain the required minimum liquid recirculation rate at the level established during compliance testing as specified in Section 2.2 A.2. The Permittee shall monitor and record the required minimum liquid recirculation rate 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.
- 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**), the wet scrubbers (**ID Nos. CD-WS-1 and CD-WS-2**), the regenerative thermal oxidizers (**ID Nos. CD-RTO-1 and CD-RTO-2**), and the regenerative catalytic/thermal oxidizers (**ID Nos. CD-RCO-1 and CD RCO-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 and catalytic oxidizers (**ID No. CD-RTO-1, CD-RTO-2, CD-RCO-1 and CD RCO-2**); and
 - iii. an annual (for each 12-month period following the initial inspection) internal inspection of the wet electrostatic precipitators (**ID No. CD-WESP1 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
 - (D) replacement of broken equipment as required.
 - iv. an annual (for each 12-month period following the initial inspection) internal inspection of spray nozzles and the cleaning/calibration of all associated instrumentation on the wet scrubbers (**ID Nos. CD-WS-1 and CD-WS-2**).

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

- j. The results of inspection and maintenance shall be maintained in a logbook (written or electronic format) on-site 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 the control devices; and
 - iv. any variance from manufacturer's recommendations, if any, and corrections made.

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

- 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 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 and ES-DRYER-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 .0308(a)]

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

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

- 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**).

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

- a. Visible emissions from these sources shall not be more than 20 percent opacity when averaged over a six-minute period. However, six-minute averaging periods may exceed 20 percent not more than once in any hour and not more than four times in any 24-hour period. In no event shall the six-minute average exceed 87 percent opacity.

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

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

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

- c. To ensure compliance, once a week the Permittee shall observe the emission points of these sources 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 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.

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

- d. The results of the monitoring shall be maintained in a logbook (written or electronic format) on-site 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.

Reporting [15A NCAC 02Q .0308(a), 15A NCAC 02D .0605(b)(3)]

- e. 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.

4. 15A NCAC 02D .0535: EXCESS EMISSIONS REPORTING AND MALFUNCTIONS

- 1. **NOTIFICATION REQUIREMENT** - As required by 15A NCAC 2D .0535, the Permittee of a source of excess emissions that last for more than four hours and that results from a malfunction, a breakdown of process or control equipment or any other abnormal conditions, shall:
 - a. Notify the Director or his designee of any such occurrence by 9:00 a.m. Eastern time of the Division's next business day of becoming aware of the occurrence and describe:
 - i. the name and location of the facility,
 - ii. the nature and cause of the malfunction or breakdown,
 - iii. the time when the malfunction or breakdown is first observed,
 - iv. the expected duration, and
 - v. an estimated rate of emissions.
 - b. Notify the Director or his designee immediately when the corrective measures have been accomplished.

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

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

A. Facility-wide Emission Sources

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

Regulated Pollutant	Limits/Standards	Applicable Regulation
Fugitive dust	State-enforceable only Minimize fugitive dust beyond property boundary	15A NCAC 02D .0540
VOC CO	Less than 456.4 tons per 12-month period Less than 250 tons per 12-month period	15A NCAC 02Q .0317 for avoidance of 15A NCAC 02D .0530
PM/PM10/PM2.5 VOC NOx CO	Less than 250 tons per 12-month period, Less than 250 tons per 12-month period, Less than 250 tons per 12-month period Less than 250 tons per 12-month period	15A NCAC 02Q .0317 for avoidance of 15A NCAC 02D .0530
Hazardous Air Pollutants (HAP)	Less than 25 tons for combined HAPs per 12-month period Less than 10 tons for single a HAP per 12-month period.	15A NCAC 02Q .0317 for avoidance of 15A NCAC 02D .1111 MACT
Toxic air pollutants	State-enforceable only Less than modeled emission rates	15A NCAC 02D .1100
Toxic air pollutants	State-enforceable only Less than toxic permitted emission rates	15A NCAC 02D .0711

Regulated Pollutant	Limits/Standards	Applicable Regulation
Odor	State-enforceable only odor control	15A NCAC 02D .1806
N/A	Annual Emission Reporting due June 30	15A NCAC 02Q .0207
N/A	Permit renewal application due 90 days prior to permit expiration	15A NCAC 02Q .0304
N/A	Option for obtaining construction and operation permit	15A NCAC 02Q .0504

State-enforceable only

1. 15A NCAC 02D .0540: PARTICULATES FROM FUGITIVE DUST EMISSION SOURCES

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).

