ROY COOPER
Governor

MICHAEL S. REGAN
Secretary

MICHAEL ABRACZINSKAS
Director

NORTH CAROLINA
Environmental Quality

DRAFT

Mr. Everick Spence
Mill Manager
Domtar Paper Company, LLC
Post Office Box 747
Plymouth, North Carolina 27962

SUBJECT: Air Quality Permit No. 04291T48
Facility ID: 07/59/00069
Domtar Paper Company, LLC
Plymouth, North Carolina
Martin County, Fee Class: Title V

Dear Mr. Spence:

In accordance with the "reopen for cause" application initiated by the Division of Air Quality on June 11, 2020, we are forwarding herewith Air Quality Permit No. 04291T48 to Domtar Paper Company, Plymouth Facility, Plymouth, 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 .0503(8) 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 Office of Administrative Hearings, 6714 Mail Service Center, Raleigh, North Carolina 27699-6714. The form for requesting a formal adjudicatory hearing may be obtained upon request from the Office of Administrative Hearings. Unless a request for a hearing is made pursuant to NCGS 150B-23, this Air Quality Permit shall be final and binding. 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.

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.

Martin County has triggered increment tracking under PSD for SO_2 and PM_{10}. However, this permit does not consume or expand increments for any pollutants.

This Air Quality Permit shall be effective from XXXX YY, 2020, until September 30, 2022, or the renewal of Permit No. 04291T42 has been issued or denied, 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 Ms. Heather Sands at (919) 707-8725 or heather.sands@ncdenr.gov.

Sincerely yours,

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

Enclosure
c: Kelly Fortin (Permit and review)
Washington Regional Office
Connie Horne, Central Office (Cover letter only)
Central Files

ATTACHMENT to Permit No. 04291T48

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

ID No.	Insignificant Activity Description
FIBERLINE OPERATIONS	
IES-06-P1	No. 6 Bleach Plant, 6th stage hydrogen peroxide tank
IES-06-10-1200	No. 6 digester sand separator dumpster
IES-06-37-1060	No. 6 bleach plant condensate flash tank (from non-contact steam)
IES-07-10-1200	No. 7 digester sand separator dumpster
IES-07-37-1080	No. 7 bleach plant condensate flash tank (from non-contact steam)
IES-08-50-1100	Methanol storage tank (19,500 gallon capacity)
IES-08-51-1060	Magnesium sulfate storage tank (out of service)
IES-08-50-2060	No.1 (East) bulk caustic storage tank
IES-08-50-2080	No.2 (West) bulk caustic storage tank
IES-08-50-2260	North 10% caustic storage tank
IES-08-50-2280	South 10% caustic storage tank
IES-08-51-2060	Hydrogen peroxide storage tank
IES-08-51-3040	67% nitric acid storage
IES-08-51-3080	No. 6 & 7 digester acid cleaning tank
IES-08-51-4060	No.7 chelate tank
IES-08-51-5020	Defoamer tank
IES-08-52-1580	Chiller hotwell overflow (from non-contact heat exchange)
IES-08-52-7000	Chlorine dioxide plant condensate tank (from non-contact steam)
IES-08-52-7500	Emergency water tank(ClO2 Plant)
IES-08-61-1100	Turpentine Railcar Loading
IES-08-62-2000	Clean condensate collection tanks (from non-contact steam)
CHEMICAL RECOVERY	
IES-14-30-8050	Acid cleaning tank associated with lime mud filter system
IES-53-20-0470	Acid neutralization tank
IES-CR-EWSSF	East and west slaker sample funnels
IES-14-60-3013 **NSPS JJJJ** **MACT ZZZZ**	Natural gas-fired emergency lime kiln backup engine (127 hp)

ID No.	Insignificant Activity Description
EVAPORATOR AREA	
IES- 09-12.1000, IES-09-12.1100	Soap railcar loadout stations
IES-09-TRL	Secondary Turpentine Railcar Loading
POWER OPERATIONS	
IES-00-95-9900	Wood yard diesel fuel storage tank (10,000 gallons, fixed roof type)
IES-10-04-0220 **NSPS Kb**	No. 2 fuel oil storage tank (360,000 gallons)
IES-14-45-0920	No. 6 fuel oil day tank (by lime kiln)
IES-52-05-1040 **NSPS Kb**	No. 2 fuel oil storage tank (350,000 gallons)
IES-52-10-0010	No. 6 fuel oil storage tank (602,000 gallons)
IES-52-95-0050	Bark dozers diesel fuel storage tank (3,000 gallons)
IES-53-20-0450	93-98% H2SO4 storage tank
IES-94-30-2300	East diesel storage tank (15,500 gallons)
IES-94-30-2350	West diesel storage tank (15,500 gallons)
IES-94-30-2500	Gasoline storage tank (15,500 gallons)
IES-POWER-BCT	Miscellaneous boiler condensate collection tanks for continual hot fresh water (from non-contact heat exchange)
IES-POWER-DR	East & west demineralizer reactors
IES-POWER-DSM1	Dry scrubber media storage pile and bucket elevator
IES-POWER-DSM2	Dry scrubber media storage silo and vent filter baghouse
IES-POWER-HFSB	Nos. 1 & 2 hog fuel storage bins
PULP MACHINE OPERATIONS	
IES-44-02-1780	Caustic boilout tank
WOODYARD OPERATIONS	
IES-00-94-1300	Hose cutter
WASTEWATER TREATMENT	
IES-73-05-7090	Phosphoric acid storage tank
MAINTENANCE AND UTILITIES	
IES-01-10-1800	TRS cooling tower
IES-09-03-1000	Evaporator Cooling Tower
IES-94-30	Motor vehicle repair shop
IES-94-55-0105	Carpenter shop painting operations (out of service)

ID No.	Insignificant Activity Description
IES-MU-DO	Site-wide degreasing operations
IES-MU-PT	Plant-wide propane tanks
IES-MU-RE	Plant-wide refrigeration equipment
IFS-022	Site wide painting operations
IFS-023	Site wide maintenance cleaners
IES - KLime	Material reuse handling of various by-product streams at the No. 3 landfill location
LIGNIN RECOVERY PROCESS	
Acid Stage	
IES-09-27-2900	Wash water tank
IES-09-27-3700	Acid Sump Pit
IES-09-27-3400	LRP Lignin Conveyor No. 3
Alkaline Stage	
IES-09-27-3600	Alkaline Sump Pit

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

Summary of Changes to Permit

The following changes were made to the Domtar Paper Company – Plymouth, Air Permit No. 04291T47:

Pages	Section	Description of Changes
Cover letter	NA	• Updated permit revision and dates.
Cover Letter Attachment	Insignificant Activities list and Summary of changes to permit	• Updated summary of changes to permit
Permit Cover	NA	• Revised permit application number and dates.
1 – 113	All	• Updated Permit Revision Number in header. • Updated language to current permit shell.
3 – 16	Section 1	• Modified the No. 2 Hog Fuel Boiler description in the Section 1.0 equipment table by adding the underlined and italicized text as follows: "...HVLC/ Low Volume High Concentration (LVHC) gases *from white liquor scrubber except for periods of maintenance*/Stripper Off Gas (SOG) gases-fired...."
17 – 35	Section 2.1 A	• In condition A.6, revised the control method for TRS BACT by adding the underlined and italicized text: "good combustion practices *and white liquor scrubber*." • Added a requirement to condition A.6 to require a performance test on the No. 2 Hog Fuel Boiler specifically bypassing the white liquor scrubber and burning LVHC gases in the boiler. • Added a requirement to condition A.6 to require a performance test while burning LVHC gases from the white liquor scrubber to reestablish or confirm the white liquor scrubber minimum flowrate on a 3-hour rolling average basis. • Added inspection and monitoring requirements in condition A.6 for the white liquor scrubber

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

AIR QUALITY PERMIT

Permit No.	Replaces Permit No.	Effective Date	Expiration Date
04291T48	04291T47	XXXX YY, 2020	September 30, 2022*

*This permit shall expire on the earlier of September 30, 2022, or the renewal of Permit No. 04291T42 has been issued or denied.

Until such time as this permit expires or is modified or revoked, the below named Permittee is authorized to operate, as outlined in Part I, A. Air Quality Title V Operation Permit, and to construct and operate, as outlined in Part II, A. Air Quality Construction and Operation Permit, 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:	**Domtar Paper Company, LLC**
Facility ID:	**5900069**
Facility Site Location:	**NC Highway 149 North**
City, County, State, Zip:	**Plymouth, Martin County, North Carolina 27962**
Mailing Address:	**Post Office Box 747**
City, State, Zip:	**Plymouth, North Carolina 27962**
Application Numbers:	**5900069.20B**
Complete Application Date:	**June 12, 2020**
Primary SIC Code:	**2611 and 2621**
Division of Air Quality, Regional Office Address:	**Washington Regional Office 943 Washington Square Mall Washington, North Carolina 27889**

Permit issued this the YYth day of XXXX, 2020

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William D. Willets, P.E., Chief, Permitting Section
By Authority of the Environmental Management Commission

Table of Contents

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:

Page No.	Emission Source ID No.	Emission Source Description	Control Device ID No.	Control Device Description
POWER OPERATIONS				
No. 1 Hog Fuel Boiler				
18-35, 59, 77-80, 94	ES-64-25-0290 **NSPS D,** **PSD BACT,** **2D .1109 Case-by-Case MACT** **MACT DDDDD** **<u>As Control Device</u>** **NSPS BB,** **MACT S**	No. 1 Hog Fuel Boiler firing lignin, natural gas, biomass fuel,[1] No. 2 fuel oil, used oil, sludge,[2] and high volume low concentration (HVLC) gases with a maximum heat input of 1,021 million Btu per hour when firing any combination of fuels; 835 million Btu per hour when firing hog fuel in combination with any other fuel. ***Affected source see Section 2.2 G [.0530(u)]***	CD-64-45-0100, CD-64-45-0230 and CD-64-60-0120, CD-64-60-0420, CD-64-60-0720	Primary and secondary multicyclones (570 nine-inch cones and 1,224 nine-inch cones, respectively) operating in series followed by the West, Central and East Electroscrubbers operating in parallel
48-50	ES-64-50-0150	Ash transport steam exhauster ***Affected source see Section 2.2 G [.0530(u)]***	CD-64-50-0150	Air washer
48-50	ES-64-50-0180	Boiler ash silo ***Affected source see Section 2.2 G [.0530(u)]***	CD-64-50-0160 and CD-64-50-0170	One west and one east bagfilter (approximately 84 square feet of filter area each)
48-50	ES-64-60-0180	West de-entrainment vessel ***Affected source see Section 2.2 G [.0530(u)]***	CD-64-60-0900	Baghouse (approximately 1,058 square feet of filter area)
48-50	ES-64-60-0480	Central de-entrainment vessel ***Affected source see Section 2.2 G [.0530(u)]***	CD-64-60-0910	Baghouse central (approximately 1,058 square feet of filter area)
48-50	ES-64-60-0780	East de-entrainment vessel ***Affected source see Section 2.2 G [.0530(u)]***	CD-64-60-0920	Baghouse east (approximately 1,058 square feet of filter area)
48-50	ES-64-60-0960	Scrubber ash silo ***Affected source see Section 2.2 G [.0530(u)]***	CD-64-60-0961 and CD-64-60-0962	One west and one east bagfilter (approximately 105 square feet of filter area each)
No. 2 Hog Fuel Boiler				
18-35, 59, 61-62, 77-84, 94, 103	ES-65-25-0310 **NSPS D,** **PSD BACT, and** **02D .1109 Case-by-Case MACT** **MACT DDDDD** **<u>As Control Device</u>** **NSPS BB,** **MACT S**	No. 2 Hog Fuel Boiler firing lignin, natural gas, biomass fuel,[1] No. 2 oil, used oil, sludge,[2] and high volume low concentration (HVLC) gases, low volume high concentration (LVHC) gases from white liquor scrubber except for periods of scrubber maintenance, and stripper off gases (SOG) with a maximum heat input of 889 million Btu per hour when firing any combination of fuel ***Modified source see Section 2.2 G [.0530(u)]***	CD-65-45-0100, POS: CD-65-60-0120, CD-65-60-0410, CD-65-60-0610 OR AOS: CD-65-58-2000 ΔΔ	Multicyclone (356 nine-inch cones) followed by: POS: North, Central, and South Electroscrubbers operating in parallel OR AOS: Electrostatic precipitator ΔΔ

[1] Biomass fuel must meet the clean cellulosic biomass definition as provided in 40 CFR 241.2 or the specific non-hazardous secondary material (NHSM) categories in 40 CFR 241.4. The Permittee must notify the Division of Air Quality in writing within 30 days of beginning use of any new biomass fuel. For any fuel that is not clearly defined by 40 CFR 241.1 or 241.4, the Permittee must first submit a NHSM determination request to the Division of Air Quality under 40 CFR 241.2 and 241.3. A biomass fuel may also be approved as a NHSM by EPA.

[2] Domtar Paper Company, LLC, Plymouth, may burn sludge from the Domtar Plymouth and IP's New Bern waste treatment facilities as supplementary fuel in Nos. 1 and 2 Hog Fuel Boilers.

Page No.	Emission Source ID No.	Emission Source Description	Control Device ID No.	Control Device Description
48-50	ES-65-50-0160	Ash transport steam exhauster ***Affected source see Section 2.2 G [.0530(u)]***	CD-65-50-0160	Air washer
48-50	ES-65-50-0190	Boiler ash silo ***Affected source see Section 2.2 G [.0530(u)]***	CD-65-50-0170 and CD-65-50-0180	One east and one west bagfilter (approximately 105 square feet of filter area each)
48-50	ES-65-60-0140	North de-entrainment vessel ***Affected source see Section 2.2 G [.0530(u)]***	CD-65-60-0800	Baghouse (approximately 1,058 square feet of filter area)
48-50	ES-65-60-0430	Central de-entrainment vessel ***Affected source see Section 2.2 G [.0530(u)]***	CD-65-60-0820	Baghouse (approximately 1,058 square feet of filter area)
48-50	ES-65-60-0630	South de-entrainment vessel ***Affected source see Section 2.2 G [.0530(u)]***	CD-65-60-0840	Baghouse (approximately 1,058 square feet of filter area)
48-50	ES-65-60-0860	Scrubber ash silo ***Affected source see Section 2.2 G [.0530(u)]***	CD-65-60-0870 and CD-65-60-0880	One east and one west bagfilter (approximately 84 square feet of filter area each)
Temporary Boilers				
36-37	ES-RB1	Low sulfur, No. 2 fuel oil-fired temporary boiler (85.7 million Btu per hour maximum heat input)	NA	NA
36-37	ES-RB2	Low sulfur, No. 2 fuel oil-fired temporary boiler (85.7 million Btu per hour maximum heat input)	NA	NA
Storage and Handling				
56-58	FS-007	No. 1 and No. 2 hog fuel conveying ***Affected source see Section 2.2 G [.0530(u)]***	NA	NA
NA	FS-011	Hogged fuel storage pile at boilers ***Affected source see Section 2.2 G [.0530(u)]***	NA	NA
FIBERLINE OPERATIONS				
No. 6 Fiberline (rated a nominal at 800 bone dry tons per day)				
56-58	ES-06-05-2000	Chip silo B ***Affected source see Section 2.2 G [.0530(u)]***	NA	NA
56-58	ES-06-05-3000	Chip silo C ***Affected source see Section 2.2 G [.0530(u)]***	NA	NA
59-60, 77-84	ES-06-10-2380 **NSPS BB, MACT S**	Chip bin relief condenser ***Affected source see Section 2.2 G [.0530(u)] – emissions released from HVLC system emission point***	ES-65-25-0310 or ES-64-25-0290 or ES-10-25-0110 or CD-64-22-2000 ΔΔ	HVLC collection system to No. 2 Hog Fuel Boiler (primary) or No. 1 Hog Fuel Boiler (secondary) or No. 5 Recovery Boiler (as backup) or Thermal Oxidizer (as backup)ΔΔ – ***Thermal Oxidizer is a new source see Section 2.2 G [.0530(u)]***
59-60	ES-06-21-1100 **NSPS BB**	Pressure diffuser filtrate tank ***Affected source see Section 2.2 G [.0530(u)] – emissions released from HVLC system emission point***		
59-60, 77-84	ES-06-21-1200 **NSPS BB, MACT S**	Digester blow tank ***Affected source see Section 2.2 G [.0530(u)] – emissions released from HVLC system emission point***		
59-60, 77-84	ES-06-22-1080 **MACT S**	Secondary knotter ***Affected source see Section 2.2 G [.0530(u)] – emissions released from HVLC system emission point***		
59-60, 77-84	ES-06-22-1100 **MACT S**	Screen dilution tank ***Affected source see Section 2.2 G [.0530(u)] – emissions released from HVLC system emission point***		

Page No.	Emission Source ID No.	Emission Source Description	Control Device ID No.	Control Device Description
59-60, 77-84	ES-06-23-1200 **MACT S**	Decker hood ***Affected source see Section 2.2 G [.0530(u)] – emissions released from HVLC system emission point***		
59-60, 77-84	ES-06-23-1220 **MACT S**	Decker filtrate tank ***Affected source see Section 2.2 G [.0530(u)] – emissions released from HVLC system emission point***		
59-60, 77-84	ES-06-22-1280 **MACT S**	Quaternary screen ***Affected source see Section 2.2 G [.0530(u)] – emissions released from HVLC system emission point***		
61-62, 77-84	ES-06-10-2420 **NSPS BB, MACT S**	Digester flash condenser ***Affected source see Section 2.2 G [.0530(u)] – emissions released from LVHC system emission point***	ES -65-25-0310 or CD-14-55-2020 and ES-14-60-3000	LVHC collection system to No. 2 Hog Fuel Boiler or LVHC White Liquor Scrubber (80 gallons per minute minimum white liquor injection rate) followed by the No. 5 Lime Kiln
No. 6 Bleach Plant				
63-64, 77-84	ES-06-31-0180 **PSD BACT, MACT S**	Oxygen delignification system ***Affected source see Section 2.2 G [.0530(u)]***	NA	No control required per Clean Condensate Alternative under 40 CFR 63.447 (Permittee uses methanol biodegradation by wastewater treatment system to offset methanol emissions from O_2 Delignificantion sources)
63-64, 77-84	ES-06-31-1000 **PSD BACT MACT S**	1st stage O_2 surge tank ***Affected source see Section 2.2 G [.0530(u)]***	NA	
63-64, 77-84	ES-06-32-2060 **PSD BACT, MACT S**	2nd stage O_2 reactor blow tube ***Affected source see Section 2.2 G [.0530(u)]***	NA	
63-64, 77-84	ES-06-32-2100 **PSD BACT MACT S**	2nd stage wash tower ***Affected source see Section 2.2 G [.0530(u)]***	NA	
63-64, 77-84	ES-06-32-2120 **PSD BACT, MACT S**	2A/2B filtrate tank ***Affected source see Section 2.2 G [.0530(u)]***	NA	
63-64, 94-100	ES-06-32-2300 **PSD BACT**	No. 28 high density tank ***Affected source see Section 2.2 G [.0530(u)]***	NA	NA
63-64, 94-100	ES-06-32-2340 **PSD BACT**	No. 29 high density tank ***Affected source see Section 2.2 G [.0530(u)]***	NA	NA
63-64, 94-100	ES-06-32-2380 **PSD BACT**	No. 30 high density tank ***Affected source see Section 2.2 G [.0530(u)]***	NA	NA
63-64, 94-100	ES-06-32-2460 **PSD BACT**	2C washer ***Affected source see Section 2.2 G [.0530(u)]***	NA	NA
63-64, 94-100	ES-06-32-2480 **PSD BACT MACT S**	2C washer filtrate tank ***Affected source see Section 2.2 G [.0530(u)]***	CD-06-35-8100	White liquor scrubber (45gpm minimum circulation flow and a minimum pH of 10)
63-64, 77-84	ES-06-33-3060 **PSD BACT, MACT S**	3rd stage Tower - ClO_2 stage ***Affected source see Section 2.2 G [.0530(u)]***		
63-64, 94-100	ES-06-34-4080 and ES-06-34-4100 **PSD BACT**	4th stage extraction tower and filtrate tank ***Affected source see Section 2.2 G [.0530(u)]***		

Page No.	Emission Source ID No.	Emission Source Description	Control Device ID No.	Control Device Description
63-64, 77-84	ES-06-35-5060 **PSD BACT MACT S**	5th stage tower – ClO_2 stage ***Affected source see Section 2.2 G [.0530(u)]***		
63-64, 77-84	ES-06-35-5080 **PSD BACT, MACT S**	5th stage filtrate tank – ClO_2 stage ***Affected source see Section 2.2 G [.0530(u)]***		
63-64	ES-08-67-1400 **PSD BACT**	Acid sewer ***Affected source see Section 2.2 G [.0530(u)]***	CD-07-36-8000	White liquor scrubber (105 gallons per minute minimum circulation flow, and minimum pH of 10)
NA	ES-06-6SFCO	6th stage feed chute overflow line ***Affected source see Section 2.2 G [.0530(u)]***	NA or CD-06-35-8100	None or White liquor scrubber (45gpm minimum circulation flow and a minimum pH of 10)
63-64, 94-100	ES-06-P2	6th stage peroxide reactor blow tube ***Affected source see Section 2.2 G [.0530(u)]***	NA	NA
63-64, 94-100	ES-06-P3	6th stage peroxide stage washer, filtrate tank, vacuum pump, and exhaust blower ***Affected source see Section 2.2 G [.0530(u)]***	NA	NA
63-64	FS-003 **PSD BACT**	Building fugitives	NA	NA
No. 7 Fiberline (rated at a nominal 1,250 bone dry tons per day)				
56-58	ES-07-05-1000	Chip silo A ***Affected source see Section 2.2 G [.0530(u)]***	NA	NA
56-58	ES-07-05-2000	Chip silo B ***Affected source see Section 2.2 G [.0530(u)]***	NA	NA
59-60, 77-84	ES-07-10-2380 **NSPS BB, MACT S**	Chip bin relief condenser ***Affected source see Section 2.2 G [.0530(u)] – emissions released from HVLC system emission point***	ES-65-25-0310 or ES-64-25-0290 or ES-10-25-0110 or CD-64-22-2000 ΔΔ	HVLC collection system to No. 2 Hog Fuel Boiler (primary) or No. 1 Hog Fuel Boiler (secondary) or No. 5 Recovery Boiler (as backup) or Thermal Oxidizer (as backup)ΔΔ ***Thermal Oxidizer is a new source see Section 2.2 G [.0530(u)]***
59-60, 77-84	ES-07-21-1200 **NSPS BB, MACT S**	Digester blow tank ***Affected source see Section 2.2 G [.0530(u)] – emissions released from HVLC system emission point***		
59-60	ES-07-21-1100 **NSPS BB**	Pressure diffuser filtrate tank ***Affected source see Section 2.2 G [.0530(u)] – emissions released from HVLC system emission point***		
59-60, 77-84	ES-07-22-1080 **NSPS BB, MACT S**	Secondary knotter ***Affected source see Section 2.2 G [.0530(u)] – emissions released from HVLC system emission point***		
59-60, 77-84	ES-07-22-1280 **MACT S**	Quaternary screen ***Affected source see Section 2.2 G [.0530(u)] – emissions released from HVLC system emission point***		
59-60, 77-84	ES-07-22-1100 **MACT S**	Screen dilution tank ***Affected source see Section 2.2 G [.0530(u)] – emissions released from HVLC system emission point***		

Page No.	Emission Source ID No.	Emission Source Description	Control Device ID No.	Control Device Description
59-60, 77-84	ES-07-23-1200 **MACT S**	Decker hood ***Affected source see Section 2.2 G [.0530(u)] – emissions released from HVLC system emission point***		
59-60, 77-84	ES-07-23-1220 **MACT S**	Decker filtrate tank ***Affected source see Section 2.2 G [.0530(u)] – emissions released from HVLC system emission point***		
61-62, 77-84	ES-07-10-2420 **NSPS BB, MACT S**	Digester flash condenser ***Affected source see Section 2.2 G [.0530(u)] – emissions released from LVHC system emission point***	ES -65-25-0310 or CD-14-55-2020 and ES-14-60-3000	LVHC collection system to No. 2 Hog Fuel Boiler or LVHC White Liquor Scrubber (80 gallons per minute minimum white liquor injection rate) followed by the No. 5 Lime Kiln
No. 7 Bleach Plant				
63-64, 77-84	ES-07-31-1000 **PSD BACT MACT S**	1st stage O_2 surge tank ***Affected source see Section 2.2 G [.0530(u)]***	NA	No control required per Clean Condensate Alternative under 40 CFR 63.447 (Permittee uses methanol biodegradation by the wastewater treatment system to offset methanol emissions from O_2 Delignification sources)
63-64, 77-84	ES-07-31-1100 **PSD BACT MACT S**	Oxygen delignification system ***Affected source see Section 2.2 G [.0530(u)]***		
63-64, 77-84	ES-07-31-1140 **PSD BACT MACT S**	1st stage O_2 reactor blow tube ***Affected source see Section 2.2 G [.0530(u)]***		
63-64, 77-84	ES-07-31-1180 **PSD BACT MACT S**	1st stage wash tower ***Affected source see Section 2.2 G [.0530(u)]***		
63-64, 77-84	ES-07-31-1200 **PSD BACT, MACT S**	1A/1B filtrate tank ***Affected source see Section 2.2 G [.0530(u)]***		
63-64, 77-84	ES-07-33-3000 **PSD BACT MACT S**	3rd stage feed tank ***Affected source see Section 2.2 G [.0530(u)]***		
63-64, 77-84	ES-07-33-3080 **PSD BACT MACT S**	3rd stage tower - ClO2 stage ***Affected source see Section 2.2 G [.0530(u)]***	CD-07-36-8000	White liquor scrubber (105 gallons per minute minimum circulation flow, and minimum pH of 10)
63-64, 77-84	ES-07-35-5060 **PSD BACT, MACT S**	5th stage tower – ClO2 stage ***Affected source see Section 2.2 G [.0530(u)]***		
63-64, 77-84	ES-07-35-5080 **PSD BACT, MACT S**	5th stage filtrate tank ***Affected source see Section 2.2 G [.0530(u)]***		
63-64	ES-07-33-Blendbox **PSD BACT**	Blend box (sump) ***Affected source see Section 2.2 G [.0530(u)]***		
63-64	FS-004 **PSD BACT**	Building fugitives	NA	NA
63-64, 94-100	ES-07-34-4080 and ES-07-34-4100 **PSD BACT**	4th stage extraction tower and filtrate tank ***Affected source see Section 2.2 G [.0530(u)]***	NA	NA
94-100	ES-07-36-6040 and ES-07-36-6060 **PSD BACT**	Peroxide stage 6th stage extraction tower and filtrate tank ***Affected source see Section 2.2 G [.0530(u)]***	NA	NA

Page No.	Emission Source ID No.	Emission Source Description	Control Device ID No.	Control Device Description
No. 6 & 7 Fiberline (common facilities)				
94-100	ES-05-30-1300	No. 5 hot water tank/evaporator condensate ***Affected source see Section 2.2 G [.0530(u)]***	NA	NA
94-100	ES-08-40-1000	No. 32 high density pulp tank ***Affected source see Section 2.2 G [.0530(u)]***	NA	NA
63-64	ES-08-50-3140 **PSD BACT**	10% sulfuric acid day tank ***Affected source see Section 2.2 G [.0530(u)]***	CD-07-36-8000	White liquor scrubber (105 gallons per minute minimum circulation flow, and minimum pH of 10)
NA	ES-08-50-3020*	Sulfuric acid storage tank (24,000 gallon capacity)*	NA	NA
94-100	ES-08-52-1060	R8/10 chlorine dioxide generator (20,075 tons per year capacity) ***Affected source see Section 2.2 G [.0530(u)]***	CD-08-52-1860	White liquor scrubber (70 gallons per minute minimum caustic wetting rate)
NA	ES-08-52-1760, ES-08-52-1770, and ES-08-52-1780	Three chlorine dioxide tanks ***Affected source see Section 2.2 G [.0530(u)]***	CD-08-52-1860	White liquor scrubber (70 gallons per minute minimum caustic wetting rate)
61-62. 77-84	ES-08-61-1000 **MACT S**	Turpentine decanter tank ***Affected source see Section 2.2 G [.0530(u)] – emissions released from LVHC system emission point***	ES-65-25-0310 or CD-14-55-2020 and ES-14-60-3000	LVHC collection system to No. 2 hog fuel boiler or LVHC white liquor scrubber(80 gallons per minute minimum white liquor injection rate) followed by the No. 5 lime kiln
61-62, 77-84	ES-08-61-1020 **MACT S**	Turpentine decanter weir ***Affected source see Section 2.2 G [.0530(u)] – emissions released from LVHC system emission point***		
61-62, 77-84	ES-08-61-1040 **MACT S**	Turpentine underflow tank ***Affected source see Section 2.2 G [.0530(u)] – emissions released from LVHC system emission point***		
61-62, 77-84	ES-08-61-1080 **MACT S**	Turpentine tank (32,000 gallons capacity) ***Affected source see Section 2.2 G [.0530(u)] – emissions released from LVHC system emission point***		
94-100	ES-08-65-1060	Spill collection tank ***Affected source see Section 2.2 G [.0530(u)]***	NA	NA
94-100	ES-08-70-0900	White liquor surge tank ***Affected source see Section 2.2 G [.0530(u)]***	NA	NA
59-60	ES-08-66-1000	Screen rejects tank ***Affected source see Section 2.2 G [.0530(u)] – emissions released from HVLC system emission point***	ES-65-25-0310 or ES-64-25-0290 or ES-10-25-0110 or CD-64-22-2000 ΔΔ	HVLC collection system to No. 2 Hog Fuel Boiler (primary) or No. 1 Hog Fuel Boiler (secondary) or No. 5 Recovery Boiler (as backup) or Thermal Oxidizer (as backup)ΔΔ ***Thermal Oxidizer is a new source see Section 2.2 G [.0530(u)]***
63-64	ES-08-67-1200 **PSD BACT**	Base effluent neutralization tank ***Affected source see Section 2.2 G [.0530(u)]***	CD-07-36-8000	White liquor scrubber (105 gallons per minute minimum circulation flow, and minimum pH of 10)
63-64	ES-08-67-1300 **PSD BACT**	Acid effluent neutralization tank ***Affected source see Section 2.2 G [.0530(u)]***		

Page No.	Emission Source ID No.	Emission Source Description	Control Device ID No.	Control Device Description
63-64	ES-08-70-1000	White liquor oxidation tank ***Affected source see Section 2.2 G [.0530(u)]***		
NA	FS-002*	Building fugitives*	NA	NA
EVAPORATOR OPERATIONS				
94-100	ES-09-05-0100**	West 18% liquor tank**	NA	NA
94-100	ES-09-05-0150**	18% liquor mix tank (west)**	NA	NA
94-100	ES-09-05-0200**	East 18% liquor tank**	NA	NA
94-100	ES-09-05-0210	South weak black liquor storage tank ***Affected source see Section 2.2 G [.0530(u)]***	NA	NA
94-100	ES-09-10**	Four soap storage tanks**	NA	NA
94-100	ES-09-19-0020**	East liquor heater**	NA	NA
94-100	ES-09-19-0030**	West liquor heater**	NA	NA
94-100	ES-09-20-0070**	No. 6 evaporator soap skim tank**	NA	NA
61-62 77-84, 94	ES-09-20-0320 **MACT S**	No. 6 black liquor evaporator system ***Affected source see Section 2.2 G [.0530(u)] – emissions released from LVHC system emission point***	ES -65-25-0310 or CD-14-55-2020 and ES-14-60-3000	LVHC collection system to No. 2 hog fuel boiler or LVHC white liquor scrubber(80 gallons per minute minimum white liquor injection rate) followed by the No. 5 lime kiln
61-62 77-84, 94	ES-09-25-0510 **NSPS BB, MACT S**	No. 7 black liquor evaporator system ***Affected source see Section 2.2 G [.0530(u)] – emissions released from LVHC system emission point***		
61-62 77-84	ES-09-35-0200 **MACT S**	Concentrator hotwell ***Affected source see Section 2.2 G [.0530(u)] – emissions released from LVHC system emission point***		
94-100	ES-09-25-0140**	No. 7 evaporator soap skimmer tank**	NA	NA
94-100	ES-09-25-0340**	Diverter tank**	NA	NA
94-100	ES-09-25-0540**	No. 7 evaporator boilout tank**	NA	NA
94-100	ES-09-30-0030**	Soap Collection tank**	NA	NA
94-100	ES-09-30-0010**	North 48% black liquor storage tank**	NA	NA
94-100	ES-09-30-0020**	South 48% black liquor storage tank**	NA	NA
94-100	ES-09-40-0010**	East 65% liquor storage tank**	NA	NA
94-100	ES-09-40-0020**	West 65% liquor storage tank**	NA	NA
94-100	ES-09-95**	Four saveall tanks**	NA	NA
94-100	ES-09-12-0250**	No. 5 Soap Storage Tank**	NA	NA
94-100	ES-09-12-0050**	Black Liquor Separator Tank**	NA	NA
61-62 77-84, 94-100	ES-09-TURPDECANT$^{\Delta}$	Secondary Turpentine Decanter Tank ***Affected source see Section 2.2 G [.0530(u)] – emissions released from LVHC system emission point***	ES-65-25-0310 or CD-14-55-2020 and ES-14-60-3000	LVHC collection system to No. 2 hog fuel boiler or LVHC white liquor scrubber (80 gallons per minute minimum white liquor injection rate) followed by the No. 5 lime kiln
61-62 77-84, 94-100	ES-09-TURPWEIR$^{\Delta}$	Secondary Turpentine Decanter Weir ***Affected source see Section 2.2 G [.0530(u)] – emissions released from LVHC system emission point***		
61-62 77-84, 94-100	ES-09-TURPUND$^{\Delta}$	Secondary Turpentine Underflow Tank ***Affected source see Section 2.2 G [.0530(u)] – emissions released from LVHC system emission point***		

Page No.	Emission Source ID No.	Emission Source Description	Control Device ID No.	Control Device Description
61-62 77-84, 94-100	ES-09-TURPSTOR$^{\Delta}$	Secondary Turpentine Storage Tank ***Affected source see Section 2.2 G [.0530(u)] – emissions released from LVHC system emission point***		
PULPING PROCESS CONDENSATE				
94-100	ES-09-20-0250**	Combined condensate tank**	NA	NA
61-62 77-84	ES-09-25-1000 **MACT S**	Condensate stripper feed tank ***Affected source see Section 2.2 G [.0530(u)] – emissions released from LVHC system emission point***	ES -65-25-0310 or CD-14-55-2020 and ES-14-60-3000	LVHC collection system to No. 2 hog fuel boiler or LVHC white liquor scrubber(80 gallons per minute minimum white liquor injection rate) followed by the No. 5 lime kiln
62, 74, 77-84	ES-09-25-1050 **NSPS BB, MACT S**	Condensate stripper reflux condenser ***Affected source see Section 2.2 G [.0530(u)] – emissions released from SOG system emission point***	ES-14-60-3000 or ES -65-25-0310	SOG collection system to the No. 5 lime kiln or the No. 2 hog fuel boiler
74, 94-100	ES-09-35-0140	C3 condensate to sewer	NA	NA
NA	ES-09-20-0010*	5th effect of evaporator No. 6 condensate to sewer and/or process*	NA	NA
RECOVERY BOILER OPERATIONS				
NA	ES-10-08-0010	Salt cake mix tank ***Affected source see Section 2.2 G [.0530(u)]***	CD-14-05-0750	South Ducon alkaline scrubber (50 gpm minimum Rod box flow, 75 gpm minimum spray header flow, and 3.0 inches of water minimum pressure drop)
38-41, 59-60, 77-92	ES-10-25-0110 **NSPS BB, PSD BACT, MACT S, MACT MM**	No. 5 Recovery Boiler firing natural gas, black liquor solids, low sulfur No. 2 fuel oil, and HVLC gases (130 tons per hour of black liquor solids) ***Affected source see Section 2.2 G [.0530(u)]***	CD-10-45-0010 and CD-10-45-0220	North and south electrostatic precipitators (approximately 169,164 square feet of collecting plate area each) operating in parallel
94-100	ES-10-45-0450	No. 5 precipitator mix tank ***Affected source see Section 2.2 G [.0530(u)]***	NA	NA
NA	ES-10-45-0520	North precipitator mix tank ***Affected source see Section 2.2 G [.0530(u)]***	NA	NA
NA	ES-10-45-0580	South precipitator mix tank ***Affected source see Section 2.2 G [.0530(u)]***	NA	NA
NA	ES-10-45-0630*	Precipitator purge tank *	NA	NA
SMELT DISSOLVING/GREEN LIQUOR CLARIFICATION OPERATIONS				
42-43, 95-91	ES-14-05-0050 **NSPS BB, MACT MM**	North Smelt Tank ***Affected source see Section 2.2 G [.0530(u)]***	CD-14-05-0700	North Ducon alkaline scrubber (50 gpm minimum Rod box flow, 75 gpm minimum spray header flow, and 3.0 inches of water minimum pressure drop)
42-43, 95-91	ES-14-05-0300 **NSPS BB, MACT MM**	South Smelt Tank ***Affected source see Section 2.2 G [.0530(u)]***	CD-14-05-0750	South Ducon alkaline scrubber (50 gpm minimum Rod box flow, 75 gpm minimum spray header flow, and 3.0 inches of water minimum pressure drop)

Page No.	Emission Source ID No.	Emission Source Description	Control Device ID No.	Control Device Description
94-100	ES-14-10-0050**	No. 4 green liquor clarifier**	NA	NA
94-100	ES-14-10-0400**	No. 3 green liquor clarifier**	NA	NA
94-100	ES-14-10-0750**	No. 3 green liquor storage tank**	NA	NA
94-100	ES-14-10-1000	No. 5 Green Liquor Clarifier ***Affected source see Section 2.2 G [.0530(u)]***	NA	NA
NA	ES-14-15-0600	Dregs surge tank ***Affected source see Section 2.2 G [.0530(u)]***	NA	NA
94-100	ES-14-15-0800	Dregs filter ***Affected source see Section 2.2 G [.0530(u)]***	NA	NA
94-100	ES-14-15-0900	Dregs filter vacuum system ***Affected source see Section 2.2 G [.0530(u)]***	NA	NA
94-100	ES-14-15-DREGS**	Dregs dumpster**	NA	NA
SLAKING/CAUSTICIZING OPERATIONS				
52-53, 94-100	ES-14-20-2020	East lime slaker ***Affected source see Section 2.2 G [.0530(u)]***	CD-14-20-2035	East slaker wet scrubber (45 gallons per minute minimum liquid injection rate)
52-53	ES-14-20-2040	No. 1 east causticizing line ***Affected source see Section 2.2 G [.0530(u)]***		
52-53	ES-14-20-2050	No. 2 east causticizing line ***Affected source see Section 2.2 G [.0530(u)]***		
52-53	ES-14-20-2060	No. 3 east causticizing line ***Affected source see Section 2.2 G [.0530(u)]***		
52-53, 94-100	ES-14-20-2085	West lime slaker ***Affected source see Section 2.2 G [.0530(u)]***	CD-14-20-2100	West slaker wet scrubber (45 gallons per minute minimum liquid injection rate)
52-53	ES-14-20-2105	No. 1 west causticizing line ***Affected source see Section 2.2 G [.0530(u)]***		
52-53	ES-14-20-2115	No. 2 west causticizing line ***Affected source see Section 2.2 G [.0530(u)]***		
52-53	ES-14-20-2125	No. 3 west causticizing line ***Affected source see Section 2.2 G [.0530(u)]***		
NA	ES-14-20-GRITS*	Slaker (grits) dumpster*	NA	NA
94-100	ES-14-25-0050	Hydrosulfide storage tank ***Affected source see Section 2.2 G [.0530(u)]***	NA	NA
94-100	ES-14-25-0150	Synthetic liquor mix tank ***Affected source see Section 2.2 G [.0530(u)]***	NA	NA
94-100	ES-14-25-0450**	No. 3 white liquor clarifier**	NA	NA
94-100	ES-14-25-0800**	No. 4 white liquor clarifier**	NA	NA
94-100	ES-14-25-0350	No. 5 white liquor clarifier ***Affected source see Section 2.2 G [.0530(u)]***	NA	NA
LIME MUD FILTERS AND LIME KILN OPERATIONS				
94-100	ES-14-30-0310	Lime mud mix tank ***Affected source see Section 2.2 G [.0530(u)]***	NA	NA
94-100	ES-14-30-0350	No. 2 lime mud wash tank ***Affected source see Section 2.2 G [.0530(u)]***	NA	NA
94-100	ES-14-30-0700	No. 3 lime mud wash tank ***Affected source see Section 2.2 G [.0530(u)]***	NA	NA
94-100	ES-14-30-1450	Lime mud storage tank ***Affected source see Section 2.2 G [.0530(u)]***	NA	NA

Page No.	Emission Source ID No.	Emission Source Description	Control Device ID No.	Control Device Description
94-100	ES-14-30-5040 and ES-14-30-6040	Two lime mud filter vacuum systems ***Affected source see Section 2.2 G [.0530(u)]***	NA	NA
NA	ES-14-30-6060	Lime mud filtrate tank ***Affected source see Section 2.2 G [.0530(u)]***	NA	NA
94-100	ES-14-70-2020	Scrubber water clarifier ***Affected source see Section 2.2 G [.0530(u)]***	NA	NA
94-100	ES-14-70-2045	Lime kiln scrubber water standpipe ***Affected source see Section 2.2 G [.0530(u)]***	NA	NA
65-66, 94-100	ES-14-30-5000	East lime mud filter – hood exhaust ***Affected source see Section 2.2 G [.0530(u)]***	CD-14-30-6025	Lime mud scrubber/ mist eliminator (48 gallons per minute minimum liquid injection rate)
65-66, 94-100	ES-14-30-6000	West lime mud filter - hood exhaust ***Affected source see Section 2.2 G [.0530(u)]***		
44-47, 61-62, 77-91, 94	ES-14-60-3000 **MACT S** **<u>As Control Device</u>** **NSPS BB,** **MACT MM,** **PSD BACT**	No. 5 Lime Kiln firing natural gas, No. 2 fuel oil, LVHC gases, and stripper off gases (SOG) (500 tons per day of reburned lime nominal capacity) ***Affected source see Section 2.2 G [.0530(u)]***	CD-14-70-2012	Venturi scrubber (800 gallons per minute minimum liquid injection rate, 5.0 inches of water maximum pressure drop, and 240 psig to 275 psig scrubber nozzle header pressure range)
54-55	ES-14-60-3015	Reburned lime crusher ***Affected source see Section 2.2 G [.0530(u)]***	CD-14-70-2012 or CD-14-65-1075	Venturi scrubber (800 gallons per minute minimum liquid injection rate, 5.0 inches of water maximum pressure drop, and 240 psig to 275 psig scrubber nozzle header pressure range) or Lime dust baghouse (approximate 1,608 square feet of filter area)
48-52	ES-14-65-1000	Reburned lime conveyor ***Affected source see Section 2.2 G [.0530(u)]***	CD-14-65-1075	Lime dust baghouse (approximate 1,608 square feet of filter area)
48-52	ES-14-65-1020	Reburned lime bucket elevator ***Affected source see Section 2.2 G [.0530(u)]***		
48-52	ES-14-65-1030	Reburned lime bin ***Affected source see Section 2.2 G [.0530(u)]***		
48-52	ES-14-65-1080	Fresh lime bin ***Affected source see Section 2.2 G [.0530(u)]***	CD-14-65-1082	Lime dust baghouse (approximate 360 square feet of filter area)
PULP OPERATIONS				
NC-2 Line				
NA	ES-32-25-0200 and ES-32-25-0240	White water tanks ***Affected source see Section 2.2 G [.0530(u)]***	NA	NA
94-100	ES-32-93-0100	Building roof vents ***Affected source see Section 2.2 G [.0530(u)]***	NA	NA
94-100	ES-32-STOCKTANKS	NC-2 HD and LD Stock Tanks ***Affected source see Section 2.2 G [.0530(u)]***	NA	NA
NA	ES-32-IO-VACPUMPS	Inside/outside vacuum pumps ***Affected source see Section 2.2 G [.0530(u)]***	NA	NA