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 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.2) is no longer applicable, the facility remains classified as PSD major.
- b. In order to avoid applicability of 15A NCAC 2D .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 .0308(a)]

- 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 (0.023 lb/ODT) by the process rate.
- iii. Calculations and the facility-wide VOC and dryer CO emissions shall be recorded monthly in a log (written or electronic format).

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

- 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 semi-annual summary report, acceptable to the Regional Air Quality Supervisor, of monitoring and recordkeeping activities postmarked on or before January 30 of each calendar year for the preceding six-month period between July and December, and July 30 of each calendar year for the preceding six-month period between January and June. The report shall contain the following:
 - i. The monthly VOC 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.
 - iv. The 30 day rolling average product moisture content.

**3. 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.3), the facility will be classified as PSD minor.
- b. In order to avoid applicability of 15A NCAC 2D .0530(g), facility-wide emission sources shall discharge into the atmosphere less than 250 tons of particulate matter, particulate matter 10 micrometers, particulate matter 2.5 micrometers, volatile organic compounds (VOC), nitrogen oxides (NOx), and carbon monoxide (CO) per consecutive 12-month period.
- c. To ensure that the limits established above are not exceeded,
 - i. the facility will not process more than 781,255 oven dried tons per year (ODT/year) with a maximum of 80% softwood, on a rolling 12-month average basis;
 - ii. the green hammermills and wood dryers will be controlled by 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. dry hammermills will not process more than 85% of the maximum facility throughput or a total of 664,067 oven dried tons per year (ODT/year) on a rolling 12-month average basis;
 - iv. the dry hammermills will be controlled by three bagfilters (ID Nos. CD-HM-BF-1 through CD-HM-BF3) in series with a wet scrubber (ID No. CD-WS-1) in series with a regenerative catalytic oxidizer (ID No. CD-RCO-1) that can also operate as a regenerative thermal oxidizer;
 - v. the dry shavings hammermills (ID Nos. ES-DSHM-1 and ES-DSHM-2) shall be controlled by a wet scrubber (ID No. CD-WS-1) in series with a regenerative catalytic oxidizer (ID No. CD-RCO-1) that can also operate as a regenerative thermal oxidizer;
 - vi. the pellet coolers will be controlled by a wet scrubber (ID No. CD-WS-2) in series with a regenerative catalytic oxidizer (ID No. CD-RCO-2) that can also operate as a regenerative thermal oxidizer;
 - vii. Reserved.

- viii. the furnace bypasses (**ID Nos. ES-FURNACEBYP-1 and ES-FURNACEBYP-2**) shall be limited to less 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 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 of time 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;
- ix. the furnace bypasses (**ID Nos. ES-FURNACEBYP-1 and ES-FURNACEBYP-2**) in idle mode, defined as maximum heat input of 5 million Btu per hour each, shall be limited to less than 500 hours per year per furnace.
- x. At all times, including periods of startup, shutdown, and malfunction, the Permittee shall, 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.

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

- d. The completion of the modification is defined as the installation of equipment that allow throughput of up to 781,255 ODT/year on an annual basis, and
 - i. the rerouting of the exhaust from the wood-fired direct heat drying system (**ID No. ES-DRYER-1**) to the wet electrostatic precipitator (**ID No. CD-WESP-1**) and the regenerative thermal oxidizer (**ID No. CD-RTO-1**).
 - ii. the rerouting of the exhaust from the dry hammermills (**ID Nos. ES-HM-1 to ES-HM-8**) and bagfilters (**ID Nos. CD-HM-BH1 through CD-HM-BH3**) to wet scrubber (**ID No. CD-WS-1**) and the regenerative catalytic/thermal oxidizer (**ID No. CD-RCO-1**).
 - iii. the rerouting of the exhaust from the pellet coolers (**ID Nos. ES-CLR-1 through ES-CLR-6**) to wet scrubber (**ID No. CD-WS-2**) and the regenerative catalytic/thermal oxidizer (**ID No. CD-RCO-2**).
 The Permittee shall notify the DAQ of the actual completion date of the modification postmarked within 15 days after such date.