Page No.	Emission Source ID No.	Emission Source Description	Control Device ID No.	Control Device Description
NA	ES-32-HOODS	Dryer hoods ***Affected source see Section 2.2 G [.0530(u)]***	NA	NA
NC-5 Line				
94-100, 103	ES-45-93-0100	Building fugitives ***Modified source see Section 2.2 G [.0530(u)]***	NA	NA
94-100, 103	ES-FP-STOCKTANKS	NC-5 HD and LD Stock Tanks ***Modified source see Section 2.2 G [.0530(u)]***	NA	NA
NA	ES-45-40-VACP	Inside/outside vacuum pumps ***Modified source see Section 2.2 G [.0530(u)]***	NA	NA
94-100	ES-45-40-HOOD	Dryer hoods ***Modified source see Section 2.2 G [.0530(u)]***	NA	NA
WOODYARD OPERATIONS				
NA	ES-00-30-4480	North chip pile ***Affected source see Section 2.2 G [.0530(u)]***	NA	NA
NA	ES-00-30-4240	South chip pile ***Affected source see Section 2.2 G [.0530(u)]***	NA	NA
56-58	ES-00-35-1000	Screen house ***Affected source see Section 2.2 G [.0530(u)]***	NA	NA
NA	ES-00-50-3280	Hogged bark fuel storage pile ***Affected source see Section 2.2 G [.0530(u)]***	NA	NA
56-58	ES-11-10-1500	Debarking and chipping line	NA	NA
NA	ES-11-30-1020	Emergency chip pile with traversing stacker ***Affected source see Section 2.2 G [.0530(u)]***	NA	NA
56-58	ES-11-50-4500-1 and ES-11-50-4500-2	Two bark hogs ***Affected source see Section 2.2 G [.0530(u)]***	NA	NA
56-58	FS-010	Hog fuel handling and transfer in woodyard ***Affected source see Section 2.2 G [.0530(u)]***	NA	NA
56-58	FS-012	Chip conveying to pulping ***Affected source see Section 2.2 G [.0530(u)]***	NA	NA
56-58	FS-013	Chip handling and transfer system in woodyard ***Affected source see Section 2.2 G [.0530(u)]***	NA	NA
56-58	FS-021	Hog fuel handling and transfer to boiler area ***Affected source see Section 2.2 G [.0530(u)]***	NA	NA
75-76	ES-TEMP-CHIP	One or more portable log chipper(s)	NA	NA
WASTEWATER TREATMENT OPTIONS				
74, 94-100	ES-73-05-2000	Power/recovery channel and sewer ***Affected source see Section 2.2 G [.0530(u)]***	NA	NA
94-100	ES-73-05-5200	Fiber line sewer lift station ***Affected source see Section 2.2 G [.0530(u)]***	NA	NA
NA	ES-73-05-6000	Paper and bleach plant sewer ditches ***Affected source see Section 2.2 G [.0530(u)]***	NA	NA
NA	ES-73-05-7080	Ammonium hydroxide storage tank ***Affected source see Section 2.2 G [.0530(u)]***	NA	NA

Page No.	Emission Source ID No.	Emission Source Description	Control Device ID No.	Control Device Description
NA	ES-73-10-1000	No. 1 settling pond ***Affected source see Section 2.2 G [.0530(u)]***	NA	NA
NA	ES-73-10-2000	No. 2 settling pond ***Affected source see Section 2.2 G [.0530(u)]***	NA	NA
NA	ES-73-10-2510	No. 2 lift station ***Affected source see Section 2.2 G [.0530(u)]***	NA	NA
NA	ES-73-10-3000	Aeration basin ***Affected source see Section 2.2 G [.0530(u)]***	NA	NA
NA	ES-73-10-3920	Riffler ***Affected source see Section 2.2 G [.0530(u)]***	NA	NA
NA	ES-73-10-4000	No. 1 retention pond ***Affected source see Section 2.2 G [.0530(u)]***	NA	NA
NA	ES-73-10-4500	No. 2 retention pond ***Affected source see Section 2.2 G [.0530(u)]***	NA	NA
NA	ES-73-10-5030	No. 1 lift Station & Receiving Pond ***Affected source see Section 2.2 G [.0530(u)]***	NA	NA
NA	ES-73-25-1100 and ES-73-25-1120	No. 3 landfill clean filtrate/leachate sumps ***Affected source see Section 2.2 G [.0530(u)]***	NA	NA
NA	FS-018	Site-wide sumps ***Affected source see Section 2.2 G [.0530(u)]***	NA	NA
MAINTENANCE OPERATIONS				
67-68	ES-94-15	Carpenter shop woodworking operations	CD-94-15-0450	Cyclone
LANDFILL OPERATIONS				
NA	ES-73-40*	No. 3 landfill, active (up to 95 acres)*	NA	NA
EMERGENCY RECIPROCATING INTERNAL COMBUSTION ENGINES				
69-71	ES-14-60-3000a **MACT ZZZZ**	Spare diesel engine backup (81 hp)	NA	NA
69-71	ES-53-40-0130 **MACT ZZZZ**	Fine paper fire pump diesel engine (237 hp)	NA	NA
69-71	ES-53-40-0140 **MACT ZZZZ**	Warren Creek east fire pump diesel engine (260 hp)	NA	NA
69-71	ES-53-40-0145 **MACT ZZZZ**	Warren Creek west fire pump diesel engine (180 hp)	NA	NA
69-71	ES-71-95-0500 **MACT ZZZZ**	Backup communication system diesel generator (738 hp)	NA	NA
69-71	ES-73-05-4510 **MACT ZZZZ**	Backup lift station runoff collection diesel engine (210 hp)	NA	NA
69-71	ES-73-05-4580 **MACT ZZZZ**	Backup fiberline lift station diesel engine (210 hp)	NA	NA
LIGNIN RECOVERY PROCESS				
Filter 1/ Alkaline Stage				
72 – 73, 94-100	ES-09-27-1000 **PSD BACT**	LRP 40% Black Liquor Tank	NA	NA
72-73	ES-09-27-1100 **PSD BACT**	40% Black Liquor Cooler	ES-65-25-0310 or ES-64-25-0290 or	HVLC collection system to No. 2 Hog Fuel Boiler (primary) or No. 1 Hog Fuel Boiler (secondary) or
72-73	ES-09-27-1200 **PSD BACT**	Filtrate 1 Storage Tank		

Page No.	Emission Source ID No.	Emission Source Description	Control Device ID No.	Control Device Description
72-73	ES-09-27-1400 **PSD BACT**	Carbonator Tower	ES-10-25-0110 or CD-64-22-2000ΔΔ	No. 5 Recovery Boiler (as backup) or Thermal Oxidizer (as backup)ΔΔ
72-73	ES-09-27-1800 **PSD BACT**	Agitated Conditioning Tank		
72-73	ES-09-27-2000 **PSD BACT**	Agitated Buffer Tank		
72-73, 94-100	ES-09-27-2100 **PSD BACT**	LRP Primary Filter Press[3]		
72-73	ES-09-27-2300 **PSD BACT**	Cloth Wash Water Tank 1		
72-73	ES-09-27-2400 **PSD BACT**	Filtrate Tank 1		
72-73	ES-09-27-2500 **PSD BACT**	Filtrate 1 Buffer Tank		
72-73	ES-09-27-2610 **PSD BACT**	Dewatered Lignin Conveyor 1		
72-73	ES-09-27-2620 **PSD BACT**	Dewatered Lignin Conveyor 2		
Filter 2/ Acid Stage				
72-73, 94-100	ES-09-27-2700 **PSD BACT**	Agitated Acidification Tank	ES-09-27-1400	Carbonator Tower (white liquor scrubber)
72-73, 94-100	ES-09-27-2770 **PSD BACT**	Acidification Overflow/Foam Tank		
72-73, 94-100	ES-09-27-2800 **PSD BACT**	Agitated Acid Conditioning Tank		
72-73, 94-100	ES-09-27-3000 **PSD BACT**	LRP Press Building Fugitives (Filter Press 2)	NA	NA
72-73, 94-100	ES-09-27-3100 **PSD BACT**	LRP Secondary Cloth Wash Tank	NA	NA
72-73	ES-09-27-3200 **PSD BACT**	LRP Secondary Filtrate Tank	ES-65-25-0310 or ES-64-25-0290 or ES-10-25-0110 or CD-64-22-2000ΔΔ	HVLC collection system to No. 2 Hog Fuel Boiler (primary) or No. 1 Hog Fuel Boiler (secondary) or No. 5 Recovery Boiler (as backup) or Thermal Oxidizer (as backup)ΔΔ

* Sources identified with an asterisk have no applicable requirements under the North Carolina SIP, but their emissions are greater than the thresholds under 15A NCAC 02Q .0503(8).

** These sources are only regulated under 02D .1100 "Control of Toxic Air Pollutants" in Section 2.2 of this permit.

Δ These emission sources (ID Nos. ES-09-TURPDECANT, ES-09-TURPWEIR, ES-09-TURPUND, ES-09-TURPSTOR) are listed as a 15A NCAC 02Q .0501(b)(2) modification. The Permittee shall file a Title V Air Quality Permit Application on or before 12 months after commencing operation in accordance with General Condition NN.1. The permit shield described in General Condition R does not apply and compliance certification as described in General Condition P is not required.

ΔΔ These sources (ID Nos. CD-65-58-2000 and CD-64-22-2000) are listed as a 15A NCAC 02Q .0501(b)(2) modification. The Permittee shall file a Title V Air Quality Permit Application on or before 12 months after commencing operation in accordance with General Condition NN.1. The permit shield described in General Condition R does not apply and compliance certification as described in General Condition P is not required.

[3] LRP Primary Filter Press is partially controlled by vacuum pull to HVLC System

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) listed below are subject to the following specific terms, conditions, and limitations, including the testing, monitoring, recordkeeping, and reporting requirements as specified herein:

A. Hog Fuel Boilers

- **No. 1 Hog Fuel Boiler (ID No. ES-64-25-0290) firing lignin, natural gas, biomass fuel, No. 2 oil, used oil, sludge, and HVLC gases with a maximum heat input of 1,021 million Btu per hour when firing any combination of fuels, 835 million Btu per hour when firing clean cellulosic biomass in combination with any other fuel, controlled by primary multicyclone (ID No. CD-64-45-0100) and secondary multicyclone (ID No. CD-64-45-0230) operating in series, followed by electroscrubbers (ID Nos. CD-64-60-0120, CD-64-60-420 and CD-64-60-0720) operating in parallel, and**
- **No. 2 Hog Fuel Boiler (ID No. ES-65-25-0310) firing lignin, natural gas, biomass fuel, No. 2 oil, used oil, sludge, and HVLC gases, LVHC gases from white liquor scrubber except for periods of scrubber maintenance, and SOG gases with a maximum heat input of 889 million Btu per hour when firing any combination of fuel, equipped with an oxygen trim system, and controlled by multicyclone (ID No. CD-65-45-0100) in series with electroscrubbers (ID Nos. CD-65-60-0120, CD-65-60-0410, and CD-65-60-0610) operating in parallel or an electrostatic precipitator (ID No. CD- 65-58-2000).**

The following table provides a summary of limits and standards for the emission sources described above:

Regulated Pollutant	Limits/Standards	Applicable Regulation
Particulate Matter	<u>No. 1 Hog Fuel Boiler</u> 0.160 pounds per million Btu heat input (when firing natural gas and fuel oil only); <u>No. 2 Hog Fuel Boiler</u> 0.143 pounds per million Btu heat input (when firing natural gas and fuel oil only); <u>Both Boilers</u> 0.22 pounds per million Btu heat input (when firing woodwaste only); or When firing woodwaste in combination with natural gas or fuel oil: Ec = [(0.22)(Qw) + Eo(Qo)]/Qt Where: Ec = emission limit for combined firing (pound per million Btu); Qw = actual wood heat input including woodwaste; Eo = the emission limit for other fuels only as determined for each boiler, above (pound per million Btu); Qo = actual heat input other than wood heat input; and Qt = Qw + Qo	15A NCAC 02D .0503 15A NCAC 02D .0504 15A NCAC 02D .0504
Sulfur Dioxide	2.3 percent sulfur content fuel when firing only wood residue	15A NCAC 02D .0516
Nitrogen Oxides	**NO_2, shall not exceed:** 0.3 pounds per million Btu heat input when firing oil only or oil and wood residue or natural gas and wood residue. 0.2 pounds per million Btu heat input when firing natural gas only.	15A NCAC 02D .0524 (40 CFR 60, Subpart D)
Sulfur Dioxide	**SO_2 emissions shall not exceed:** 0.8 pounds per million Btu heat input when firing oil only or oil and wood residue.	

Regulated Pollutant	Limits/Standards	Applicable Regulation
Particulate Matter	**PM emissions shall not exceed:** 0.10 pounds per million Btu heat input when firing oil only or oil and wood residue or natural gas and wood residue.	
Visible Emissions	**VE shall not exceed:** 20 percent opacity when averaged over a six-minute period, except for one six-minute period per hour of not more than 27 percent opacity.	
Criteria Pollutants	**CO emissions from the No. 1 hog fuel boiler shall not exceed:** • 1,646 pounds per hour when firing HVLC NCG gases **Emissions from the No. 2 hog fuel boiler shall not exceed:** • 1,433 pounds of CO per hour when firing HVLC NCG gases; • 0.10 pounds of PM_{10} per million Btu heat input when firing any fuel; • 0.8 pounds of SO_2 per million Btu heat input when firing oil with wood; • 339 pounds of H_2SO_4 mist consecutive 24-hour period when firing LVHC and SOG NCG gases; and • 235 pounds of total reduced sulfur (TRS) consecutive 24-hour period when firing LVHC NCG and SOG gases Where: HVLC NCG is high volume, low concentration noncondensible gases, LVHC NCG is low volume, high concentration noncondensible gases, and SOG is stripper off gas	15A NCAC 02D .0530
Nitrogen oxides	**NOx emissions from No. 2 hog fuel boiler shall not exceed:** 1,771.3 tons per consecutive 12 month period.	15A NCAC 02Q .0317 (15A NCAC 02D .0530 Avoidance)
Filterable PM	PM emissions shall not exceed limits in Section 2.1 A.8.b	15A NCAC 02D .1109 *[CAA §112(j)]*
PM_{10}	Compliance Assurance Monitoring	15A NCAC 02D .0614
Hazardous Air Pollutants	HAP emissions shall not exceed limits in Section 2.1 A.8.b	15A NCAC 02D .1109 *[CAA §112(j)]*
Hazardous Air Pollutants	2.2E-02 lb HCl per million Btu of heat input 5.7E-06 lb Hg per million Btu or heat input 3,500 parts per million CO on a dry basis corrected to 3 percent oxygen, 3-run average 4.4E-01 lb filterable PM per million Btu of heat input OR 4.5E-04 lb TSM per million Btu of heat input	15A NCAC 02D .1111 [40 CFR Part 63, Subpart DDDDD]

1. ALTERNATIVE OPERATING SCENARIOS [15A NCAC 02Q .0508(j)]

The Permittee, contemporaneously with making a change from one alternate operating scenario to another, shall record in a logbook (written or electronic format) the scenario under which it is operating. [15A NCAC 02Q .0508(p)]

a. The Primary Operating Scenario (POS) is defined as the No. 2 Hog Fuel Boiler **(ID No. ES-65-25-0310)** equipped with a multicyclone **(ID No. CD-65-45-0100)** in series with three electroscrubbers **(ID Nos. CD-65-60-0120, CD-65-60-0410, and CD-65-60-0610)** operating in parallel.

b. The Alternate Operating Scenario (AOS) is defined as the No. 2 Hog Fuel Boiler **(ID No. ES-65-25-0310)** equipped with a multicyclone **(ID No. CD-65-45-0100)** in series with an electrostatic precipitator **(ID No. CD-65-58-2000)**.

c. The Permittee shall submit a notification to DAQ within 10 days of switching to the Alternate Operating Scenario.

2. 15A NCAC 02D .0503: PARTICULATES FROM FUEL BURNING INDIRECT HEAT EXCHANGERS

a. Emissions of particulate matter from the combustion of natural gas and fuel oil, that are discharged from the Nos. 1 and 2 Hog Fuel Boilers into the atmosphere shall not exceed 0.154 pounds per million Btu heat input.

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 2D .0503.

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

c. No monitoring/recordkeeping/reporting is required for particulate emissions from the firing of natural gas and No. 2 fuel oil, alone, in this source.

3. 15A NCAC 02D .0504: PARTICULATES FROM WOOD BURNING INDIRECT HEAT EXCHANGERS

a. Emissions of particulate matter from the combustion of wood that are discharged from the hog fuel boilers (**ID Nos. ES-64-25-0290 and ES-65-25-0310**) into the atmosphere shall not exceed 0.22 pounds per million Btu heat input as calculated according to the following equation:

$E = 1.1698\ Q^{-0.2230}$ lb/million Btu

Where E = the allowable emission rate and Q = maximum heat input in million Btu/hour from all wood burning sources.

[15A NCAC 02D .0504]

b. Emissions of particulate matter from the combustion of wood and other fuels in combination that are discharged from the hog fuel boilers **(ID Nos. ES-64-25-0290 and ES-65-25-031)** into the atmosphere shall not exceed an allowable emission rate as calculated by the following equation:

$$E_c = [(E_w)(Q_w) + (E_o)(Q_o)]/Q_t$$

Where:

E_C = the emission limit for combination or combined emission source(s) in pounds per million Btu.
E_W = emission limit for wood only as determined in Section 2.1 A.3.a, above, in pounds per million Btu.
E_O = emission limit for other fuels only as determined Section 2.1 A.2.a, above, in pounds per million Btu.
Q_W = the actual wood heat input to the hog fuel boiler in million Btu per hour.
Q_O = the actual other fuels heat input to the hog fuel boiler in million Btu per hour.
Q_t = $Q_W + Q_O$ and is the actual total heat input to hog fuel boiler in million Btu per hour.

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

c. 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 .0504.

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

d. Particulate matter emissions from the hog fuel boilers shall be controlled as specified in Section 2.1 A.5.i below and inspected and maintained as specified in Section 2.1 A.5.j below. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0504 if inspection and maintenance records (written or electronic format) are not created or retained.

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

e. Within 30 days of a written request from the DAQ, the Permittee shall submit a report of any maintenance performed on the multicyclones, electroscrubbers, or electrostatic precipitators.

4. 15A NCAC 02D .0516: SULFUR DIOXIDE EMISSIONS FROM COMBUSTION SOURCES

a. Emissions of sulfur dioxide when firing wood in the hog fuel boilers (**ID Nos. ES-64-25-0290 and ES-65-25-0310**) 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.4.a above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0516.

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

c. Monitoring, recordkeeping and reporting are not required for the combustion of wood residue in these boilers.

5. 15A NCAC 02D .0524: NEW SOURCE PERFORMANCE STANDARDS (40 CFR PART 60, SUBPART D)

a. The Permittee shall comply with all applicable provisions, including the notification, testing, reporting, recordkeeping, and monitoring requirements in accordance with 15A NCAC 02D .0524, "New Source Performance Standards (NSPS) as promulgated in 40 CFR Part 60, Subpart D, including Subpart A "General Provisions."[15A NCAC 02D .0524]

Emissions Limits [15A NCAC 02D .0524]

b. The following emission limits shall not be exceeded for each hog fuel boiler:

POLLUTANT	EMISSION LIMIT
Sulfur Dioxide	0.8 pounds per million Btu heat input when firing oil or oil and wood (except during periods of startup, shutdown and malfunction)
Nitrogen Oxides (expressed as NO_2)	**Firing natural gas only:** 0.2 pounds per million Btu heat input when firing natural gas (except during periods of startup, shutdown and malfunction) **Firing oil or firing wood with oil or wood with natural gas** 0.3 pounds per million Btu heat input when firing oil or oil and wood residue or natural gas and wood residue (except during periods of startup, shutdown and malfunction)
Particulates	0.10 pounds per million Btu heat input when firing oil or oil and wood residue (except during periods of startup, shutdown and malfunction)
Visible Emissions	20 percent opacity (except during periods of startup, shutdown and malfunction) except for one six-minute period per hour of not more than 27 percent opacity

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

c. ALTERNATE OPERATING SCENARIO: The Permittee shall conduct an initial performance test on the No. 2 Hog Fuel Boiler **(ID No. ES-65-25-0310)** for particulate matter within 180 days of startup of the electrostatic precipitator **(ID No. CD-65-58-2000)**. The performance test shall be conducted as specified in Section 2.1 A.5.d.ii, below, and in accordance a testing protocol approved by the DAQ and the requirements in General Condition JJ. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0524 if the initial performance test is not conducted.

d. Under the provisions of North Carolina General Statutes 143-215.108 and in accordance with General Condition JJ, the Permittee shall demonstrate compliance by testing the No. 1 and No. 2 Hog Fuel Boilers **(ID Nos. ES-64-25-0290 and ES-65-25-0310)** as follows:

i. The Permittee shall test the hog fuel boilers for particulate emissions once every five years.

ii. During testing of each boiler, the Permittee shall fire the fuel or fuel combination expected to result in the highest emissions of each pollutant and which is expected to contribute at least 10% of the 12-month average heat input for the boiler.

iii. During the testing of each boiler, the Permittee shall operate the control devices as follows:

(A) Operate only two of the three electroscrubbers installed on the No. 1 Hog Fuel Boiler and the No. 2 Hog Fuel Boiler (POS Only) for which at least 25% of the total elements have less than 1 kilovolt of voltage applied.

(B) Operate electrostatic precipitator installed on the No. 2 Hog Fuel Boiler with one of its fields offline (AOS Only).

If the result of any test is greater than a limit given in Section 2.1 A.5.b above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0524.

e. Under the provisions of North Carolina General Statutes 143-215.108 and in accordance with General Condition JJ, the Permittee shall demonstrate compliance by testing the No. 1 and No. 2 Hog Fuel Boilers **(ID Nos. ES-64-25-0290 and ES-65-25-0310)** for sulfur dioxide emissions once every five years of normal operation. Normal operation does not include periodic firing for building heat or maintenance. During testing, the boiler shall fire the fuel or fuel combination expected to result in the highest emissions of each pollutant and which is expected to contribute at least 10% of the 12-month average heat input for the boiler. If the result of any test is greater than a limit given in Section 2.1 A.5.b above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0524.

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

f. The Permittee shall install, calibrate, maintain, and operate a continuous opacity monitoring system (COMS) for measuring the opacity of the visible emissions from each hog fuel boiler **(ID Nos. ES-64-25-0290 and ES-65-25-0310)** as specified in 40 CFR 60.11(d) and 60.13. [40 CFR 60.11, 60.13, and 60.45(a)]

g. The Permittee shall demonstrate compliance with the visible emissions limit in Section 2.1 A.5.b above using six-minute averages of the COMS values. If any six-minute period average exceeds 20 percent opacity (except during periods of startup, shutdown and malfunction) except for one six-minute period per hour of not more than 27 percent opacity, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0524. [40 CFR 63.45(g)(1)]

h. The Permittee shall install, calibrate, maintain, and operate a continuous emissions monitoring system (CEMS) for measuring and recording the 1-hour average NO_X and O_2 (or CO_2) emission rates in pounds per million Btu heat input during all periods of boiler operation, except for periods of CEMS breakdowns and repairs, in accordance with 40 CFR 60.13 and 60.48b. Data shall be recorded during calibration check and zero and span adjustments. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0524 if the 3-hour average NO_X emissions rate exceeds the emission limit in 2.1 A.5.b above.

i. Particulate emissions from the Nos. 1 and 2 Hog Fuel Boilers **(ID Nos. ES-64-25-0290 and ES-65-25-0310)** shall be controlled as follows:
   i. Particulate matter emissions from the No. 1 Hog Fuel Boiler **(ID No. ES-64-25-0290)** shall be controlled by primary and secondary multicyclones **(ID Nos. CD-64-45-0100 and CD-64-45-0230)** operating in series with exhaust from the secondary multicyclone controlled by three electroscrubbers **(ID Nos. CD-64-60-0120, CD-64-60-0420, and CD-64-60-0720)** operating in parallel. At least two of the three electroscrubbers shall be in operation and at least 75% of total elements of the two electroscrubbers must have voltage applied at no less than 1 kilovolt per module each time a boiler operates. To ensure compliance, the Permittee shall monitor and record the following information once per day when a boiler is in operation:
      (A) the secondary voltage (in kilovolts) per module in service; and
      (B) the total number of modules in service.
   ii. PRIMARY OPERATING SCENARIO: Particulate matter emissions from the No. 2 Hog Fuel Boiler **(ID No. ES-65-25-0310)** shall be controlled by the multicyclone **(ID No. CD-65-45-0100)** followed by three electroscrubbers **(ID Nos. CD-65-60-0120, CD-65-60-0410, and CD-65-60-0610)** operating in parallel. At least two of the three electroscrubbers shall be in operation and at least 75% of total elements of the two electroscrubbers must have voltage applied at no less than 1 kilovolt per module each time a boiler operates. To ensure compliance, the Permittee shall monitor and record the following information once per day when a boiler is in operation:
      (A) the secondary voltage (in kilovolts) per module in service; and
      (B) the total number of modules in service.
   iii. ALTERNATE OPERATING SCENARIO: Particulate matter emissions from the No. 2 Hog Fuel Boiler **(ID No. ES-65-25-0310)** shall be controlled by the multicyclone **(ID No. CD-65-45-0100)** followed by an electrostatic precipitator **(ID No. CD-65-58-2000)**. The ESP shall be in operation at all times the boiler is operating, with no more than one of its chambers out of service at any time. To ensure compliance, the Permittee shall comply with the COMS monitoring requirements specified in Section 2.1 A.5.f and A.5.g, above.

j. To ensure compliance, the Permittee shall perform inspections and maintenance as specified in the approved Basic Care Route or as recommended by the manufacturer. The dates and the results of inspection and maintenance, including any corrective measures taken, shall be maintained in written or electronic format on-site and made available to an authorized representative upon request. The Permittee shall, at a minimum, perform the following:
   i. a monthly external visual inspection of the system ductwork, and material collection unit for leaks;
   ii. an internal inspection of the structural integrity of each multicyclone to be conducted when the boiler is internally inspected to receive its operating certificate; and
   iii. an internal inspection of each electroscrubber module installed on the No. 1 Hog Fuel Boiler and No. 2 Hog Fuel Boiler (POS only) and the electrostatic precipitator installed on the No. 2 Hog Fuel Boiler (AOS) at a frequency dictated by excess opacity, operational performance trends and/or monthly external inspection and at a minimum of once every ten years. The inspection shall include a check of the packing material and the cleaning/calibration of all associated instrumentation.

   The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0524 if the multicyclones and the electroscrubbers are not operated and maintained as specified above.

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

k. The Permittee shall calculate and record excess emissions and monitor (COMS and CEMS) downtime on a quarterly basis.

l. Pursuant to 40 CFR 60.7(b), the Permittee shall maintain records of the occurrence and duration of any startup, shutdown, or malfunction in the operation of the Nos. 1 and 2 Hog Fuel Boilers **(ID Nos. ES-64-25-0290 and ES-65-25-0310)** and any malfunctions of the air pollution control equipment.

m. The Permittee shall maintain a file of all measurements, including continuous monitoring system, monitoring device, and performance testing measurements; all continuous monitoring system performance evaluations; all continuous monitoring system or monitoring device calibration checks; adjustments and maintenance performed on these systems or devices; and all other information required by 40 CFR 60 recorded in a permanent form suitable for inspection in a manner consistent with the requirements of 40 CFR 60.7(f).

n. The Permittee shall record and maintain records of the amount and type of each fuel burned during each day and keep fuel receipts from the supplier that certify the heating value and sulfur content of oil fired in the hog fuel boilers.

o. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0524 if the records required in Section 2.1 A.5.k through A.5.n above are not created and retained.

Reporting [15A NCAC 02Q .0508(f), 40 CFR 60.284(d), 40 CFR 60.7(c)(d)]

p. The Permittee shall submit an excess emissions and monitoring systems performance report and/or a summary report meeting the requirements of 40 CFR 60.7(c) and (d) postmarked on of before January 30 of each calendar year for the preceding six-month period between July and December, and July 30 for the calendar year for the preceding six-month period between January and June as follows:
   i. Periods of excess emissions of nitrogen oxides are defined as any three-hour period during which the average emissions (arithmetic average of three contiguous one-hour periods) exceed the applicable standards as specified under 40 CFR 60.44.
   ii. Periods of excess emissions of opacity that shall be reported are defined as any six-minute period during which the average opacity of emissions exceeds 20 percent opacity, except that one six-minute average per hour of up to 27 percent opacity need not be reported.
   iii. If the total duration of excess emissions for both quarters during the reporting period is less than 1 percent of the total operating time for the reporting period and continuous monitoring system (CMS) downtime for the reporting period is less than 5 percent of the total operating time for both quarters during the reporting period, only the summary report form shall be submitted and the excess emission report need not be submitted unless requested by the Administrator.
   iv. If the total duration of excess emissions for either quarter during the reporting period is 1 percent or greater of the total operating time for the reporting period or the total CMS downtime for the reporting period is 5 percent or greater of the total operating time for either quarter during the reporting period, the summary report form and the excess emission report shall both be submitted.

6. 15A NCAC 02D .0530: Prevention of Significant Deterioration

Emissions Limits [15A NCAC 02D .0530]

a. The following Best Available Control Technology (BACT) shall not be exceeded:

Emission Source	Fuel Fired	Regulated NSR Pollutant	BACT	Control Method
No. 1 Hog Fuel Boiler (ID No. ES-64-25-0290)	HVLC NCG gases being fired with wood/lignin	carbon monoxide	1,646 pounds per hour	Good combustion practices
No. 2 Hog Fuel Boiler (ID No. ES-65-25-0310)	HVLC NCG gases being fired with wood/lignin	carbon monoxide	1,433 pounds per hour	Good combustion practices
	All fuels	PM_{10}	0.1 pounds per million Btu heat input	Series installation of multicyclone and POS: three parallel electroscrubbers; or AOS: electrostatic precipitator
	Oil and wood/lignin	sulfur dioxide	0.8 pounds per million Btu heat input	Combination firing of oil with bark/wood/lignin residue
	LVHC and SOG gases	H_2SO_4 mist	339 pounds per consecutive 24-hour period	Good combustion practices
	LVHC and SOG gases	TRS	235 pounds per consecutive 24-hour period	**LVHC and SOG:** Good combustion practices; and **LVHC Only:** White liquor scrubber except for periods of scrubber maintenance

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.6.a above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0530.

c. The Permittee shall conduct performance testing on the No. 2 Hog Fuel Boiler **(ID No. ES-65-25-0310)** as follows:
   i. During the testing required in Section 2.1 A.5.c through A.5.e, above, the Permittee shall determine the pounds of PM_{10} and sulfur dioxide per million Btu heat input emitted from the No. 2 Hog Fuel Boiler. To determine the PM_{10} emissions, the Permittee shall conduct EPA Method 202 or EPA Method 201/201A (or other approved EPA test method for determining PM_{10} emissions).
   ii. The Permittee shall conduct a performance test for TRS emissions from the No. 2 Hog Fuel Boiler from the according to the procedures specified in Section 2.1 A.6.b, above, no later than 180 days after the issuance of Permit No. 04291T48. Testing shall be conducted according to a protocol approved per General Condition JJ. During this performance test, the Permittee shall measure TRS emissions while bypassing the White Liquor Scrubber **(ID No. CD-14-55-2020)** and while burning LVHC gases and SOG in the No. 2 Hog Fuel Boiler.
   iii. The Permittee shall conduct a performance test on the No. 2 Hog Fuel Boiler no later than 180 days after issuance of Permit No. 04291T48 while burning LVHC gases from the outlet of the White Liquor Scrubber **(ID No. CD-14-55-2020)** and SOG to demonstrate compliance with the TRS emissions limit specified in Section 2.1 A.6.a, above. During the performance test, the Permittee shall confirm or reestablish the minimum white liquor injection rate on a 3-hour rolling average basis that demonstrates compliance with the TRS emission limits specified in Section 2.1 A.6.a, above. If the new parameters are higher than the reference values, the Permittee shall submit a request to revise the values in the permit at the same time the test report required pursuant to General Condition JJ is submitted. The permit revision will be processed pursuant to 15A NCAC

02Q .0514. If the emission factors are lower than the reference values, the Permittee may request to revise the values in the permit pursuant to 15A NCAC 02Q .0515.

The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0530 if PM_{10}, sulfur dioxide, or TRS is (are) emitted above the limit(s) specified in Section 2.1 A.6.a above.

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

d. The Permittee shall follow the monitoring and recordkeeping requirements in Section 2.1 A.5.f. through A.5.o, above.

e. When LVHC gases and SOG are routed to the No. 2 Hog Fuel Boiler **(ID No. ES-65-25-0310)**, the Permittee shall:
   i. Keep records of the date and duration of the combustion of LVHC gases and SOG in the No. 2 Hog Fuel Boiler.
   ii. At all times, the Permittee shall maintain the white liquor injection rate to the White Liquor Scrubber **(ID No. CD-14-55-2020)** at or above 80 gallons per minute (3-hour rolling average) or the minimum levels confirmed or reestablished by the most recent performance test approved by DAQ that demonstrate compliance with the TRS emission limits specified in Section 2.1 A.6.a, above.
   iii. Keep records of the date and duration the LVHC gases are directly combusted in the No. 2 Hog Fuel Boiler and have bypassed the White Liquor Scrubber **(ID No. CD-14-55-2020)**.

f. The Permittee shall record and maintain records of the amounts of each fuel fired in the No. 1 Hog Fuel Boiler each month and the amounts of each fuel fired in the No. 2 Hog Fuel Boiler each month and make these records available to an authorized representative of DAQ upon request.

g. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0530 if the date and duration of LVHC NCG and SOG combustion or the amounts of fuels fired each month are not recorded.

Reporting

h. The Permittee shall submit a semiannual summary report, acceptable to the Regional Air Quality Supervisor, of monitoring and recordkeeping activities given in Section 2.1 A.6.d through A.6.g, above, postmarked on or before January 30 of each calendar year for the preceding six-month periods between July and December, and July 30 of each calendar year for the preceding six-month period between January and June. The report shall identify all instances of deviations from the requirements of this permit or a statement that no deviations occurred during the reporting period.

7. 15A NCAC 02Q. 0317: AVOIDANCE CONDITIONS for
15A NCAC 02D. 0530: PREVENTION OF SIGNIFICANT DETERIORATION

a. In order to avoid applicability of 15A NCAC 02D .0530(g) for major sources and major modifications, the No. 2 Hog Fuel Boiler **(ID No. ES-65-25-0310)** shall discharge into the atmosphere less than 1,771.3 tons of nitrogen oxides per consecutive 12 month period.

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.7.a, above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0530.

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

c. The Permittee shall operate the CEMS, required in Section 2.1 A.5.h, above, to measure and record the 1-hour average NO_X and O_2 (or CO_2) emission rates from the No. 2 Hog Fuel Boiler during all periods of boiler operation including during the firing of wood residue only.

d. Using all NO_X CEMS data obtained when firing any fuel in the No. 2 Hog Fuel Boiler, including during periods of startup, shutdown and malfunction, the Permittee shall calculate and maintain records of the tons of NO_X emitted each month and each consecutive 12-month period. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0530 if, during any consecutive 12-month period, the NOx emissions rate exceeds the limit in Section 2.1 A.7.a, above.

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

e. The Permittee shall submit a semi-annual summary report, acceptable to the Regional Air Quality Supervisor, of monitoring and recordkeeping activities given in Section 2.1 A.7.c and A.7.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. The report shall contain the following:
   i. The monthly nitrogen oxide emissions from the No. 2 Hog Fuel Boiler each month for the previous 17 months and the total consecutive 12-month nitrogen oxide emissions for each of the 12-month periods over the previous 17 months.
   ii. All instances of deviations from the requirements of this permit must be clearly identified.

8. 15A NCAC 02D. 0614: COMPLIANCE ASSURANCE MONITORING

a. Per 40 CFR 64 and 15A NCAC 02D .0614, the Permittee shall comply with the following:

b. **Background**

i. Emission Unit(s)
   (A) No. 1 Hog Fuel Boiler **(ID No. ES-64-25-0290)**
   (B) No. 2 Hog Fuel Boiler **(ID No. ES-65-25-0310)**

ii. Applicable Regulation, Emission Limit, and Monitoring Requirements
   (A) Regulations
   15A NCAC 02D .0504, 02D .0524, and 02D .0530
   (B) Emission limits
      (1) Particulate matter emissions from the Nos. 1 and 2 Hog Fuel Boilers **(ID Nos. ES-64-25-0290 and ES-65-25-0310)** shall not exceed 0.22 pounds per million Btu when firing only wood residue. [15A NCAC 02D .0504]
      (2) Particulate matter emissions from the Nos. 1 and 2 Hog Fuel Boilers **(ID Nos. ES-64-25-0290 and ES-65-25-0310)** shall not exceed 0.10 pounds per million Btu when firing fuel oil only, oil and wood residue, or natural gas and wood residue. [15A NCAC 02D .0524]
      (3) Particulate matter (PM10) emissions from the No. 2 Hog Fuel Boiler **(ID No. ES-65-25-0310)** shall not exceed 0.10 pounds per million Btu. [15A NCAC 02D .0530]
   (C) Control Technology
      (1) No. 1 Hog Fuel Boiler: two multiclones **(ID Nos. 64-45-0100 and CD-64-45-0230)** in series with parallel electroscrubbers **(ID Nos. CD-64-60-0120, CD-64-60-0420 and CD-64-60-0720).**
      (2) PRIMARY OPERATING SCENARIO:
      No. 2 Hog Fuel Boiler: a multiclone **(ID No. CD-65-45-0100)** in series with paralle electroscrubbers **(ID Nos. CD-65-60-0120, CD-65-60-0410 and CD-65-60-0610).**
      (3) ALTERNATE OPERATING SCENARIO:
      No. 2 Hog Fuel Boiler: a multiclone **(ID No. CD-65-45-0100)** in series with an electrostatic precipitator **(ID No. CD-65-58-2000)**.

c. **Monitoring Approach**. The key elements of the monitoring approach for particulate matter, including parameters to be monitored, parameter ranges and performance criteria are presented in the following table:

Measure	No. 1 Hog Fuel Boiler and No. 2 Hog Fuel Boiler (POS Only) Indicator	No. 2 Hog Fuel Boiler (AOS Only) Indicator
I. Indicator	Visible emissions	Visible emissions
Measuring approach	Visible emissions from the electroscrubbers will be monitored continuously using a COMS on each boiler.	Visible emissions from the electrostatic precipitator will be monitored continuously using a COMS on the boiler.
II. Indicator Range	An excursion is defined as visible emissions in amounts greater than **20 percent opacity** (3-hour rolling block average) excluding periods of start-up, shutdown or malfunction. Excursions	An excursion is defined as visible emissions in amounts greater than **20 percent opacity** (3-hour rolling block average) excluding periods of start-up, shutdown or malfunction. Excursions

Measure	No. 1 Hog Fuel Boiler and No. 2 Hog Fuel Boiler (POS Only) Indicator	No. 2 Hog Fuel Boiler (AOS Only) Indicator
	trigger an inspection, corrective action, and a reporting requirement. The QIP (Quality Improvement Plan) threshold is an accumulation of excursions exceeding 1 percent duration of the operating time for a six-month reporting period. The QIP shall be prepared within 30 days of reaching the QIP threshold and shall contain procedures for evaluating control performance problems.	trigger an inspection, corrective action, and a reporting requirement. The QIP (Quality Improvement Plan) threshold is an accumulation of excursions exceeding 1 percent duration of the operating time for a six-month reporting period. The QIP shall be prepared within 30 days of reaching the QIP threshold and shall contain procedures for evaluating control performance problems.
III. Performance Criteria		
Data Representativeness	COMs installed in accordance with 40 CFR, Appendix B, Performance Specification No. 1.	COMs installed in accordance with 40 CFR, Appendix B, Performance Specification No. 1.
QA/QC Practices and Criteria	The COM systems shall be calibrated, maintained and operated according to 40 CFR 60, Appendix B, Performance Specification No.1 and the requirements of 40 CFR 60, Subpart D.	The COM systems shall be calibrated, maintained and operated according to 40 CFR 60, Appendix B, Performance Specification No.1 and the requirements of 40 CFR 60, Subpart D.
Monitoring frequency	Data is collected continuously with COM systems.	Data is collected continuously with COM systems.
Data Collection Procedures	Opacity and boiler operational status data are recorded in the mill database.	Opacity and boiler operational status data are recorded in the mill database.
Averaging Period	3-hour rolling block average.	3-hour rolling block average.

d. **Justification**

Background. The pollutant-specific emission units are two hog fuel boilers **(ID Nos. ES-64-25-0290 and ES-65-25-0310).** The particulate matter emissions from the No. 1 Hog Fuel Boiler and No. 2 Hog Fuel Boiler (POS Only) are controlled by multiclones in series with parallel electroscrubbers. The particulate matter emissions from the No. 2 Hog Fuel Boiler (AOS Only) are controlled by a multiclone in series with an electrostatic precipitator.

Rationale for Selection of Performance Indicators. Visible emissions are selected as the performance indicator as a surrogate for PM and PM_{10} because minimal visible emissions in the exhaust outlet indicates the electroscrubber units or the electrostatic precipitator are operating properly. Any significant increase in visible emissions indicates reduced performance of the electroscrubber unit or electrostatic precipitator. Therefore, the presence of visible emissions in levels exceeding or equal to 20% is used as a performance indicator.

i. Rationale for Section of Indicator Ranges. Per supporting test data correlating emissions to opacity levels, the facility has selected an indicator range of greater than or equal to 20% opacity, excluding startup, shutdown, or malfunction. When an excursion occurs, corrective action will be initiated, beginning with an evaluation of the occurrence to determine the action required to correct the situation. All excursions will be documented and reported. An increase in visible emissions is indicative of an increase in particulate emissions and COMS is a well-established monitoring technique for these sources.

The selected QIP threshold for electroscrubbers or electrostatic precipitator (AOS only) visible emissions is greater than 1 percent of the operating time in a 6-month reporting period. If the QIP threshold is exceeded in a semiannual reporting period, a QIP will be developed and implemented.

Reporting [15A NCAC 02Q .0508(f) and 40 CFR 64.9(a)]

e. The Permittee shall submit a summary report of all monitoring activities given in Section 2.1 A.8.c, 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 for the requirements of this permit must be clearly identified. In addition, the summary report shall contain the following information, as applicable:
   i. Summary information on the number, duration and cause (including unknown cause, if applicable) of excursions or exceedances, as applicable, and the corrective actions taken;
   ii. Summary information on the number, duration and cause (including unknown cause, if applicable) for monitor downtime incidents (other than downtime associated with zero and span or other daily calibration checks, if applicable); and
   iii. A description of the actions taken to implement a QIP during the reporting period as specified in 40 CFR 64.8. Upon completion of a QIP, the owner or operator shall include in the next summary report documentation that the implementation of the plan has been completed and reduced the likelihood of similar levels of excursions or exceedances occurring.

9. [RESERVED]

10. 15A NCAC 02D .1111: MAXIMUM ACHIEVABLE CONTROL TECHNOLOGY

Applicability

a. For the existing Nos. 1 and 2 Hog Fuel Boilers **(ID Nos. ES-64-25-0290 and ES-65-25-0310)**, the Permittee shall comply with all applicable provisions for hybrid suspension grate boilers (as defined in 40 CFR 63.7575), including the monitoring, recordkeeping, and reporting contained in Environmental Management Commission Standard 15A NCAC 02D .1111 "Maximum Achievable Control Technology" (MACT) as promulgated in 40 CFR Part 63, Subpart DDDDD "National Emission Standards for Hazardous Air Pollutants for Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters" and Subpart A "General Provisions." To be considered a hybrid suspension grate boiler, the moisture of the biomass fuel combusted in the Nos. 1 and 2 Hog Fuel Boilers shall exceed 40 percent on an as-fired annual heat input basis as demonstrated by monthly fuel analysis. [40 CFR 63.7485, 63.7490(d), 63.7499(h)]

Definitions and Nomenclature

b. For the purpose of this permit condition, the definitions and nomenclature contained in 40 CFR 63.7575 shall apply. [40 CFR 63.7575]

40 CFR Part 63 Subpart A General Provisions

c. The Permittee shall comply with the requirements of 40 CFR 63 Subpart A General Provisions according to the applicability of Subpart A to such sources as identified in Table 10 to Subpart 5D. [40 CFR 63.7565]

Compliance Date

d. The Permittee shall comply with the CAA §112(j) standard in Section 2.1 A.9 through **May 19, 2019**. The Permittee shall be subject to the requirements of this standard starting May 20, 2019. Note that the requirements of this standard may require action on behalf of the Permittee prior to May 20, 2019. [40 CFR 63.7510(e), 63.56(b)] The Permittee shall:
   i. Complete the initial tune up and the one-time energy assessment as required in Section 2.1 A.10.r and A.10.s no later than May 20, 2019.
   ii. Complete the initial compliance requirements in Section 2.1 A.10.k no later than November 16, 2019 and according to the applicable provisions in 40 CFR 63.7(a)(2).