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

- e. **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.3.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	Pollutant
Green hammermills and dryer system controlled via RTO	VOC
	PM/PM10/PM2.5
	NO _x
	CO
Dry and dry shavings hammermills controlled via RCO	VOC
	PM/PM10/PM2.5
Pellet coolers controlled	VOC

Emission Sources	Pollutant
via RCO	PM/PM10/PM2.5

- ii. The Permittee shall conduct initial compliance testing in accordance with a testing protocol 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 regenerative thermal oxidizer/regenerative catalytic oxidizer (**ID Nos. CD-RTO-1, CD-RTO-2, CD-RCO-1 and CD-RCO-2**) are comprised of one or more fireboxes per oxidizer, each 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, CD-RCO-1 and CD-RCO-2**), for an average temperature for each firebox per regenerative thermal/catalytic 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.
 - v. Testing shall be completed within 180 days of commencement of operation of the new equipment.
 - vi. The Permittee shall submit a written report of the test results to the Regional Supervisor, DAQ, within 60 days of completion of the test.
- f. Periodic Performance Tests – Under the provisions of North Carolina General Statute 143-215.108, the Permittee shall demonstrate compliance with the PSD avoidance in Section 2.2 A.3.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:
- i. The pollutants and emission sources to be tested during the periodic performance tests are listed in the following table:

Emission Source	Pollutant
Green hammermills and dryer system controlled via RTO	VOC
	PM/PM10/PM2.5
	NO _x
	CO
Dry and dry shavings hammermills controlled via RCO	VOC
	PM/PM10/PM2.5
Pellet coolers controlled via RCO	VOC
	PM/PM10/PM2.5

- ii. The Permittee shall conduct periodic compliance testing in accordance with a testing protocol approved by the DAQ.
- 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.3.f.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.3.f.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.
 - 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 with the 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.3.f.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(h).
 - 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 required testing or other tests undertaken to re-establish parametric operating values by the Permittee.
 - xiv. The Permittee shall comply with applicable emission standards at all times, including during periods of testing.

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

- g. 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 oxidizers (**ID Nos. CD-RTO-1, CD-RTO-2, CD-RCO-1, and CD-RCO-2**). To ensure compliance and effective operation of the oxidizers, the Permittee shall maintain a 3-hour rolling average firebox temperature for each firebox comprising the RTO or RCO at or above the minimum average temperatures established during the most recent performance testing. The Permittee shall maintain records of the 3-hour rolling average temperatures for each firebox. The Permittee shall also perform inspections and maintenance on the RTO as specified above in Section 2.1 A.1.i.
- h. For the oxidizers, the Permittee shall develop and maintain a malfunction plan for the temperature monitoring and recording system that describes, in detail, the operating procedures for periods of malfunctions.
- i. The Permittee shall perform periodic inspection and maintenance for the oxidizers as recommended by the manufacturer. At a minimum, the Permittee shall perform an annual internal inspection of the primary heat exchanger and associated inlet/outlet valves of the control device to ensure structural integrity.
- j. To ensure compliance and effective operation of wet scrubbers (**ID No. CD-WS-1 and CD-WS-2**), the Permittee shall perform inspections, maintenance, and maintain the required minimum recirculation rate specified above in Section 2.1 A.1.h.
- k. 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 of the wet electrostatic precipitator as specified above in Section 2.1 A.1.g.

- l. To ensure compliance and effective operation of the bagfilters and cyclones, the Permittee shall perform inspections and maintenance as specified above in Section 2.1 A.1.e.
- m. The Permittee shall not process more than 781,255 oven-dried tons (ODT) of pellets per year. The process rate shall be recorded monthly in a logbook (written or electronic format) kept on-site and made available to an authorized representative upon request.
- n. The Permittee shall record the hardwood/softwood mix monthly in a logbook (written or electronic format) kept on-site and made available to an authorized representative upon request.
- o. 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.
- p. 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 5 million Btu per hour 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.
- q. The Permittee shall calculate the total emissions of NO_x, filterable PM, CO, and VOC 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. Monthly NO_x emissions, in tons, shall be calculated by the following equations and emission factors:

$$E_{\text{NO}_x(\text{Total})} = \sum E_{\text{NO}_x(\text{Dryer1})} + \sum E_{\text{NO}_x(\text{Dryer2})} + \sum E_{\text{NO}_x(\text{RTO1})} + \sum E_{\text{NO}_x(\text{RTO2})} + 3.94$$

$$E_{\text{NO}_x(\text{Dryer1 or Dryer2})} = \frac{(0.47 \times Q_D)}{2,000}$$

$$E_{\text{NO}_x(\text{RTO1 or RTO2})} = \left(\frac{(4.55 \times P_{\text{RTO}}) + (3.15 \times N_{\text{GRTO}})}{2,000} \right)$$