General Compliance Requirements

e. The Permittee shall meet the following general compliance requirements.
   i. At all times the Nos. 1 and 2 Hog Fuel Boilers **(ID Nos. ES-64-25-0290 and ES-65-25-0310)** are operating, the Permittee shall be in compliance with the emission standards in Section 2.1 A.10.g, below, except during periods of startup and shutdown. During startup and shutdown, the Permittee shall comply only with Section 2.1 A.10.t through A.10.u, below. [40 CFR 63.7500(f) and 63.7505(a)]
   ii. The Permittee shall develop a site-specific monitoring plan according to following requirements for the use of a COMS or CPMS. [40 CFR 63.7505(d)]
      (A) Except as specified in Section 2.1 A.10.e.iii, below, for each COMS and CMS, including oxygen analyzer systems and operating load or steam generation monitors, the Permittee shall develop, and submit to DAQ

for approval upon request, a site-specific monitoring plan that addresses design, data collection, and the quality assurance and quality control elements outlined in 40 CFR 63.8(d) and the following elements. The Permittee shall submit the site-specific monitoring plan, if requested, at least 60 days before the initial performance evaluation of each COMS and oxygen analyzer system.

(1) Installation of the CMS sampling probe or other interface at a measurement location relative to each hog fuel boiler such that the measurement is representative of control of the exhaust emissions;
(2) Performance and equipment specifications for the sample interface, the pollutant concentration or parametric signal analyzer, and the data collection and reduction systems; and
(3) Performance evaluation procedures and acceptance criteria (e.g., calibrations, accuracy audits, analytical drift).

(B) In each site-specific monitoring plan, the Permittee shall also address ongoing operating and maintenance procedures, ongoing data quality assurance procedures, and ongoing recordkeeping and reporting procedures in accordance with 40 CFR 63.8 and 63.10. [40 CFR 63.8 (c)(1)(ii), (c)(3), and (c)(4)(ii), 63.8(d), 63.10(c) as applicable in Table 10 to 40 CFR Part 63, Subpart DDDDD), and 63.10(e)(1) and (e)(2)(i)]

(C) The Permittee shall conduct a performance evaluation of each CMS in accordance with the site-specific monitoring plan.

(D) The Permittee shall operate and maintain the CMS in continuous operation according to the site-specific monitoring plan.

iii. The requirement to develop and submit a site-specific monitoring plan for a COMS in Section 2.1 A.10.e.ii, above, does not apply if the existing COMS installed on the Nos. 1 and 2 Hog Fuel Boilers are operated according to the performance specifications under Appendix B to 40 CFR Part 60 and that meet the requirements of 40 CFR 63.7525 and specified in Section 2.1 A.10.n, below. Using the process described in 40 CFR 63.8(f)(4), the Permittee may request approval of alternative monitoring system quality assurance and quality control procedures in place of those specified in Section 2.1 A.10.e.ii, above, and, if approved, include the alternatives in the site-specific monitoring plan.

The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111 if these general compliance requirements are not met.

f. At all times, then Permittee shall operate and maintain the Nos. 1 and 2 Hog Fuel Boilers **(ID Nos. ES-64-25-0290 and ES-65-25-0310)**, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. Determination of whether such operation and maintenance procedures are being used will be based on information available to the Administrator that may include, but is not limited to, monitoring results, review of operation and maintenance procedures, review of operation and maintenance records, and inspection of the source. [40 CFR 63.7500(a)(3)]

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

g. The Permittee shall comply with the emission limits as follows: [40 CFR 63.7500(a)(1) and Table 2 to 40 CFR Part 63, Subpart DDDDD]

i. The Nos. 1 and 2 Hog Fuel Boilers **(ID Nos. ES-64-25-0290 and ES-65-25-0310)** shall meet the following emission limits:

Pollutant	Emission Limit	Sample Volume or Test Run Duration for Performance Tests
Hydrochloric acid (HCl)	2.2E-02 lb per million Btu of heat input	For EPA Method 26A, collect a minimum of 1 dry standard cubic meter per run; for Method 26, collect a minimum of 120 liters per run.
Mercury (Hg)	5.7E-06 lb per million Btu of heat input	For EPA Method 29A, collect a minimum of 3 dry standard cubic meters per run; for Method 30A or Method 30B, collect a minimum sample as specified in the method; for ASTM D6784 collect a minimum of 3 dry standard cubic meters.
Carbon monoxide (CO)	3,500 ppm by volume on a dry basis corrected to 3 percent oxygen, 3-run average	1-hour minimum sampling time.
Filterable particulate matter (PM) or	4.4E-01 lb per million Btu of heat input or	Collect a minimum of 1 dry standard cubic meters per run.

Pollutant	Emission Limit	Sample Volume or Test Run Duration for Performance Tests
Total suspended metals (TSM)	4.5E-04 lb per million Btu of heat input	

ii. The Permittee, as an alternative to meeting the emission limits in paragraph (i) above for PM (or TSM), HCl, or mercury on a boiler-specific basis, may demonstrate compliance by emissions averaging, if the averaged emissions are not more than 90 percent of the applicable emission limit, according to the procedures in 40 CFR 63.7522. An implementation plan shall be submitted to the DAQ no later than 180 days before the date that the facility intends to demonstrate compliance using the emission averaging option.

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

h. If emissions testing is required, the testing shall be performed in accordance with General Condition JJ. The Permittee shall conduct performances tests according to the procedures specified in 40 CFR 63.7520, including the following. [40 CFR 63.7520]
   i. Develop a site-specific stack test plan according to the requirements of 40 CFR 63.7(c).
   ii. Conduct each performance test according to the requirements in Table 5 to 40 CFR Part 63, Subpart DDDDD.
   iii. Conduct each performance test under the specific conditions listed in Tables 5 and 7 to 40 CFR Part 63, Subpart DDDDD. Performance tests shall be conducted at representative operating load conditions while burning the type of fuel or mixture of fuels that has the highest content of chlorine and mercury. These requirements could result in the need to conduct more than one performance test.
   iv. Conduct a minimum of three separate test runs for each required performance test. Each test run must comply with the minimum applicable sampling times or volumes specified in Section 2.1 A.10.g, above.
   v. Convert measured particulate matter (PM), HCl, and mercury concentrations resulting from the performance test to pounds per million Btu heat input emission rates as specified in 40 CFR 63.7520(e).

   If the results of this test(s) are above the limit given in Section 2.1 A.10.g, above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111.

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

i. The Permittee shall conduct fuel analyses for solid and liquid fuels for chloride and mercury. The Permittee is not required to conduct fuel analyses for fuels used for only startup, unit shutdown, and transient flame stability purposes. Gaseous and liquid fuels are exempt from the sampling requirements in Section 2.1 A.10.i.ii and A.10.i.iii, below. [40 CFR 63.7521(a) through (e)]
   i. The Permittee shall develop a site-specific fuel monitoring plan according to the requirements and procedures specified in 40 CFR 63.7521(b) and in Table 6 to 40 CFR Part 63, Subpart DDDDD.
   ii. The Permittee shall obtain composite fuel samples for each fuel type according to the procedures in 40 CFR 63.7521(c)(1) or (2), or the methods listed in Table 6 to 40 CFR Part 63, Subpart DDDDD, or use an automated sampling mechanism that provides representative composite fuel samples for each fuel type that includes both coarse and fine material. At a minimum, for demonstrating initial compliance by fuel analysis, the Permittee shall obtain three composite samples. For monthly fuel analyses, at a minimum, the Permittee shall obtain a single composite sample. For fuel analyses as part of a performance stack test, as specified in 40 CFR 63.7510(a), the Permittee shall obtain a composite fuel sample during each performance test run.
   iii. The Permittee shall prepare each composite sample according to the procedures in 40 CFR 63.7521(d)(1) through (7).
   iv. The Permittee shall determine the concentration of pollutants in the fuel (mercury and/or chlorine) in units of pounds per million Btu of each composite sample for each fuel type according to the procedures in Table 6 to 40 CFR Part 63, Subpart DDDDD, for use in Equations 7, 8, and 9 of 40 CFR Part 63, Subpart DDDDD.
   v. Fuel analyses are not required for the following: [40 CFR 63.7510(a)(2)]
      (A) Natural gas, refinery gas, or "other gas 1 fuels" that are co-fired with other fuels.
      (B) Non-Gas 1 gaseous fuels that are subject to another subpart of 40 CFR Part 60, Part 61, Part 63, or Part 65.
      (C) Chlorine content of any gaseous fuel and mercury content of gaseous fuels exempted from (A) or (B) above.

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

j. The Permittee shall submit the following notifications:
   i. The Permittee shall submit a Notification of Intent to conduct a performance test at least 60 days before the performance test is scheduled to begin. [40 CFR 63.7545(d)]

ii. For the initial compliance demonstration for each hog fuel boiler, the Permittee shall submit the Notification of Compliance Status, including all performance test results and fuel analyses, before the close of business on the 60th day following the completion of all performance test and/or other initial compliance demonstrations for the Nos. 1 and 2 Hog Fuel Boilers **(ID Nos. ES-64-25-0290 and ES-65-25-0310)** or July 19, 2019, whichever is later. The Notification of Compliance Status report must contain the following information: [40 CFR 63.9(h)(2)(ii), 63.10(d)(2), 63.7530(e) and (f), and 63.7545(e)]

(A) The results of the initial compliance demonstration, as specified in 40 CFR 63.7545(e)(1) through (8), as applicable.

(B) A signed certification that either the energy assessment was completed according to Section 2.1 A.10.s, below, and that the assessment is an accurate depiction of the Domtar Mill at the time of the assessment, or that the maximum number of on-site technical hours specified in the definition of energy assessment applicable to the Domtar Mill has been expended.

The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111 if these notification requirements are not met.

Initial compliance requirements [15A NCAC 02Q .0508(f)]

k. The Permittee shall demonstrate initial compliance with the limits in Section 2.1 A.10.g, above, by [40 CFR 63.7510(a) and 63.7530]:

i. Conducting the initial performance test(s) as specified in Section 2.1 A.10.h, above [40 CFR 63.7530(a)].

(A) If the Permittee chooses to comply with the HCl or mercury emission limits specified in Section 2.1 A.10.g, above, through fuel analysis alone as specified in 40 CFR 63.7510(b), a performance test for HCl and mercury is not required;

(B) The Permittee is not required to conduct an initial performance test on the Nos. 1 and 2 Hog Fuel Boilers **(ID Nos. ES-64-25-0290 and ES-65-25-0310)** if a performance test has been previously conducted, provided the test meets the following conditions:

(1) The test must have been conducted using the same methods specified in 40 CFR 63.7520, and these methods must have been followed correctly.

(2) The test must not be older than 2 years.

(3) The test must be reviewed and accepted DAQ.

(4) Either no process or equipment changes must have been made since the test was performed, or the Permittee shall demonstrate that the results of the performance test, with or without adjustments, reliably demonstrate compliance despite process or equipment changes.

ii. Conducting the fuel analyses as specified in Section 2.1 A.10.i, above, and establish maximum fuel pollutant input levels using the procedures specified in 40 CFR 63.7530(b)(1) through (b)(3);

iii. Establishing operating limits as specified in Section 2.1 A.10.p and A.10.q, below [40 CFR 63.7530(b)(4)];

iv. Submitting the Notification of Compliance Status as specified in Section 2.1 A.10.j, above [40 CFR 63.7530(e)];

v. Meeting the work practice standards in Section 2.1 A.10.r through A.10.u, below [40 CFR 63.7530(h)]; and

vi. Installing monitoring systems and conducting continuous monitoring system (CMS) evaluation(s) as necessary as specified in Section 2.1 A.10.n and A.10.o, below [40 CFR 63.7530(a)].

The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111 if these initial compliance requirements are not met.

Continuous compliance requirements [15A NCAC 02Q .0508(f)]

l. The Permittee shall conduct subsequent performance tests and fuel analyses as necessary according to 40 CFR 63.7515 and as follows:

i. Conduct all applicable performance tests according to the requirements in Section 2.1 A.10.h, above, on an annual basis, except as specified in Section 2.1 A.10.l.ii and A.10.l.iii, below. Annual performance tests must be completed no more than 13 months after the previous performance test. [40 CFR 63.7515(a)]

ii. If performance tests for a given pollutant for at least 2 consecutive years show that emissions are at or below 75 percent of the applicable emission limit specified in Section 2.1 A.10.g, above, and if there are no changes in the operation of the boiler or air pollution control equipment that could increase emissions, the Permittee may choose to conduct performance tests for the pollutant every third year. Each such performance test must be conducted no more than 37 months after the previous performance test. If demonstrating compliance using emission averaging under 40 CFR 63.7522, the Permittee shall continue to conduct performance tests annually. The requirement to test at maximum chloride input level is waived unless the stack test is conducted for HCl. The requirement to test at maximum mercury input level is waived unless the stack test is conducted for

mercury. The requirement to test at maximum TSM input level is waived unless the stack test is conducted for TSM. [40 CFR 63.7515(b)]

iii. If a performance test shows that emissions exceeded the emission limit or 75 percent of the applicable emission limit specified in Section 2.1 A.10.g, above, the Permittee shall conduct annual performance tests for that pollutant until all performance tests over a consecutive 2-year period meet the required level (at or below 75 percent of the emission limit, specified in Section 2.1 A.10.g, above). [40 CFR 63.7515(c)]

iv. If the Permittee demonstrates compliance with the HCl or mercury emission limitations based on fuel analysis alone, a monthly fuel analysis shall be conducted according to 40 CFR 63.7521 for each type of fuel burned that is subject the emission limits in Section 2.1 A.10.g, above. The Permittee may comply with this monthly requirement by completing the fuel analysis any time within the calendar month as long as the analysis is separated from the previous analysis by at least 14 calendar days. If a new type of fuel is burned in the hog fuel boiler, the Permittee shall conduct a fuel analysis before burning the new type of fuel in the boiler. The Permittee shall comply with the continuous compliance requirements in 40 CFR 63.7540. [40 CFR 63.7515(e)]

v. If each of 12 consecutive monthly fuel analyses demonstrates 75 percent or less of the compliance level, the Permittee may decrease the fuel analysis frequency to quarterly for that fuel. If any quarterly sample exceeds 75 percent of the compliance level or beginning to burn a new type of fuel, the Permittee shall return to monthly monitoring for that fuel, until 12 months of fuel analyses are again less than 75 percent of the compliance level. If sampling is conducted on one day per month, samples should be no less than 14 days apart, but if multiple samples are taken per month, the 14-day restriction does not apply. [40 CFR 63.7515(e)]

vi. The Permittee shall conduct a performance test according to the requirements in Section 2.1 A.10.h, above, within 180 days after startup of normal operation of the electrostatic precipitator.

The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111 if subsequent performance tests and fuel analyses are not conducted as required above.

m. The Permittee shall demonstrate continuous compliance with each applicable emission limit, operating limit and work practice standard according to 40 CFR 63.7540 and as follows:

i. Keep records as specified in Section 2.1 A.10.v, below [40 CFR 63.7540(a)(2)];

ii. When planning to burn a new type of fuel or a new mixture of fuels, the Permittee shall recalculate maximum chlorine, mercury, and, if applicable, TSM input as specified in the equations in 40 CFR 63.7530(b)(1) through (b)(3). If the results of recalculating the maximum chlorine, mercury, or, if applicable, TSM input are greater than the maximum input levels established during the previous performance test, then the Permittee shall conduct a new performance test within 60 days of burning the new fuel type or fuel mixture according to the procedures in Section 2.1 A.10.h, above, and 40 CFR 63.7520 to demonstrate that the HCl, mercury, or, if applicable, TSM emissions do not exceed the emission limit. The Permittee shall also establish new operating limits based on this performance test according to the procedures in Section 2.1 A.10.p and A.10.q, below. [40 CFR 63.7540(a)(4), (a)(6) and (a)(16)]

iii. Conduct tune-ups of the hog fuel boilers as specified in Section 2.1 A.10.r, below. [40 CFR 63.7540(10)]

iv. For startup and shutdown, the Permittee shall meet the work practice standards specified in Section 2.1 A.10.s and A.10.t, below. [40 CFR 63.7540(d)]

v. Operation above the established maximum or below the established minimum operating limits shall constitute a period of noncompliance of established operating limits listed in Table 4 of 40 CFR Part 63, Subpart DDDDD except during performance tests conducted to determine compliance with the emission limits or to establish new operating limits. Operating limits must be confirmed or reestablished during performance tests.

The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111 if the continuous compliance requirements are not met as specified in above.

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

n. The Permittee shall install, operate, and maintain COMS on the Nos. 1 and 2 Hog Fuel Boilers **(ID Nos. ES-64-25-0290 and ES-65-25-0310)** as follows. [40 CFR 63.8(c) through (e) and (g), and 63.7525(c)]

i. Install, operate and maintain each COMS according to Performance Specification 1 in Appendix B of 40 CFR Part 60.

ii. Conduct a performance evaluation of each COMS according to the requirements in 40 CFR 63.8(e) and Performance Specification 1 in Appendix B to 40 CFR Part 60.

iii. Each COMS must complete a minimum of one cycle of sampling and analyzing for each successive 10-second period and one cycle of data recording for each successive 6-minute period.

iv. Reduce the COMS data must be reduced as specified in 40 CFR 63.8(g)(2).

v. The site-specific monitoring plans shall include procedures and acceptance criteria for operating and maintaining each COMS according to the requirements in 40 CFR 63.8(d). At a minimum, the monitoring plan

shall include a daily calibration drift assessment, a quarterly performance audit, and an annual zero alignment audit of each COMS.

vi. Operate and maintain each COMS according to the requirements in the monitoring plan and the requirements of 40 CFR 63.8(e). The Permittee shall identify periods the COMS is out of control including any periods that the COMS fails to pass a daily calibration drift assessment, a quarterly performance audit, or an annual zero alignment audit. Any 6-minute period for which the monitoring system is out of control and data are not available for a required calculation constitutes period of noncompliance from the monitoring requirements.

vii. Determine and record all the 6-minute averages (and daily block averages as applicable) collected for periods during which the COMS is not out of control.

The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111 if the COMS monitoring requirements above are not met.

o. The Permittee shall install, operate, and maintain each CMS, including oxygen analyzer systems and operating load or steam generation monitors, as follows: [40 CFR 63.7525(a) and (d)]

i. The CMS must complete a minimum of one cycle of operation every 15-minutes. A minimum of four successive cycles of operation, one representing each of the four 15-minute periods in an hour, is required to have a valid hour of data.

ii. The CMS shall be operated according to and comply with the data calculation requirements specified below. [40 CFR 63.7535(b) and (c)]

(A) The Permittee shall operate the monitoring system and collect data at all required intervals at all times that each hog fuel boiler is operating and compliance is required, except for periods of monitoring system malfunctions or out of control periods [see 40 CFR 63.8(c)(7)], and required monitoring system quality assurance or control activities, including, as applicable, calibration checks, required zero and span adjustments, and scheduled CMS maintenance as defined in the site-specific monitoring plan required under Section 2.1 A.10.e.ii, above. A monitoring system malfunction is any sudden, infrequent, not reasonably preventable failure of the monitoring system to provide valid data. Monitoring system failures that are caused in part by poor maintenance or careless operation are not malfunctions. The Permittee is required to complete monitoring system repairs in response to monitoring system malfunctions or out-of-control periods and to return the monitoring system to operation as expeditiously as practicable.

(B) The Permittee shall not use data recorded during periods of startup and shutdown, monitoring system malfunctions or out-of-control periods, repairs associated with monitoring system malfunctions or out-of-control periods, or required monitoring system quality assurance or control activities in data averages and calculations used to report emissions or operating levels. The Permittee shall record, and make available upon request, results of CMS performance audits and dates and duration of periods when the CMS is out of control to completion of the corrective actions necessary to return the CMS to operation consistent with the site-specific monitoring plan. The Permittee shall use all the data collected during all other periods in assessing compliance and the operation of the control device and associated control system.

iii. Any 15-minute period for which the monitoring system is out-of-control and data are not available for a required calculation constitutes a period of noncompliance from the monitoring requirements. Other situations that constitute monitoring noncompliance are specified in 40 CFR 63.7535(d).

iv. The Permittee shall determine the 30-day rolling average of all recorded readings, except as provided in Section 2.1 A.10.o.ii.(B), above.

v. The Permittee shall record the results of each inspection, calibration, and validation check.

The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111 if the requirements for CPMS operation above are not met.

Operating Limits [15A NCAC 02Q .0508(f)],

p. The Permittee shall comply with the following operating limits at the operating load conditions established for the Nos. 1 and 2 Hog Fuel Boilers **(ID Nos. ES-64-25-0290 and ES-65-25-0310)**. [40 CFR 63.7500, Table 4 to 40 CFR Part 63, Subpart DDDDD]

i. The Permittee shall maintain visible emissions to less than or equal to 10 percent opacity or the highest hourly average opacity reading measured during the performance test run demonstrating compliance with the PM (or TSM) emission limitation (daily block average).

ii. The Permittee shall maintain the 30-day rolling average operating load of each unit such that it does not exceed 110 percent of the highest hourly average operating load recorded during most recent performance test.

iii. The Permittee shall maintain the 30-day rolling average oxygen content for the No. 1 Hog Fuel Boiler at or above the lowest hourly average oxygen concentration measured during the most recent CO performance test.

iv. The Permittee shall operate the oxygen trim system installed on the No. 2 Hog Fuel Boiler with the oxygen level set no lower than the lowest hourly average oxygen concentration measured during the most recent CO performance test as the operating limit for oxygen.

The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111 if the operating limits above are not met.

q. During the performance tests conducted according to Section 2.1 A.10.h, above, the Permittee shall establish each site-specific operating limit in Section 2.1 A.10.p, above, as follows: [40 CFR 63.7530(b)]
   i. Using data from the oxygen analyzer system installed and operated according to Section 2.1 A.10.o, above, establish a unit-specific minimum oxygen level according to the following requirements [40 CFR 63.7530(b)(4)(viii) and Table 7 of 40 CFR Part 63, Subpart DDDDD]
      (A) Collect oxygen data every 15 minutes during the entire period of the performance tests.
      (B) Determine the hourly average oxygen concentration by computing the hourly averages using all of the 15-minute readings taken during each performance test.
      (C) Determine the lowest hourly average established during the performance test as the minimum operating limit.
      (D) If multiple performance tests are conducted, the minimum oxygen level shall be set at the lower of the minimum values established during the performance tests.
   ii. If the Permittee elects to comply with a site-specific opacity operating limit as allowed in Section 2.1 A.10.n.i, above, the opacity limit shall be established using data from the COMS installed and operated according to Section 2.1 A.10.n, above, during the PM performance test according to the following requirements: [Table 7 of 40 CFR Part 63, Subpart DDDDD]
      (A) Collect opacity readings every 15 minutes during the entire period of the performance tests.
      (B) Determine the average hourly opacity reading for each performance test run by computing the hourly averages using all of the 15-minute readings taken during each performance test run.
      (C) Determine the highest hourly average opacity reading measured during the test run demonstrating compliance with the PM (or TSM) emission limitation.
   iii. Using data from the operating load monitors or from steam generation monitors installed and operated as specified in Section 2.1 A.10.o, above, establish a unit-specific limit for maximum operating load according to Section 2.1 A.10.h.iii, above, as follows: [Table 7 to 40 CFR Part 63, Subpart DDDDD]
      (A) Collect operating load or steam generation data every 15 minutes during the entire period of the performance test.
      (B) Determine the average operating load by computing the hourly averages using all of the 15-minute readings taken during each performance test.
      (C) Determine the highest hourly average of the three test run averages during the performance test, and multiply this by 1.1 (110 percent) as the operating limit.
   iv. Operating limits must be confirmed or reestablished during performance tests.

The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111 if the operating limits are not established according to the requirements above.

Work Practice Standards [15A NCAC 02Q .0508(f)]

r. Tune-up Requirements. The Permittee shall conduct a tune-up of the Nos. 1 and 2 Hog Fuel Boilers **(ID Nos. ES-64-25-0290 and ES-65-25-0310)** as specified below. The Permittee shall conduct the tune-up while burning the type of fuel (or fuels in case of units that routinely burn a mixture) that provided the majority of the heat input to the boiler or process heater over the 12 months prior to the tune-up. [40 CFR 63.7500(a) and 63.7540(a)(10)]
   i. As applicable, inspect the burner, and clean or replace any components of the burner as necessary (the Permittee may perform the burner inspection any time prior to the tune-up or delay the burner inspection until the next scheduled unit shutdown;
   ii. Inspect the flame pattern, as applicable, and adjust the burner as necessary to optimize the flame pattern. The adjustment should be consistent with the manufacturer's specifications, if available;
   iii. Inspect the system controlling the air-to-fuel ratio, as applicable, and ensure that it is correctly calibrated and functioning properly (the inspection may be delayed until the next scheduled unit shutdown);
   iv. Optimize total emissions of carbon monoxide. This optimization should be consistent with the manufacturer's specifications, if available, and with any NO_X requirement to which the unit is subject; and
   v. Measure the concentrations in the effluent stream of carbon monoxide in parts per million, by volume, and oxygen in volume percent, before and after the adjustments are made (measurements may be either on a dry or wet basis, as long as it is the same basis before and after the adjustments are made). Measurements may be taken using a portable CO analyzer.

vi. Each tune-up shall be conducted according to the following schedule: [40 CFR 63.7515(d)]
(A) The tune-up for the No. 1 Hog Fuel Boiler shall be conducted once per year and no more than 13 months after the previous tune-up.
(B) The tune-up for the No. 2 Hog Fuel Boiler shall be conducted once every five years and no more than 61 months after the previous tune-up.
vii. If the unit is not operating on the required date for a tune-up, the tune-up must be conducted within 30 calendar days of startup. [40 CFR 63.7540(a)(13) and 63.7515(g)]

The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111 if the tune-up requirements above are not met.

s. Energy Assessment Requirements. The Permittee shall have a one-time energy assessment performed by a qualified energy assessor. The energy assessment must address the requirements in 40 CFR 63 Subpart 5D, Table 3, Item 4, with the extent of the evaluation for items (a) to (e) in Table 3, Item 4 appropriate for the on-site technical hours listed in 40 CFR 63.7575: [40 CFR 63.7500(a)(1), Table 3] The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111 if these requirements are not met.

t. Startup Requirements. The Permittee shall comply with all applicable emission limits at all times except during startup and shutdown periods. During startup, the Permittee shall meet the work practice requirements below. [40 CFR 63.7500 and Table 3 of 40 CFR Part 63, Subpart DDDDD]
i. All CMS shall be operated during startup.
ii. For startup of the boiler **(ID No. ES-64-25-0290 and ES-65-25-0310**, one or a combination of the following clean fuels shall be used: Natural gas, synthetic natural gas, propane, other Gas 1 fuels, distillate oil, syngas, ultra-low sulfur diesel, fuel oil-soaked rags, kerosene, hydrogen, paper, cardboard, refinery gas, liquefied petroleum gas, clean dry biomass, and any fuels meeting the appropriate HCl, mercury and TSM emission standards by fuel analysis.
iii. The Permittee has the option of complying using either of the following work practice standards.
(A) If complying using definition (1) of "startup" in 40 CFR 63.7575, once the Permittee starts firing fuels that are not clean fuels, the Permittee shall vent emissions to the main stack(s) and engage all of the applicable control devices. Startup ends when steam or heat is supplied for any purpose, OR
(B) If complying using definition (2) of "startup" in 40 CFR 63.7575, once the Permittee starts to feed fuels that are not clean fuels, the Permittee shall vent emissions to the main stack(s) and engage all of the applicable control devices so as to comply with the emission limits within 4 hours of start of supplying useful thermal energy. The Permittee shall engage and operate PM control within one hour of first feeding fuels that are not clean fuels. The Permittee shall start all applicable control devices as expeditiously as possible, but, in any case, when necessary to comply with other standards applicable to the source by a permit limit or a rule other than this section that require operation of the control devices. The Permittee shall develop and implement a written startup and shutdown plan, as specified in 40 CFR 63.7505(e).
iv. The Permittee shall collect monitoring data during periods of startup, as specified in Section 2.1 A.10.o.ii.(B), above.
v. The Permittee shall keep records during periods of startup and provide reports concerning activities and periods of startup, as specified in 40 CFR 63.7555.

The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111 if the startup procedures are not followed.

u. Shutdown Requirements. The Permittee shall comply with all applicable emission limits at all times except during startup and shutdown periods. The Permittee shall meet the shutdown work practice requirements below. [40 CFR 63.7500 and Table 3 of 40 CFR Part 63, Subpart DDDDD]
i. The Permittee shall operate all CMS during shutdown.
ii. While firing fuels that are not clean fuels during shutdown, the Permittee shall vent emissions to the main stack(s) and operate all applicable control devices when necessary to comply with other standards applicable to the source that require operation of the control device.
iii. If, in addition to the fuel used prior to initiation of shutdown, another fuel must be used to support the shutdown process, that additional fuel must be one or a combination of the following clean fuels: Natural gas, synthetic natural gas, propane, other Gas 1 fuels, distillate oil, syngas, ultra-low sulfur diesel, refinery gas, and liquefied petroleum gas.
iv. The Permittee shall collect monitoring data during periods of shutdown, as specified in 40 CFR 63.7535(b).
v. The Permittee shall keep records during periods of shutdown.

vi. The Permittee shall provide reports concerning activities and periods of shutdown, as specified in 40 CFR 63.7555.

The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111 if the shutdown procedures are not followed.

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

v. The Permittee shall keep the following records:
   i. A copy of each notification and report submitted to comply with 40 CFR Part 63, Subpart DDDDD, including all documentation supporting any Initial Notification or Notification of Compliance Status, or semiannual compliance report that has been submitted. [40 CFR 63.10(b)(2)(xiv) and 63.7555(a)(1)]
   ii. Records of performance tests, fuel analyses, or other compliance demonstrations and performance evaluations pursuant to 40 CFR 63.10(b)(2)(viii). [40 CFR 63.7555(a)(2)]
   iii. Maintain on-site and submit, if requested by the Administrator, an annual report containing the information in paragraphs (A) through (C) below: [40 CFR 63.7540(a)(10)(vi)]
      (A) The concentrations of carbon monoxide in the effluent stream in parts per million by volume, and oxygen in volume percent, measured at high fire or typical operating load, before and after the tune-up of the boiler or process heater;
      (B) A description of any corrective actions taken as a part of the tune-up; and
      (C) the type and amount of fuel used over the 12 months prior to the annual adjustment, but only if the unit was physically and legally capable of using more than one type of fuel during that period. Units sharing a fuel meter may estimate the fuel use by each unit.
   iv. For each COMS and CMS, including oxygen analyzer systems and operating load or steam generating monitors, the following records. [40 CFR 63.7555(b)]
      (A) Records described in 40 CFR 63.10(b)(2)(vii) through (xi).
      (B) Monitoring data for continuous opacity monitoring system during a performance evaluation as required in 40 CFR 63.6(h)(7)(i) and (ii).
      (C) Previous (*i.e.,* superseded) versions of the performance evaluation plan as required in 40 CFR 63.8(d)(3).
      (D) Records of the date and time that each period of noncompliance started and stopped.
   v. Records required in Table 8 to 40 CFR Part 63, Subpart DDDDD including records of all monitoring data and calculated averages for applicable operating limits, such as opacity, pressure drop, pH, and operating load, to show continuous compliance with each emission limit and operating limit that applies. [40 CFR 63.7555(c)]
   vi. The applicable records in paragraphs (d)(1) through (13) of 40 CFR 63.7555.

   The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111 if the records specified above are not kept.

w. The Permittee shall maintain records as follows: [40 CFR 63.10(b)(1) and 63.7560]
   i. Maintain records in a form suitable and readily available for expeditious review;
   ii. Keep each record for 5 years following the date of each occurrence, measurement, maintenance, corrective action, report, or record; and
   iii. Keep each record on site for at least 2 years after the date of each occurrence, measurement, maintenance, corrective action, report, or record. The Permittee can keep the records offsite for the remaining 3 years.

The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111 if the records are not maintained as required above.

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

x. The Permittee shall submit a compliance report to the DAQ on a semi-annual basis, 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.
   i. The first compliance report shall be postmarked on or before July 30, 2019 and cover the period from May 20, 2019 through June 30, 2019.
   ii. The compliance reports shall also be submitted electronically to the EPA via the procedures in 40 CFR 63.7550(h).

y. The compliance report shall contain:
   i. The information in 40 CFR 63.7550(c) as applicable.
   ii. For each period of noncompliance from an emission limit or operating limit, the report shall contain the information in 40 CFR 63.7550(d) and (e) as applicable.
   iii. All periods when the monitoring system is out of control. [40 CFR 63.7535(d)]

z. Within 60 days after the date of completing each performance test including any associated fuel analyses and/or CMS performance evaluation as required by 40 CFR Part 63, Subpart DDDDD. [40 CFR 63.7550(h)]
   i. The Permittee shall submit the results to the DAQ pursuant to 40 CFR 63.10(d)(2) and to the EPA via the procedures in 40 CFR 63.7550(h).
   ii. This report must also verify that the operating limits for each boiler or process heater have not changed or provide documentation of revised operating limits established according to 40 CFR 63.7530 and Table 7 to 40 CFR Part 63, Subpart DDDDD, as applicable. [40 CFR 63.7515(f)]

B. Temporary low sulfur No. 2 fuel oil-fired boilers (ID Nos. ES-RB1 and ES-RB2; 85.7 million Btu per hour maximum heat input each)

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	$E = 1.090\ Q^{-0.2594}$ lb/million Btu = 0.16 lb/million Btu *Where Q = maximum heat input in million Btu/hour from all fuel burning indirect heat exchangers.*	15A NCAC 02D .0503
Sulfur Dioxide	2.3 percent sulfur content fuel	15A NCAC 02D .0516
Visible Emissions	20 percent opacity	15A NCAC 02D .0521
NC Toxic Air Pollutants	See Permit Condition 2.2 E.2 – State-Enforceable Only	15A NCAC 02D .1100
SO_2 and Visible Emissions	On site less than 180 days per consecutive twelve month period and use of low sulfur fuels	15A NCAC 02Q .0317 (15A NCAC 02D .0524 Avoidance)
Hazardous Air Pollutants	On site less than 180 days per consecutive twelve month period.	15A NCAC 02Q .0317 (15A NCAC 02D .1109 Avoidance)

1. 15A NCAC 02D .0503: PARTICULATES FROM FUEL BURNING INDIRECT HEAT EXCHANGERS

a. Emissions of particulate matter from the combustion of fuel oil that are discharged from these boilers (**ID Nos. RB-1 and RB-2**) into the atmosphere shall not exceed:

$E = 1.090\ Q^{-0.2594}$ lb/million Btu.

Where Q = maximum heat input in million Btu/hour from all fuel burning indirect heat exchangers.
[15A NCAC 02D .0503(a)]

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

b. If emissions testing is required, the testing shall be performed in accordance with General Condition JJ utilizing EPA Methods 1 through 5 or other test methods per a DAQ-approved test protocol. 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 .0503.

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

c. No monitoring/recordkeeping/reporting is required from the firing of No. 2 fuel oil in these boilers.

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

a. Emissions of sulfur dioxide from these boilers (**ID Nos. RB-1 and RB-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. [15A NCAC 02D .0516]

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

b. If emissions testing is required, the testing shall be performed in accordance with General Condition JJ found in Section 3. 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 .0516.

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

c. Monitoring, recordkeeping and reporting are not required for the combustion of No. 2 fuel oil in these boilers.

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

a. Visible emissions from these boilers (**ID Nos. RB-1 and RB-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 emission 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.3.a above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0521.

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

c. No monitoring, recordkeeping, or reporting is required for visible emissions when firing No. 2 fuel oil in the boilers (**ID Nos. RB-1 and RB-2**).

4. 15A NCAC 02Q. 0317: AVOIDANCE CONDITIONS for
15A NCAC 02D .0524: NEW SOURCE PERFORMANCE STANDARDS

a. In order to avoid the applicability of 15A NCAC 02D .0524, boilers **(ID Nos. RB1 and RB2)** shall combust distillate oil with a potential SO_2 emission rate no greater than 0.060 lb/MMBtu, be capable of being moved from one location to another, and remain onsite for no longer than 180 consecutive days as defined in 40 CFR 60.41c. The Permittee shall notify the Regional Office in writing within 10 days of exceeding the 180 day period.

5. 15A NCAC 02Q. 0317: AVOIDANCE CONDITIONS for
15A NCAC 02D .1109: CAA §112(j); Case-by-Case MACT for Boilers & Process Heaters

a. In order to avoid the applicability of 15A NCAC 02D .1109, boilers **(ID Nos. RB1 and RB2)** must be temporary units capable of being moved from one location to another and remain onsite for no longer than 180 consecutive days as defined in 40 CFR 63.7575. Within 10 days of exceeding the 180 day period, the Permittee shall comply with the notification requirement in Section 2.1 B.4.a above.

C. No. 5 recovery boiler (ID No. ES-10-25-0110) firing natural gas, black liquor solids, low sulfur No. 2 fuel oil, and HVLC gases at a maximum rate of 130 tons of black liquor solids per hour and controlled by north and south electrostatic precipitators (ID Nos. CD-10-45-0220 and CD-10-45-0010) operating in parallel

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

Regulated Pollutant	Limits/Standards	Applicable Regulation
Sulfur Dioxide	2.3 pounds per million Btu heat input.	15A NCAC 02D .0516
Particulate Matter	3.0 pounds per equivalent tons of air dried pulp.	15A NCAC 02D .0508
Visible Emissions	Visible emissions shall not be more than 35 percent opacity.	15A NCAC 02D .0524 (40 CFR 60, Subpart BB)
Particulate Matter	0.10 g/dscm (0.044 gr/dscf) corrected to 8 percent oxygen.	
Total Reduced Sulfur (TRS)	5 ppm by volume on a dry basis, corrected to 8 percent oxygen.	
Carbon Monoxide	800 ppm by volume on a dry basis (24-hour block average), corrected to 8 percent oxygen.	15A NCAC 02D .0530
Nitrogen Oxides	110 ppm by volume on a dry basis (24-hour block average), corrected to 8 percent oxygen when firing black liquor solids.	
Sulfur Dioxide	16 ppm by volume on a dry basis (24-hour block average), corrected to 8 percent oxygen, and No. 2 distillate oil fired shall not exceed 0.05 percent sulfur by weight.	
Sulfuric Acid Mist	10.16 lb/hr when firing black liquor solids.	
Criteria Pollutants	Annual tracking report. See Permit Condition 2.2 C. and D.	15A NCAC 02D .0530(u)
Hazardous Air Pollutants	See Permit Condition 2.2 B.	15A NCAC 02D .1111 and 02D .1109 (40 CFR 63, Subpart MM)

1. 15A NCAC 02D .0508: PARTICULATES FROM PULP AND PAPER MILLS

a. Emissions from the production of pulp and paper that are discharged from the No. 5 recovery boiler **(ID No. ES-10-25-0110)** into the atmosphere shall not exceed 3.0 pounds of particulate matter (PM) per equivalent tons of air dried pulp (ADTP). [15A NCAC 02D .0508(a)]

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

b. If emissions testing is required, the testing shall be performed in accordance with General Condition JJ found in Section 3. 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 .0508.

c. Under the provisions of NCGS 143-215.108, the Permittee shall demonstrate compliance with the emissions limit above by testing the No. 5 recovery boiler for filterable and condensible PM in accordance with Section 3 – General Condition JJ once every five years. During each test, the Permittee shall record and include in the test report the results of the monitoring requirements for this source as specified in Section 2.2 B pursuant to 40 CFR 63 Subpart MM. The Permittee shall submit the test results (as lbs/ADTP and as either in g/dscf or gr/dscm) to the DAQ along with the Section 2.2 B monitoring results. If the results of the testing demonstrate the emissions are equal to or greater than 80 percent of the limit above, the testing frequency shall be increased to once every calendar year until the results return to less than 80 percent of the limit. If any stack test demonstrates emissions are above the limit given in Section 2.1 C.1.a above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0508.

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

d. Particulate matter emissions from the No. 5 recovery boiler **(ID No. ES-10-25-0110)** shall be controlled by the north and south electrostatic precipitators **(ID Nos. CD-10-45-0220 and CD-10-45-0010).** To ensure compliance with the particulate matter standard, the Permittee shall comply with the 40 CFR 63 Subpart MM monitoring and recordkeeping requirements as specified in Section 2.2 B of this permit.

e. The Permittee shall perform internal inspections of each electrostatic precipitator system when the No. 5 Recovery Boiler is interally inspected to receive its operating certificate. In addition, the Permittee shall perform periodic inspections and maintenance as specified in the approved Basic Care Route or as recommended by the equipment manufacturer. As a minimum, the inspections and maintenance shall include the following:
   i. visual checks of critical components such as rappers and ash removal equipment;
   ii. checks for any equipment that does not generate an alarm in the turned-off state to ensure it is switched on;
   iii. checks for signs of plugging of gas distribution plates and excessive buildup on inlet and outlet plenum floor surfaces;
   iv. checks for signs of hopper plugging; and
   v. checks for broken rapper rod insulators, cracked support bushing insulators, and broken or loose stabilizer bar insulators (if installed), and replacement as required.

f. The results of all inspections and any variance from standard operating procedures, standard maintenance plans, or from conditions given in this permit (when applicable) shall be investigated with corrections made and dates of actions recorded in a logbook. Records of all maintenance activities shall also be recorded in the logbook. The logbook (in written or electronic form) shall be kept on-site and made available to DAQ personnel upon request.

g. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0508 if the monitoring and recordkeeping required by Sections 2.1 C.1.d through f above are not conducted.

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

h. The Permittee shall submit a summary report of the monitoring and recordkeeping 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 the No. 5 recovery boiler **(ID No. ES-10-25-0110)** shall not exceed 2.3 pounds per million Btu heat input. Sulfur dioxide formed by the combustion of sulfur in fuels, wastes, ores, and other substances shall be included when determining compliance with this standard. [15A NCAC 02D .0516]

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

b. If emissions testing is required, the testing shall be performed in accordance with General Condition JJ found in Section 3. 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 .0516.

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

c. Monitoring, recordkeeping and reporting are not required.

3. 15A NCAC 02D .0524: NSPS 40 CFR SUBPART BB

a. The Permittee shall comply with all applicable provisions, including the notification, testing, reporting, recordkeeping, and monitoring requirements contained in Environmental Management Commission Standard 15A NCAC 02D .0524 "New Source Performance Standards (NSPS) as promulgated in 40 CFR Part 60 Subpart BB, including Subpart A "General Provisions."[15A NCAC 02D .0524]

b. Per 40 CFR Part 60, Subpart BB, emissions from the No. 5 recovery boiler **(ID No. ES-10-25-0110)** shall not exceed:
   i. 0.10 g/dscm (0.044 gr/dscf) of particulate matter corrected to 8 percent oxygen. [40 CFR Part 60, Subpart 60.282(a)(1)(i)];
   ii. 35 percent opacity [40 CFR Part 60, Subpart 60.282(a)(1)(ii)]; and
   iii. 5 ppm of TRS by volume on a dry basis, corrected to 8 percent oxygen based on a 12-hour average [40 CFR Part 60, Subpart 60.283(a)(2) and 60.284(c)].

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

c. The Permittee shall conduct periodic stack testing of the recovery boiler as specified in Section 2.1 C.1.c above. If the stack test demonstrates emissions are above the limit given in Section 2.1 C.3. above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0524.

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

d. Particulate matter emissions from the recovery boiler **(ID No. ES-10-25-0110)** shall be controlled by electrostatic precipitators (**ID Nos. CD-10-45-0220 and CD-10-45-0010)** operating in parallel. To ensure compliance, the Permittee shall comply with the 40 CFR 63 Subpart MM monitoring, recordkeeping and reporting requirements as specified in Section 2.2 B of this permit. The Permittee shall be deemed in non-compliance with 15A NCAC 02D .0524 if these parameters are not monitored or if records are not maintained. COMS to monitor and record the opacity of the gases discharged into the atmosphere from the recovery furnace. The span of this system shall be set at 100 percent opacity.

e. 40 CFR 60.284(a)(2) - The Permittee shall calibrate, maintain, and operate a CEMS to monitor and record the concentration of total reduced sulfur (TRS) emissions on a dry basis and the percent of oxygen by volume on a dry basis in the gases discharged into the atmosphere The Permittee shall locate the CEMS downstream of the electrostatic precipitators and set the CEMS spans as follows:
   i. At a TRS concentration of 30 ppm for the TRS CEMS.
   ii. At 25 percent oxygen for the oxygen CEMS.

   The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0524 if these parameters are not monitored or these records are not maintained.