Where:

- | | | |
|---------------------------------------|---|---|
| $E_{\text{NO}_x(\text{Total})}$ | = | total tons of NO _x emissions per month from the facility. |
| $E_{\text{NO}_x(\text{Dryer1 or 2})}$ | = | total tons of NO _x emissions per month from each dryer. |
| $E_{\text{NO}_x(\text{RTO1})}$ | = | number of tons of NO _x emissions per month from RTO1 fuel combustion. |
| $E_{\text{NO}_x(\text{RTO2})}$ | = | number of tons of NO _x emissions per month from RTO2 fuel combustion. |
| Q_D | = | the oven dried tons of processed wood through the dryers per month. |
| 0.47 | = | dryer line NO _x 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 4.55 lb/hr (from DAQ combustion spreadsheet). |
| $N_{\text{GRTO1 or RTO2}}$ | = | 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 3.15 lb/hr (from DAQ combustion spreadsheet). |
| 3.94 | = | equates to the monthly PTE for the miscellaneous sources including; double duct burners, propane vaporizer, catalytic oxidizers, bypass stacks, emergency generators, and a fire water pump (per application 6600167.18A). |

- r. 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.

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

- s. The Permittee shall submit the results of any maintenance performed on the wet electrostatic precipitator, regenerative thermal oxidizers, regenerative catalytic oxidizers, cyclones, and/or baghouses within 30 days of a written request by the DAQ.
- t. The Permittee shall submit a semi-annual summary report, acceptable to the Regional Air Quality Supervisor, of monitoring and recordkeeping activities postmarked on or before January 30 of each calendar year for the preceding six-month period between July and December, and July 30 of each calendar year for the preceding six-month period between January and June. The report shall contain the following:
 - i. The monthly 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 ODT of pellets per year for the previous 17 months.
 - iii. The monthly hardwood/softwood mix for the previous 17 months.
 - 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.
- u. All instances of deviations from the requirements of this permit must be clearly identified.

4. 15A NCAC 02Q .0317: AVOIDANCE CONDITIONS

for 15A NCAC 02D .1111: 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 .1111, "Maximum Achievable Control Technology," facility-wide HAP emissions shall be less than the following limitations:
 - a. 25 tons per consecutive 12-month period of total, combined HAP; and,
 - b. 10 tons per consecutive 12-month period of any individual HAP.

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

- 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	Pollutant
Green hammermills and dryer system controlled via RTO	Acetaldehyde Acrolein
Dry and dry shavings hammermills controlled via RCO	Formaldehyde Methanol Phenol
Pellet coolers controlled via RCO	Propionaldehyde

ii. Initial testing shall be conducted in accordance with Section 2.2 A.3.f.ii through vii above.

- 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 tests are listed in the following table:

Emission Sources	Pollutant
Green hammermills and dryer system controlled via RTO	Acetaldehyde Acrolein
Dry and dry shavings hammermills controlled via RCO	Formaldehyde Methanol Phenol
Pellet coolers controlled via RCO	Propionaldehyde

ii. Periodic testing shall be conducted in accordance with Section 2.2 A.3.f.ii through xiv above.

- e. **Monitoring/Recordkeeping/Reporting** [15A NCAC 02Q .0308(a)]
 Monitoring, recordkeeping, and reporting shall be performed in accordance with Section 2.2 A.3.g through u above.

State-enforceable only

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

a. No reporting is required.

State-enforceable only

6. **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	RCO1
Acetaldehyde (75-07-0)	lb/hour	3.3E-01	4.2E-03	2.2E-02	3.5E-01	2.2E-02	6.3E-02
Acrolein (107-02-8)	lb/hour	2.6E-01	2.0E-02	1.1E-01	2.3E-01	1.1E-01	7.9E-02
Arsenic and compounds	lb/year	2.5+00	5.5E-02	2.9E-02	2.6E+00	3.0E-02	3.4E-02
Benzene (71-43-2)	lb/year	3.6E+02	--	--	3.6E+02	--	1.2E+02
Beryllium (7440-41-7)	lb/year	1.3E-01	2.8E-03	1.4E-03	1.3E-01	1.5E-03	2.0E-03
Cadmium (7440-43-9)	lb/year	7.6E-01	1.0E-02	5.4E-03	7.7E-01	5.5E-03	1.9E-01

TOXIC AIR POLLUTANTS (CAS NUMBER)	UNITS	RTO1	FBYP-1 and 2 EACH IDLE-MODE	FBYP1 Cold startup	RTO2	FBYP2 Cold startup	RCO1
Chlorine (7782-50-5)	lb/hour lb/day	1.4E-01 3.3E+00	4.0E-03 9.5E-02	2.1E-02 5.0E-01	1.4E-01 3.4E+00	2.1E-02 5.1E-01	--
Formaldehyde (50-00-0)	lb/hour	3.2E-01	2.2E-02	1.2E-01	3.4E-01	1.2E-01	9.0E-02
Hydrogen chloride (7647-01-0)	lb/hour	3.3E-01	9.5E-02	5.0E-01	3.4E-01	5.1E-01	--
Manganese & compounds	lb/day	4.9E-01	1.9E-01	1.0E+00	5.0E-01	1.0E+00	1.8E-04
Mercury, vapor (7439-97-6)	lb/day	1.3E-03	4.2E-04	2.2E-03	1.3E-03	2.3E-03	1.2E-04
Nickel (7440-02-0)	lb/day	1.2E-02	4.0E-03	2.1E-02	1.2E-02	2.1E-02	9.7E-04
Phenol (108-95-2)	lb/hour	1.2E-01	2.6E-04	1.3E-03	1.2E-01	1.4E-03	2.4E-02

TOXIC AIR POLLUTANTS (CAS NUMBER)	UNITS	RCO2	DWH 1 and 2 EACH	PVAP	DDB 1 through 4 EACH	GN1	FWP	GN2
Acetaldehyde (75-07-0)	lb/hour	1.8E-01	--	--	1.5E-08	1.9-E03	1.6-E03	1.2-E04
Acrolein (107-02-8)	lb/hour	3.6E-01	--	--	1.8E-08	2.3E-04	1.9E-04	3.7E-05
Arsenic and compounds	lb/year	3.4E-02	--	--	1.7E-03	--	--	--
Benzene (71-43-2)	lb/year	1.2E+02	--	6.2E+00	6.2E+00	1.1E+00	9.8E-01	1.8+00
Beryllium (7440-41-7)	lb/year	2.0E-03	--	--	1.0E-04	--	--	--
Cadmium (7440-43-9)	lb/year	1.9E-01	--	--	9.4E-03	--	--	--
Chlorine (7782-50-5)	lb/hour lb/day	--	--	--	--	--	--	--
Formaldehyde (50-00-0)	lb/hour	7.4E-02	6.5E-02	1.5E-03	1.5E-03	2.9E-03	2.5E-03	3.7E-04
Hydrogen chloride (7647-01-0)	lb/hour	--	--	--	--	--	--	--
Manganese & compounds	lb/day	1.8E-04	--	--	8.9E-06	--	--	--
Mercury, vapor (7439-97-6)	lb/day	1.2E-04	--	--	6.1E-07	--	--	--
Nickel (7440-02-0)	lb/day	9.7E-04	--	--	4.9E-05	--	--	--
Phenol (108-95-2)	lb/hour	1.8E-01	--	--	--	--	--	--

a. No reporting is required.

- b. The Permittee has submitted a toxic air pollutant dispersion modeling analysis dated May 23, 2019 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 3, 2019. 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

7. **TOXIC AIR POLLUTANT EMISSION RATES REQUIRING A PERMIT** – Pursuant to 15A NCAC 02Q .0711, a permit to emit toxic air pollutants is required for any facility whose actual rate of emissions from all sources are greater than any one of the following rates:

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			
Ammonia (7664-41-7)				0.68
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			
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	
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

8. 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.