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

f. The Permittee shall follow 40 CFR 60.284(d) for reporting of excess emissions.

g. The Permittee shall submit two quarterly summary reports of the monitoring and recordkeeping 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 .0530: Prevention of Significant Deterioration

a. Emissions that are discharged from the No. 5 recovery boiler **(ID No. ES-10-25-0110)** into the atmosphere shall not exceed the following BACT emission limits:
   i. Carbon monoxide emissions of 800 ppm by volume on a dry basis (24-hour block average), corrected to 8 percent oxygen.
   ii. Nitrogen oxides emissions of 110 ppm by volume on a dry basis (24-hour block average), corrected to 8 percent oxygen when firing black liquor solids.
   iii. Sulfur dioxide emissions of 16 ppm by volume on a dry basis (24-hour block average), corrected to 8 percent oxygen when firing black liquor solids.
   ii. Sulfuric acid mist emissions of 10.16 lb/hr when firing black liquor solids.

b. The sulfur content of No. 2 distillate oil burned in the recovery boiler shall not exceed 0.05 percent by weight.

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

c. 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 limits given in Section 2.1 C.4.a above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0530.

d. Under the provisions of NCGS 143-215.108, the Permittee shall demonstrate compliance with the emission limit(s) above by testing the No. 5 recovery boiler **(ID No. ES-10-25-0110),** while firing BLS or ultra low sulfur No. 2 fuel oil blended with BLS, for carbon monoxide and nitrogen oxides in accordance with Section 3 - General Condition JJ. The Permittee shall perform the testing at least once every five years. If stack test results for any pollutant are equal to or greater than 80 percent of the limit in Section 2.1 C.4.a above, the testing frequency shall be increased to once every calendar year for carbon monoxide and nitrogen oxides until stack test results return to less than 80 percent of the limit for each pollutant. If any stack test demonstrates emissions are above the limit(s) given in Section 2.1 C.4.a above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0530.

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

e. The maximum sulfur content of any distillate oil received and burned in the boiler shall not exceed 0.05 percent by weight (as SO2). The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0530 if the sulfur content of the fuel oil fired exceeds this limit.

f. To ensure compliance, the Permittee shall monitor the sulfur content of the fuel oil by using fuel oil supplier certification per month. The results of the fuel oil supplier certifications shall be recorded in a logbook (written or electronic format) on a quarterly basis and include the following information:
   i. the name of the fuel oil supplier;
   ii. the maximum sulfur content of the fuel oil received during the quarter;
   iii. the method used to determine the maximum sulfur content of the fuel oil; and
   iv. a certified statement signed by the responsible official that the records of fuel oil supplier certification submitted represent all of the fuel oil fired during the period.

   The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0530 if the sulfur content of the oil is not monitored and recorded.

g. To ensure compliance, the amount of black liquor solids fired in the recovery boiler shall not exceed 130 tons per hour. The Permittee shall monitor the hourly firing rate of black liquor solids in the recovery boiler, maintain the firing rates in written or electronic format on-site and make available to an authorized representative upon request. The records shall include the following:
   i. the date and time of each recorded action; and
   ii. the black liquor solids firing rate.

   The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0530 if the firing rate of black liquor solids is not monitored and recorded.

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

h. 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 periods between July and December, and July 30 of each calendar year for the preceding six-month period between January and June. The report shall identify all instances of deviations from the requirements of this permit or a statement that no deviations occurred during the reporting period.

D. North Smelt Tank (ID No. ES-14-05-0050) with associated Ducon alkaline scrubber (North) (ID No. CD-14-05-0700); and
South Smelt Tank (ID No. ES-14-05-0300) with associated Ducon alkaline scrubber (South) (ID No. CD-14-05-0750)

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	0.6 pounds per equivalent ton of air-dried pulp.	15A NCAC 02D .0508
Visible Emissions	20 percent opacity.	15A NCAC 02D .0521
Total Reduced Sulfur	0.032 pounds per ton of black liquor solids (dry weight) from any smelt dissolving tank.	15A NCAC 02D .0528
Hazardous Air Pollutants	See Permit Condition 2.2 B.	15A NCAC 02D .1111 and 02D .1109 (40 CFR 63, Subpart MM)

1. 15A NCAC 02D .0508: PARTICULATES FROM PULP AND PAPER MILLS

a. Emissions from the production of pulp and paper that are discharged from the north smelt tank **(ID No. ES-14-05-0050)** and south smelt tank **(ID No. ES-14-05-0300)** into the atmosphere shall not exceed 0.6 pounds of particulate matter per equivalent tons of air dried pulp. [15A NCAC 02D .0508(a)]

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

b. If emissions testing is required, the testing shall be performed in accordance with General Condition JJ found in Section 3. 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 .0508.

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

c. To ensure compliance, the Permittee shall comply with the 40 CFR 63 Subpart MM monitoring, recordkeeping, and reporting requirements as specified in Section 2.2 B of this permit.

d. The Permittee shall perform periodic inspections and maintenance of the scrubbers **(ID Nos. CD-14-05-0700 and CD-14-05-0750)** as specified in the approved Basic Care Route or as recommended by the manufacturer. In addition, the Permittee shall perform at a minimum an annual internal inspection of each of the scrubber systems. As a minimum, the annual internal inspection will include inspection of spray nozzles, packing material, chemical feed system (if so equipped), and the cleaning/calibration of all associated instrumentation annually.

e. The results of all inspections and any variance from standard operating procedures, standard maintenance plans, or from conditions given in this permit (when applicable) shall be investigated with corrections made and dates of actions recorded in a logbook. Records of all maintenance activities shall also be recorded in the logbook. The logbook (in written or electronic form) shall be kept on-site and made available to DAQ personnel upon request.

f. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0508 if the monitoring and recordkeeping required by Sections 2.1 D.1.c through e above are not conducted.

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

g. 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 periods between July and December, and July 30 of each calendar year for the preceding six-month period between January and June. The report shall identify all instances of deviations from the requirements of this permit or a statement that no deviations occurred during the reporting period.

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

a. Visible emissions from the smelt tanks **(ID Nos ES-14-05-0050 and ES-14-05-0300)** shall not be more than 20 percent opacity when averaged over a six-minute period. However, six-minute averaging periods may exceed 20 percent not more than once in any hour and not more than four times in any 24-hour period. In no event shall the six-minute average exceed 87 percent opacity. [15A NCAC 02D .0521 (c)]

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. The North and South Smelt Tanks stacks have wet plumes and thus, no visible emissions monitoring is required. To ensure compliance, the Permittee shall comply with the 40 CFR 63 Subpart MM monitoring, and recordkeeping requirements as specified in Section 2.2 B. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0521 if the smelt tank parameters are not monitored and recorded as specified in Section 2.2 B of the permit.

3. 15A NCAC 02D .0528: TOTAL REDUCED SULFUR FROM KRAFT PULP MILLS

a. The emissions of total reduced sulfur (TRS) shall not exceed 0.032 pounds per ton of black liquor solids (dry weight) from any smelt dissolving tank. [15A NCAC 02D .0528]

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

b. If emissions testing is required, the testing shall be performed in accordance with General Condition JJ found in Section 3. If the results of this test are above the limit given in Section 2.1 D.3.a above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0528

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

c. Monitoring, recordkeeping and reporting are not required.

E. No. 5 lime kiln (ID No. ES-14-60-3000) firing natural gas, No. 2 fuel oil, and LVHC and SOG gases (500 tons of reburned lime per day nominal capacity) and controlled by venturi scrubber (ID No. CD-14-70-2012)

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

Regulated Pollutant	Limits/Standards	Applicable Regulation
Particulate Matter	0.5 lbs. per equivalent ton of air dried pulp (filterable and condensable)	15A NCAC 02D .0508
Sulfur Dioxide	2.3 pounds per million Btu heat input	15A NCAC 02D .0516
Visible Emissions	20 percent opacity	15A NCAC 02D .0521
Particulate Matter	0.30 g/dscm (0.13 gr/dscf) corrected to 10 percent oxygen while firing oil (filterable only) 0.15 g/dscm (0.066 gr/dscf) while firing natural gas	15A NCAC 02D .0524 (40 CFR 60, Subpart BB)
Total Reduced Sulfur (TRS)	8 ppm of TRS by volume on a dry basis, corrected to 10 percent oxygen based on a 12-hour average	15A NCAC 02D .0524 (40 CFR 60, Subpart BB)
Carbon Monoxide	14.6 lb/hr while firing LVHC/SOG NCG gases.	15A NCAC 02D .0530
Particulate Matter	182,500 bone dry tons of reburned lime (as CaO) per consecutive 12-month period	15A NCAC 02Q .0317 (15A NCAC 02D .0530 Avoidance)
Hazardous Air Pollutants	See Section 2.2 B.	15A NCAC 02D .1111 and 02D .1109 (40 CFR 63, Subpart MM)

1. 15A NCAC 02D .0508: PARTICULATES FROM PULP AND PAPER MILLS

a. Emissions from the production of pulp and paper that are discharged from the No. 5 lime kiln into the atmosphere shall not exceed 0.5 pounds of particulate matter (PM) per equivalent tons of air dried pulp (ADTP). [15A NCAC 02D .0508(a)]

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 E.1.a above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0508.

c. Under the provisions of NCGS 143-215.108 and in accordance with General Condition JJ, the Permittee shall demonstrate compliance with the emissions limit above by testing the No. 5 lime kiln (**ID No. ES-14-60-3000)** for PM (filterable and condensible, unless otherwise exempted per 02D. 2609) once every five years for the worst-case fuel (natural gas and/or oil) that averages at least 10 percent of the Btu throughput through the lime kiln during any calendar year period during the previous five years combined with LVHC and SOG gases. Test results shall be recorded as lbs/ADTP and as g/dscm (or gr/dscf). If the results of the testing demonstrate the PM emissions are equal to or greater than 80 percent of the limit above, the testing frequency for the affected fuel (natural gas or oil) shall increase to once every calendar year until the results return to less than 80 percent of the limit or until the fuel is no longer a primary fuel. If any stack test demonstrates emissions are above the limit given in Section 2.1 E.1.a above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0508.

d. During each stack test performed in Section 2.1 E.c above, the Permittee shall monitor and record the venturi scrubber **(ID No. CD-14-70-2012)** operating parameters including the liquid flow rate in gallons per minute, the pressure drop in inches H_2O, and the liquid nozzle header pressure in psig.

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

e. PM emissions from the lime kiln (**ID No ES-14-60-3000**) shall be controlled by venturi scrubber (**ID No. CD-14-70-2012**). To ensure compliance with the PM limitation, the Permittee shall comply with the 40 CFR 63 Subpart MM monitoring, recordkeeping and reporting requirements as specified in Section 2.2 B of this permit. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0508 if these parameters are not monitored or these records are not maintained.

f. The Permittee shall perform periodic inspections and maintenance of scrubbers **(ID Nos. CD-14-70-2012)** as specified in the approved Basic Care Route or as recommended by the manufacturer. In addition, the Permittee shall perform at a minimum an annual internal inspection of each of the scrubber systems. As a minimum, the annual internal inspection shall include inspection of spray nozzles, packing material, chemical feed system (if so equipped), and the cleaning/calibration of all associated instrumentation annually.

g. The results of all inspections and any variance from standard operating procedures, standard maintenance plans, or from conditions given in this permit (when applicable) shall be investigated with corrections made and dates of actions recorded in a logbook. Records of all maintenance activities shall also be recorded in the logbook. The logbook (in written or electronic form) shall be kept on-site and made available to DAQ personnel upon request.

h. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0508 if the monitoring and recordkeeping required by Sections 2.1 D.1.e through g above are not conducted.

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

i. 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 periods between July and December, and July 30 of each calendar year for the preceding six-month period between January and June. The report shall identify all instances of deviations from the requirements of this permit or a statement that no deviations occurred during the reporting period.

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

a. Emissions of sulfur dioxide (SO_2) from the No. 5 lime kiln **(ID No. ES-14-60-3000)** shall not exceed 2.3 pounds per million Btu heat input. SO_2 formed by the combustion of sulfur in fuels, wastes, ores, and other substances shall be included when determining compliance with this standard. [15A NCAC 02D .0516]

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

b. If emissions testing is required, the testing shall be performed in accordance with General Condition JJ found in Section 3. If the results of this test are above the limit given in Section 2.1 E.2.a above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0516.

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

c. The maximum sulfur content of any fuel oil received and burned in the kiln shall not exceed 2.1 percent by weight. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0516 if the sulfur content of the fuel oil exceeds this limit.

d. To ensure compliance, the Permittee shall monitor the sulfur content of the fuel oil by using fuel oil supplier certification per month. The results of the fuel oil supplier certifications shall be recorded in a logbook (written or electronic format) on a quarterly basis and include the following information:
   i. the name of the fuel oil supplier;
   ii. the maximum sulfur content of the fuel oil received during the quarter;
   iv. the method used to determine the maximum sulfur content of the fuel oil; and
   iv. a certified statement signed by the responsible official that the records of fuel oil supplier certification submitted represent all of the fuel oil fired during the period.

   The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0516 if the sulfur content of the oil is not monitored and recorded.

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

e. The Permittee shall submit a summary report of the fuel oil supplier certifications 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.

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

a. Visible emissions from the No. 5 lime kiln **(ID No. ES-14-60-3000)** shall not be more than 20 percent opacity when averaged over a six-minute period. However, six-minute averaging periods may exceed 20 percent not more than once in any hour and not more than four times in any 24-hour period. In no event shall the six-minute average exceed 87 percent opacity. [15A NCAC 02D .0521 (c)]

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 E.3.a above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0521.

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

c. The lime kiln stack has a wet plume. No visible emissions monitoring is required. To ensure compliance, the Permittee shall comply with the 40 CFR 63 Subpart MM monitoring, recordkeeping, and reporting requirements as specified in Section 2.2 B of this permit.

4. 15A NCAC 02D .0524: NSPS 40 CFR SUBPART BB

a. The Permittee shall comply with all applicable provisions, including the notification, testing, reporting, recordkeeping, and monitoring requirements contained in Environmental Management Commission Standard 15A NCAC 02D .0524 "New Source Performance Standards (NSPS) as promulgated in 40 CFR Part 60 Subpart BB, including Subpart A "General Provisions."[15A NCAC 02D .0524]

Emissions Limitations [15A NCAC 02D .0524]

b. Emissions from the lime kiln shall not exceed the following limits:
   i. 0.30 g/dscm (0.13 gr/dscf) of PM corrected to 10 percent oxygen. [40 CFR Part 60, Subpart 60.282(a)(3)(i)] while firing oil, and
   ii. 0.15 g/dscm (0.066 gr/dscf) of PM corrected to 10 percent oxygen. [40 CFR Part 60, Subpart 60.282(a)(3)(i)] while firing natural gas, and
   iii. 8 ppm of TRS by volume on a dry basis, corrected to 10 percent oxygen based on a 12-hour average[40 CFR Part 60, Subpart 60.283(a)(5) and 60.284(c)].

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

c. Under the provisions of NCGS 143-215.108, the Permittee shall conduct periodic stack testing of the lime kiln as specified in Section 2.1 E.1.c above. If the results of the testing demonstrate the emissions are equal to or greater than 80 percent of the limit in Section 2.1 E.4.b above, the testing frequency in Section 2.1 E.1.c shall increase to once every calendar year until the results return to less than 80 percent of the above limit. If any stack test demonstrates emissions are above the limit given in Section 2.1 E.4.b above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0524.

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

d. PM emissions from the lime kiln shall be controlled by scrubber **(ID No. CD-14-70-2012)**. To ensure compliance with the emissions limitation, the Permittee shall comply with the 40 CFR 63 Subpart MM monitoring, recordkeeping and reporting requirements as specified in Section 2.2 B. of this permit. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0524 if these parameters are not monitored or these records are not maintained.

e. In accordance with 40 CFR 60.284(a)(2), the Permittee shall calibrate, maintain, and operate a continuous monitoring system to monitor and record the concentration of TRS emissions on a dry basis and the percent of oxygen by volume on a dry basis in the gases discharged into the atmosphere These systems shall be located downstream of the control device and the spans of these continuous monitoring system shall be set:
   i. At a TRS concentration of 30 ppm for the TRS system monitoring the lime kiln operation.
   ii. At 25 percent oxygen for the continuous oxygen monitoring system.

f. The Permittee shall calculate and record the 12-hour average TRS concentrations for the two consecutive periods of each operating day in accordance with 40 CFR 60.284(c). The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0524 if TRS concentrations are not monitored or if they exceed the limit in Section 2.1.E.4.b above.

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

g. The Permittee shall follow the requirements of 40 CFR 60.284(d) for reporting of excess emissions.

h. The Permittee shall submit every six months two quarterly summary reports of the monitoring and recordkeeping 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.

5. 15A NCAC 02D. 0530: PREVENTION OF SIGNIFICANT DETERIORATION:

Emissions Limits [15A NCAC 02D .0530]

a. The following Best Available Control Technology (BACT) limits shall not be exceeded:

Emission Source	Fuel Fired	Pollutant	Emission Limit
No. 5 lime kiln **(ID No. ES-14-60-3000)**	LVHC/SOG NCG gases	carbon monoxide (CO)	14.6 pounds per hour

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 result of any test is greater than the limit given above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0530.

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

c. The Permittee shall record and maintain records of the amount of time LVHC/SOG gases burned in the lime kiln each month and make these records available to an authorized representative of the DAQ upon request.

d. 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 periods between July and December, and July 30 of each calendar year for the preceding six-month period between January and June. The report shall identify all instances of deviations from the requirements of this permit or a statement that no deviations occurred during the reporting period.

6. 15A NCAC 02Q. 0317: AVOIDANCE CONDITIONS for 15A NCAC 02D. 0530: PREVENTION OF SIGNIFICANT DETERIORATION

a. In order to avoid applicability of 15A NCAC 02D .0530(g) for major sources and major modifications, the No. 5 lime kiln **(ID No. ES-14-60-3000)** shall not produce more than 182,500 bone dry tons of reburned lime (as CaO) per consecutive 12-month period.

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

b. The Permittee shall maintain record and maintain records of the amount (in bone dry tons) of reburned lime produced in the lime kiln during each day. These records shall be made available to an authorized representative of DAQ upon request. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0530 if the daily reburned lime production rates are not recorded.

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

c. 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 periods between July and December, and July 30 of each calendar year for the preceding six-month period between January and June. The report shall identify all instances of deviations from the requirements of this permit or a statement that no deviations occurred during the reporting period. The report shall contain the following:
   i. the monthly quantities of lime produced in the kiln for the previous 17 months. The total quantities burned must be calculated for each of the 12-month periods over the previous 17 months; and
   ii. All instances of deviations from the requirements of this permit must be clearly identified.

F. No. 1 Hog Fuel Boiler De-Entrainment Vessels:
West de-entrainment vessel (ID No. ES-64-60-0180) with baghouse (ID No. CD-64-60-0900);
Central de-entrainment vessel (ID No. ES-64-60-0480) with baghouse Central (ID No. CD-64-60-0910); and
East de-entrainment vessel (ID No. ES-64-60-0780) with baghouse (ID No. CD-64-60-0920)

No. 2 Hog Fuel Boiler De-Entrainment Vessels:
North de-entrainment vessel (ID No. ES-65-60-0140) with baghouse (ID No. CD-65-60-0800);
Central de-entrainment vessel (ID No. ES-65-60-0430) with baghouse (ID No. CD-65-60-0820); and
South de-entrainment vessel (ID No. ES-65-60-0630) with baghouse (ID No. CD-65-60-0840)

No. 1 Hog Fuel Boiler Ash Storage and Handling:
Ash silo (ID No. ES-64-50-0180) with bagfilters (ID Nos. CD-64-50-0160 and CD-64-50-0170);
Scrubber ash silo (ID No. ES-64-60-0960) with bagfilters (ID Nos. CD-64-60-0961 and CD-64-60-0962); and
Ash transport steam exhauster (ID No. ES-64-50-0150) with air washer (ID No. CD-64-50-0150)

No. 2 Hog Fuel Boiler Ash Storage and Handling:
Ash silo (ID No. ES-65-50-0190) with bagfilters (ID Nos. CD-65-50-0170 and CD-65-50-0180);
Scrubber ash silo (ID No. ES-65-60-0860) with bagfilters (ID Nos. CD-65-60-0870 and CD-65-60-0880); and
Ash transport steam exhauster (ID No. ES-65-50-0160) with air washer (ID No. CD-65-50-0160)

Lime Operations:
Reburned lime conveyor, bucket elevator, and bin (ID Nos. ES-14-65-1000, ES-14-65-1020 and ES-14-65-1030) each controlled by baghouse (ID No. CD-14-65-1075); and
Fresh lime bin (ID No. ES-14-65-1080) controlled by baghouse (ID No. CD-14-65-1082)
Reburned Lime, and reburned lime bin (ID No. ES-14-65-1030) controlled by baghouse (ID No. CD-14-65-1075)

The following table provides a summary of limits and standards for the emission sources described above:

Regulated Pollutant	Limits/Standards	Applicable Regulation
Particulate Matter	$E = 4.10(P)^{0.67}$ Where E = allowable emission rate in pounds per hour P = process weight input in tons per hour (up to 30 tph) $E = 55(P)^{0.11} - 40$ Where E = allowable emission rate in pounds per hour P = process weight input in tons per hour (greater than 30 tph)	15A NCAC 02D .0515
Visible Emissions	20 percent opacity	15A NCAC 02D .0521
Criteria Pollutants	Annual tracking report. See Permit Condition 2.2 C. and D.	15A NCAC 02D .0530(u)
PM_{10}	**De-entrainment Vessels, Reburned and Fresh Lime Bins, and Ash Silos** Compliance Assurance Monitoring	15A NCAC 02D .0614
NC TAPs	See Section 2.2 E.2. – State-Enforceable Only	15A NCAC 02D .1100

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:

$E = 4.10 \times P^{0.67}$ Where E = allowable emission rate in pounds per hour
P = process weight in tons per hour (up to 30 tons per hour)

$E = 55(P)^{0.11} - 40$ Where E = allowable emission rate in pounds per hour
P = process weight input in tons per hour (greater than 30 tons per hr)

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 F.1.a above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0515.

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

c. PM emissions, from those sources identified above, shall be controlled by bagfilters and air washers. To ensure compliance, the Permittee shall perform inspections and maintenance as specified in the approved Basic Care Route, or as recommended by the manufacturer. The Permittee shall, as a minimum, perform the following:
   i. a monthly visual inspection of the system ductwork and material collection unit for leaks; and
   ii. an annual (for each 12 month period following the initial inspection) internal inspection of the bagfilter's structural integrity.