9. 15A NCAC 02Q .0207: ANNUAL EMISSIONS REPORTING

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

10. 15A NCAC 02Q .0304: APPLICATIONS

The Permittee, at least 90 days prior to the expiration date of this permit, shall request permit renewal by letter in accordance with 15A NCAC 02Q .0304(d) and (f). Pursuant to 15A NCAC 02Q .0203(i), no permit application fee is required for renewal of an existing air permit. The renewal request should be submitted to the Regional Supervisor, DAQ.

11. 15A NCAC 02Q .0504: OPTION FOR OBTAINING CONSTRUCTION AND OPERATION PERMIT

- a. Pursuant to 15A NCAC 02Q .0504, the Permittee filed its first time Title V Air Quality Permit Application (6600167.14B) on April 22, 2014.
- b. The Permittee shall amend the first time Title V Air Quality Permit Application (6600167.14B) within **90 days of the issuance of Permit No. 10203R06.**

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:

1. Within 6 months from permit issuance (10203R06), the Permittee shall purchase the new pollution control devices (**I.D. Nos. CD-RTO-1, CD-WS-1, CD-WS-2, CD-RCO-1, CD-RCO-2, CD-DWH-BF-1, CD-DWH-2, CD-DSR-BF, CD-DSS-BF, and CD-ADD-BF excluding Dryer Line 2 controls in the event Line 2 equipment is not installed**);
2. Within 12 months from permit issuance (10203R06), the Permittee shall begin installation of the new control devices (**I.D. Nos. CD-RTO-1, CD-WS-1, CD-WS-2, CD-RCO-1, CD-RCO-2, CD-DWH-BF-1, CD-DWH-2, CD-DSR-BF, CD-DSS-BF, and CD-ADD-BF excluding Dryer Line 2 controls in the event Line 2 equipment is not installed**); and
3. Within 24 months from permit issuance (10203R06), the Permittee shall complete installation of new control devices (**I.D. Nos. CD-RTO-1, CD-WS-1, CD-WS-2, CD-RCO-1, CD-RCO-2, CD-DWH-BF-1, CD-DWH-2, CD-DSR-BF, CD-DSS-BF, and CD-ADD-BF excluding Dryer Line 2 controls in the event Line 2 equipment is not installed**); and demonstrate final compliance with 15A NCAC 02D .0515, .0516, .0521, .0535, .0540, .0711, .1100, 15A NCAC 02Q .0317 for avoidance of 15A NCAC 02D .0530, and 15A NCAC 02Q .0317 for avoidance of 15A NCAC 02D .1111 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.

B. GENERAL CONDITIONS AND LIMITATIONS

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

Regional Supervisor
North Carolina Division of Air Quality
Raleigh Regional Office
3800 Barrett Drive
Raleigh, NC 27609
919-791-4200

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

2. RECORDS RETENTION REQUIREMENT - In accordance with 15A NCAC 02D .0605, any records required by the conditions of this permit shall be kept on site and made available to DAQ personnel for inspection upon request. These records shall be maintained in a form suitable and readily available for expeditious inspection and review. These records must be kept on site for a minimum of 2 years, unless another time period is otherwise specified.
3. ANNUAL FEE PAYMENT - Pursuant to 15A NCAC 02Q .0203(a), the Permittee shall pay the annual permit fee within 30 days of being billed by the DAQ. Failure to pay the fee in a timely manner will cause the DAQ to initiate action to revoke the permit.
4. EQUIPMENT RELOCATION - In accordance with 15A NCAC 02Q .0301, a new air permit shall be obtained by the Permittee prior to establishing, building, erecting, using, or operating the emission sources or air cleaning equipment at a site or location not specified in this permit.
5. REPORTING REQUIREMENT - In accordance with 15A NCAC 02Q .0309, any of the following that would result in previously unpermitted, new, or increased emissions must be reported to the Regional Supervisor, DAQ:
 - a. changes in the information submitted in the application regarding facility emissions;
 - b. changes that modify equipment or processes of existing permitted facilities; or
 - c. changes in the quantity or quality of materials processed.

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

6. In accordance with 15A NCAC 02Q .0309, this permit is subject to revocation or modification by the DAQ upon a determination that information contained in the application or presented in the support thereof is incorrect, conditions under which this permit was granted have changed, or violations of conditions contained in this permit have occurred. In accordance with G.S. 143-215.108(c)(1), the facility shall be properly operated and maintained at all times in a manner that will effectuate an overall reduction in air pollution. Unless otherwise specified by this permit, no emission source may be operated without the concurrent operation of its associated air cleaning device(s) and appurtenances.

7. In accordance with G.S. 143-215.108(c)(1), this permit is nontransferable by the Permittee. Future owners and operators must obtain a new air permit from the DAQ.
8. In accordance with G.S. 143-215.108(c)(1), this issuance of this permit in no way absolves the Permittee of liability for any potential civil penalties which may be assessed for violations of State law which have occurred prior to the effective date of this permit.
9. In accordance with G.S. 143-215.108(c)(1), this permit does not relieve the Permittee of the responsibility of complying with all applicable requirements of any Federal, State, or Local water quality or land quality control authority.
10. In accordance with 15A NCAC 02D .0605, reports on the operation and maintenance of the facility shall be submitted by the Permittee to the Regional Supervisor, DAQ at such intervals and in such form and detail as may be required by the DAQ. Information required in such reports may include, but is not limited to, process weight rates, firing rates, hours of operation, and preventive maintenance schedules.
11. A violation of any term or condition of this permit shall subject the Permittee to enforcement pursuant to G.S. 143-215.114A, 143-215.114B, and 143-215.114C, including assessment of civil and/or criminal penalties.
12. Pursuant to North Carolina General Statute 143-215.3(a)(2), no person shall refuse entry or access to any authorized representative of the DAQ who requests entry or access for purposes of inspection, and who presents appropriate credentials, nor shall any person obstruct, hamper, or interfere with any such representative while in the process of carrying out his official duties. Refusal of entry or access may constitute grounds for permit revocation and assessment of civil penalties.
13. In accordance with G.S. 143-215.108(c)(1), this permit does not relieve the Permittee of the responsibility of complying with any applicable Federal, State, or Local requirements governing the handling, disposal, or incineration of hazardous, solid, or medical wastes, including the Resource Conservation and Recovery Act (RCRA) administered by the Division of Waste Management.
14. PERMIT RETENTION REQUIREMENT - In accordance with 15A NCAC 02Q .0110, the Permittee shall retain a current copy of the air permit at the site. The Permittee must make available to personnel of the DAQ, upon request, the current copy of the air permit for the site.
15. CLEAN AIR ACT SECTION 112(r) REQUIREMENTS - Pursuant to 15A NCAC 02D .2100 "Risk Management Program," if the Permittee is required to develop and register a risk management plan pursuant to Section 112(r) of the Federal Clean Air Act, then the Permittee is required to register this plan with the USEPA in accordance with 40 CFR Part 68.
16. PREVENTION OF ACCIDENTAL RELEASES - GENERAL DUTY - Pursuant to Title I Part A Section 112(r)(1) of the Clean Air Act "Hazardous Air Pollutants - Prevention of Accidental Releases - Purpose and General Duty," although a risk management plan may not be required, if the Permittee produces, processes, handles, or stores any amount of a listed hazardous substance, the Permittee has a general duty to take such steps as are necessary to prevent the accidental release of such substance and to minimize the consequences of any release. **This condition is federally-enforceable only.**
17. GENERAL EMISSIONS TESTING AND REPORTING REQUIREMENTS - If emissions testing is required by this permit, or the DAQ, or if the Permittee submits emissions testing to the DAQ in support of a permit application or to demonstrate compliance, the Permittee shall perform such testing in accordance with 15A NCAC 02D .2600 and follow all DAQ procedures including protocol approval, regional notification, report submittal, and test results approval. Additionally, in accordance with 15A

NCAC 02D .0605, the Permittee shall follow the procedures for obtaining any required audit sample and reporting those results.

Permit issued this the 30th of October, 2019.

NORTH CAROLINA ENVIRONMENTAL MANAGEMENT COMMISSION



for _____
William D. Willets, P.E., Chief, Permitting Section

Division of Air Quality, NCDEQ
By Authority of the Environmental Management Commission

Air Permit No. 10203R06