   The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0515 if the ductwork and bagfilters are not inspected and maintained.

d. Inspection and maintenance is not required for the air washers.

e. 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 ductwork and bagfilters; 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)]

f. The Permittee shall submit the results of any maintenance performed on the ductwork and bagfilters within 30 days of a written request by the DAQ.

g. The Permittee shall submit a summary report of monitoring and recordkeeping activities given in Section 2.1 F.1.c through F.1.e, 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 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 F.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, the Permittee shall observe the emission points (at the control device vent) of the de-entrainment vessels and the scrubber ash silos **(ID Nos. ES-64-60-0180, ES-64-60-0480, ES-64-60-0780, ES-65-60-0140, ES-65-60-0430, ES-65-60-0630, ES-64-60-0960, and ES-65-60-0860)** once each week 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. If a source is not operating at the time of visible emissions monitoring, a record of this fact along with the corresponding date and time shall substitute for the observation. If visible emissions from any source are observed to be above normal, the Permittee shall either:

i. take appropriate action to correct the above-normal emissions 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 lime crusher in accordance with 15A NCAC 02D .2610 (Method 9) for 12 minutes is below the limit given in Section 2.1 F.2.a above.

The Permittee shall be deemed to be in noncompliance with 15A NCAC 02D .0521 if the 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.

d. To ensure compliance, the Permittee shall observe the emission points of ash silos, ash transport steam exhausters, lime bins, lime bucket elevator **(ID Nos. ES-64-50-0180, ES-65-50-0190, ES-64-50-0150, ES-65-50-0160, ES-14-65-1030, ES-14-65-1080, and ES-14-65-1020)** once each month for any visible emissions above normal. The monthly observation must be made for each month of the calendar year period to ensure compliance with this requirement. If a source is not operating at the time of visible emissions monitoring, a record of this fact along with the corresponding date and time shall substitute for the observation. If visible emissions from any source are observed to be above normal, the Permittee shall either:
   i. take appropriate action to correct the above-normal emissions 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 F.2.a above.

   The Permittee shall be deemed to be in noncompliance with 15A NCAC 02D .0521 if the monthly 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.

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

e. 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.

   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 Section 2.1 F.2.c through F.2.e, 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.

3. 15A NCAC 02D. 0614: COMPLIANCE ASSURANCE MONITORING

a. Per 40 CFR 64 and 15A NCAC 02D .0614, the Permittee shall comply with the following.

b. **Background**

i. Emission Units
   (A) West de-entrainment vessel (ID No. ES-64-60-0180)
   (B) Central de-entrainment vessel (ID No. ES-64-60-0480)
   (C) East de-entrainment vessel (ID No. ES-64-60-0780)
   (D) Ash silo (ID No. ES-64-50-0180)
   (E) North de-entrainment vessel (ID No. ES-65-60-0140)
   (F) Central de-entrainment vessel (ID No. ES-65-60-0430)
   (G) South de-entrainment vessel (ID No. ES-65-60-0630)
   (H) Ash silo (ID No. ES-65-50-0190)
   (I) Reburned lime bin (ID No. ES-14-65-1030)
   (J) Fresh lime bin (ID NO. ES-14-65-1080)

ii. Applicable Regulation, Emission Limit, and Monitoring Requirements
   (A) Regulations
   15A NCAC 02D .0515
   (B) Emission limits

(1) Particulate matter emissions shall not exceed the following limits

$E = 4.10 \times P^{0.67}$ Where E = allowable emission rate in pounds per hour
P = process weight in tons per hour ($P \leq 30$ tons per hr)

$E = 55(P)^{0.11} - 40$ Where E = allowable emission rate in pounds per hour
P = process weight input in tons per hour ($P > 30$ tons per hr)

[15A NCAC 02D .0515]

(C) Control Technology: Baghouses

c. **Monitoring Approach**. The key elements of the monitoring approach for particulate matter, including parameters to be monitored, parameter ranges and performance criteria are presented in the following table.

Measure	Indicator
I. Indicator	Visible emissions
Measuring approach	Visible emissions (VE) from each baghouse will be observed daily using EPA Reference Method 22-like procedures.
II. Indicator Range	An excursion is defined as the presence of visible emissions. Excursion triggers a demonstration of compliance with the 20% opacity standard in accordance with 15A NCAC 02D .2610 (Method 9) for 12 minutes; or an inspection, corrective action, and a reporting requirement. The QIP (Quality Improvement Plan) threshold is excursions occurring on three days (consecutive or non-consecutive days) in a six-month reporting period for which the Permittee did not perform a demonstration of compliance with the 20% opacity standard in accordance with 15A NCAC 02D .2610 (Method 9) for 12 minutes. The QIP shall be prepared within 30 days of reaching the QIP threshold and shall contain procedures for evaluating control performance problems.
III. Performance Criteria	
Data Representativeness	Visible emissions shall be observed at the emissions point (baghouse exhaust).
QA/QC Practices and Criteria	The observer should be familiar with EPA Reference Method 22 and follow Method 22-like procedures when VE is observed. Method 9 observations are conducted by a certified Reference Method 9 observer.
Monitoring frequency	A VE observation is performed daily.
Data Collection Procedures	The VE observation is recorded by the observer.
Averaging Period	N/A

Reporting [15A NCAC 02Q .0508(f) and 40 CFR 64.9(a)]

d. The Permittee shall submit a summary report of all monitoring 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. All instances of deviations for the requirements of this permit must be clearly identified. In addition, the summary report shall contain the following information, as applicable:

i. Summary information on the number, duration and cause (including unknown cause, if applicable) of excursions or exceedances, as applicable, and the corrective actions taken;

ii. Summary information on the number, duration and cause (including unknown cause, if applicable) for monitor downtime incidents (other than downtime associated with zero and span or other daily calibration checks, if applicable); and

iii. A description of the actions taken to implement a QIP during the reporting period as specified in 40 CFR 64.8. Upon completion of a QIP, the owner or operator shall include in the next summary report documentation that the implementation of the plan has been completed and reduced the likelihood of similar levels of excursions or exceedances occurring.

G. East lime slaker (ID No. ES-14-20-2020) and Nos. 1, 2, and 3 east causticizing lines (ID Nos. ES-14-20-2040, ES-14-20-2050 and ES-14-20-2060) with associated east slaker wet scrubber (45 gallons per minute minimum liquid injection rate) (ID No. CD-14-20-2035); and

West lime slaker (ID No. ES-14-20-2085) and Nos. 1, 2, and 3 west causticizing lines (ID Nos. ES-14-20-2105, ES-14-20-2115 and ES-14-20-2125) with associated west slaker wet scrubber (45 gallons per minute minimum liquid injection rate) (ID No. CD-14-20-2100)

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	$E = 4.10(P)^{0.67}$ Where E = allowable emission rate in pounds per hour P = process weight input in tons per hour (up to 30 tph) $E = 55(P)^{0.11} - 40$ Where E = allowable emission rate in pounds per hour P = process weight input in tons per hour (greater than 30 tph)	15A NCAC 02D .0515
Visible Emissions	20 percent opacity	15A NCAC 02D .0521
NC TAPs	See Section 2.2 E.2. – State-Enforceable Only	15A NCAC 02D .1100

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

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

$E = 4.10 \times P^{0.67}$ Where E = allowable emission rate in pounds per hour
P = process weight in tons per hour

$E = 55(P)^{0.11} - 40$ Where E = allowable emission rate in pounds per hour
P = process weight input in tons per hour (greater than 30 tons per hr)

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 G.1.a above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0515.

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

c. Particulate matter emissions from the east lime slaker and causticizing lines **(ID Nos. ES-14-20-2020, -2040, -2050, and -2060)** shall be controlled by wet scrubber **(ID No. CD-14-20-2035).** Particulate matter emissions from the west lime slaker and west causticizing lines **(ID Nos. ES-14-20-2185, -2105, -2115, and -2125)** shall be controlled by wet scrubber **(ID No. CD-14-20-2100)**. The Permittee shall install, operate, and maintain a flow meter on each scrubber and once each day monitor and record the scrubber injection rate for each scrubber. The Permittee shall maintain the scrubber injection rate at or above 45 gpm. The Permittee shall be allowed three (3) days of absent observations per semi-annual period. If the emission source is not operating, a record of this fact along with the corresponding date and time shall substitute for the daily observation. The readings shall be recorded in a logbook (written or electronic format) on-site and made available to an authorized representative upon request. To ensure quality, the flow rate gauges or devices shall be checked annually to ensure they are functioning properly. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0515 if the three hour average injection rate for either scrubber is not maintained at or above 45 gallons per minute based on 3-hr rolling averages, or if these records are not maintained.

d. If a flow reading is observed to be below the minimum rate, the Permittee shall inspect the scrubber for malfunctions and clean or repair, as necessary. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0515 if the inspections, cleaning, and repairs are not performed.

e. The results of inspection and maintenance activities, discussed above for the scrubber, shall be maintained in a logbook (written or electronic format) on-site and made available to an authorized representative of DAQ 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 causes for any variance from the allowable operating range for the scrubber; and
   iii. corrective actions taken.
   The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0515 if these records are not maintained.

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

f. The Permittee shall submit the results of any maintenance performed on the ductwork and scrubbers within 30 days of a written request by the DAQ.

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

Testing [15A NCAC 02Q .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 G.2.a above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0521.

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

c. To ensure compliance, the Permittee shall follow the monitoring, recordkeeping, and reporting requirements in Section 2.1 G.1.c through g above.

H. Lime crusher (ID No. ES-14-60-3015) controlled by baghouse (ID No. CD-14-65-1075) –OR- by venturi scrubber (ID No. CD-14-70-2012)

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

Regulated Pollutant	Limits/Standards	Applicable Regulation
Particulate Matter	$E = 4.10(P)^{0.67}$ Where E = allowable emission rate in pounds per hour P = process weight input in tons per hour (up to 30 tph) $E = 55(P)^{0.11} – 40$ Where E = allowable emission rate in pounds per hour P = process weight input in tons per hour (greater than 30 tph)	15A NCAC 02D .0515
Visible Emissions	20 percent opacity	15A NCAC 02D .0521

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

a. Emissions of particulate matter from the lime crusher **(ID No. ES-14-60-3015)** shall not exceed an allowable emissions rate as calculated by the following equation: [15A NCAC 02D .0515(a)]

$E = 4.10 \times P^{0.67}$ Where E = allowable emission rate in pounds per hour
P = process weight in tons per hour

$E = 55(P)^{0.11} – 40$ Where E = allowable emission rate in pounds per hour
P = process weight input in tons per hour (greater than 30 tons per hr)

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

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

a. 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 H.1.a above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0515.

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

c. PM emissions from the lime crusher **(ID No. ES-14-60-3015)** shall be controlled by either a baghouse or a venturi scrubber. The Permittee shall install, operate, and maintain flow and pressure gauges on the scrubber and once each day monitor and record the scrubber injection rate, the pressure drop across the scrubber, and the scrubber nozzle pressure. The Permittee shall be allowed three (3) days of absent observations per semi-annual period. When the scrubber is used for particulate emissions control, the Permittee shall follow the 40 CFR 63 Subpart MM monitoring, recordkeeping, and reporting requirements in Section 2.2 B. When the baghouse is used for control, the Permittee shall perform inspections and maintenance of the baghouse as specified by the approved Basic Care route or as recommended by the manufacturer. In addition to the manufacturer's inspection and maintenance recommendations, or if there is no manufacturer's inspection and maintenance recommendations, as a minimum, the inspection and maintenance requirement shall include the following:
   i. a monthly visual inspection of the system ductwork and material collection unit for leaks; and
   ii. an annual (for each 12 month period following the initial inspection) internal inspection of the bagfilter's structural integrity.

   The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0515 if the ductwork and baghouse are not inspected and maintained.

d. 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 baghouse; and
   iv. any variance from the 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)]

e. The Permittee shall submit the results of any maintenance performed on the baghouse within 30 days of a written request by the DAQ.

f. The Permittee shall submit a summary report 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. 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 lime crusher scrubber exhaust stack shall not be more than 20 percent opacity when averaged over a six-minute period. However, six-minute averaging periods may exceed 20 percent not more than once in any hour and not more than four times in any 24-hour period. In no event shall the six-minute average exceed 87 percent opacity. [15A NCAC 02D .0521 (d)]

Testing [15A NCAC 02Q .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 H.2.a above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0521.

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

c. To ensure compliance when the venturi scrubber is used for control, the Permittee shall follow the 40 CFR 63 Subpart MM monitoring, recordkeeping, and reporting requirements in Section 2.2 B.

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

d. To ensure compliance when the baghouse is used for control, the Permittee shall observe the emission points of the baghouse controlling emissions from the lime crusher once each week for any visible emissions above normal. The weekly observation must be made for each week of the calendar year period to ensure compliance with thie requirement. If a source is not operating at the time of visible emissions monitoring, a record of this fact along with the corresponding date and time shall substitute for the observation. If visible emissions from any source are observed to be above normal, the Permittee shall either:
   i. take appropriate action to correct the above-normal emissions 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 lime crusher in accordance with 15A NCAC 02D .2610 (Method 9) for 12 minutes is below the limit given in Section 2.1 H.2.a above.

   The Permittee shall be deemed to be in noncompliance with 15A NCAC 02D .0521 if the 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.

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

e. The results of the baghouse visible emissions observations 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.

   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 observations 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.

I. No. 6 Fiberline:
Chip silos B and C (ID Nos. ES-06-05-2000 and ES-06-05-3000)

No. 7 Fiberline:
Chip silos A and B (ID Nos. ES-07-05-1000 and ES-07-05-2000)

Boiler Fuel Storage and Handling:
No. 1 and No. 2 hog fuel conveying (ID No. FS-007)

Woodyard Operations:
Screen house (ID No. ES-00-35-1000); debarking and chipping line (ID No. ES-11-10-1500); two bark hogs (ID No. ES-11-50-4500-1 and ES-11-50-4500-2); hog fuel handling and transfer in woodyard (ID No. FS-010); chip conveying (to pulping) (ID No. FS-012); chip handling and transfer system in woodyard (ID No. FS-013); and hog fuel handling and transfer to boiler area (ID No. FS-021)

The following table provides a summary of limits and standards for the emission sources described above:

Regulated Pollutant	Limits/Standards	Applicable Regulation
Particulate Matter	$E = 4.10(P)^{0.67}$ Where E = allowable emission rate in pounds per hour P = process weight input in tons per hour (up to 30 tph) $E = 55(P)^{0.11} - 40$ Where E = allowable emission rate in pounds per hour P = process weight input in tons per hour (greater than 30 tph)	15A NCAC 02D .0515
Visible Emissions	**Screen house (ID No. ES-00-35-1000); hog fuel handling and transfer in woodyard (ID No. FS-010); chip conveying (to pulping) (ID No. FS-012); chip handling and transfer system in woodyard (ID No. FS-013); and hog fuel handling and transfer to boiler area (ID No. FS-021)** 40 percent opacity standard **All other sources** 20 percent opacity standard	15A NCAC 02D .0521
Criteria Pollutants	**Chip silos (ID Nos. ES-06-05-2000, ES-06-05-3000, ES-07-05-1000 and ES-07-05-2000)** Annual tracking report. See Permit Condition 2.2 C. and D.	15A NCAC 02D .0530(u)
NC Toxic Air Pollutants	See Permit Condition 2.2 E.2 – State-Enforceable Only	15A NCAC 02D .1100
Volatile organic compounds	**For Woodyard Operations:** No more than 2,238,545 green tons of softwood species may be processed (logs converted onsite into chips) through the wood yard per any consecutive 12-month period.	15A NCAC 02Q .0317 (15A NCAC 02D .0530 Avoidance)

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

a. Emissions of particulate matter from these sources shall not exceed an allowable emissions rate as calculated by the following equation: [15A NCAC 02D .0515(a)]

$E = 4.10 \times P^{0.67}$ Where E = allowable emission rate in pounds per hour
P = process weight in tons per hour

$E = 55(P)^{0.11} - 40$ Where E = allowable emission rate in pounds per hour
P = process weight input in tons per hour (greater than 30 tons per hr)

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 I.1.a above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0515.

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

c. The Permittee shall maintain a record which identifies the types of materials processed, specifies the maximum throughput of the materials processed 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 or the types of materials are not monitored.

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

a. Visible emissions from the chip silos, the No. 1 and No. 2 hog fuel conveying, debarking and chipping line, and the two bark hogs **(ID Nos. ES-06-05-2000, ES-06-05-3000, ES-07-05-1000, ES-07-05-2000, FS-007, ES-11-10-1500, ES-11-50-4500-1, and ES-11-50-4500-2, respectively)** shall not be more than 20 percent opacity when averaged over a six-minute period. However, six-minute averaging periods may exceed 20 percent not more than once in any hour and not more than four times in any 24-hour period. In no event shall the six-minute average exceed 87 percent opacity. [15A NCAC 02D .0521 (d)]

b. Visible emissions from the screen house, the hog fuel handling and transfer in woodyard, chip conveying (to pulping), the chip handling and transfer system in woodyard, and the hog fuel handling and transfer to boiler area **(ID Nos. ES-00-35-1000, FS-010, FS-012, FS-013, and FS-021**, **respectively)** shall not be more than 40 percent opacity when averaged over a six-minute period. However, six-minute averaging periods may exceed 40 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 90 percent opacity. [15A NCAC 02D .0521 (c)]

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

c. 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 I.2.a or b above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0521.

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

d. To ensure compliance, once a quarter, the Permittee shall observe the emission points of these sources for any visible emissions above normal. The quarterly observation must be made for each quarter of the calendar year period to ensure compliance with this requirement. The Permittee may limit the observation of each transport system to one location where the highest visible emissions are most likely to occur. If an emission source is not operating at the time of visible emissions monitoring, a record of this fact along with the corresponding date and time shall substitute for the observation. If visible emissions from any source are observed to be above normal, the Permittee shall either:
   i. take appropriate action to correct the above-normal emissions 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 I.2.a or 2.1.I.2.b. above.

   The Permittee shall be deemed to be in noncompliance with 15A NCAC 02D .0521 if the quarterly 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.

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

e. 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.

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

15A NCAC 02Q. 0317: AVOIDANCE CONDITIONS for

3. 15A NCAC 02D .0530: PREVENTION OF SIGNIFICANT DETERIORATION

a. In order to avoid applicability of 15A NCAC 02D .0530 (g) for major sources and major modifications, emissions of volatile organic compounds (VOCs) from the modified woodyard operations shall be less than 120 tons per consecutive twelve (12) month period.

b. The Permittee shall process no more than 2,238,545 green tons of softwood species (logs converted onsite into chips) through the wood yard per any consecutive 12-month period.

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

c. To ensure compliance, the Permittee shall record each month the green tons of softwood species processed through the wood yard. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0530 if the required quantity of softwood processed is not recorded.

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

d 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 periods 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 monthly tons of softwood processed onsite for the previous seventeen (17) months. The tonnage must be calculated for each of the three twelve month periods over the previous seventeen months.

J. High volume, low concentration (HVLC) non-condensible gas (NCG) collection system routed to the No. 1 or 2 Hog Fuel Boiler (ID No. ES-64-25-0290 or ES-65-25-0310) or No. 5 Recovery Boiler (ES-10-25-0110) or Thermal Oxidizer (ID No. CD-64-22-2000)

No. 6 fiberline sources controlled by the HVLC NCG collection system

Chip bin relief condenser (ID No. ES-06-10-2380), digester blow tank (ID No. ES-06-21-1200), pressure diffuser filtrate tank (ID No. ES-06-21-1100), secondary knotter (ID No. ES-06-22-1080), screen dilution tank (ID No. ES-06-22-1100), quaternary screen (ID No. ES-06-22-1280), decker hood (ID No. ES-06-23-1200), and decker filtrate tank (ID No. ES-06-23-1220).

No. 7 fiberline sources controlled by the HVLC NCG collection system

Chip bin relief condenser (ID No. ES-07-10-2380), digester blow tank (ID No. ES-07-21-1200), pressure diffuser filtrate tank (ID No. ES-07-21-1100), secondary knotter (ID No. ES-07-22-1080), screen dilution tank (ID No. ES-07-22-1100), quaternary screen (ID No. ES-07-22-1280), decker hood (ID No. ES-07-23-1200), and decker filtrate tank (ID No. ES-07-23-1220).

No. 6 and No. 7 fiberline common sources controlled by the HVLC NCG collection system

Screen rejects tank (ID No. ES-08-66-1000)

The following table provides a summary of limits and standards for the emission sources described above:

Regulated Pollutant	Limits/Standards	Applicable Regulation
Total Reduced Sulfur (TRS)	5 ppm by volume on a dry basis, corrected to 10 percent oxygen.	15A NCAC 02D .0524 (40 CFR Part 60 Subpart BB)
HAP Emissions	See Permit Condition 2.2 A.	15A NCAC 02D .1111 and 02D .1109 (40 CFR Part 63 Subpart S)

1. 15A NCAC 02D .0524: NSPS 40 CFR 60 SUBPART BB

a. The Permittee shall comply with all applicable provisions, including the notification, testing, reporting, recordkeeping, and monitoring requirements contained in Environmental Management Commission Standard 15A NCAC 02D .0524 "New Source Performance Standards (NSPS) as promulgated in 40 CFR Part 60 Subpart BB, including Subpart A "General Provisions."[15A NCAC 02D .0524]

Emissions Limitations [15A NCAC 02D .0524]

b. The Permittee shall not cause to be discharged into the atmosphere any gases which contain TRS in excess of 5 ppm by volume on a dry basis, corrected to 10 percent oxygen, unless the following conditions are met [40 CFR Part 60, Subpart 60.283(a)(1)]:
   i. The gases are combusted in the No. 1 or No. 2 Hog Fuel Boiler where they are subjected to a minimum temperature of 650 °C (1200 °F) for at least 0.5 second;
   ii. The gases are combusted in the No. 5 Recovery Boiler as specified in Section 2.1 C.3, above; or
   iii. The gases are combusted in the Thermal Oxidizer **(ID No. CD-64-22-2000)** and are subjected to a minimum temperature of 650 °C (1200 °F) for at least 0.5 second.

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

c. 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 J.1.b above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0524.

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

d. The Permittee shall follow the closed vent inspection procedures in Section 2.2 A to ensure that the HVLC NCG collection system emissions are routed to either the No. 1 Hog Fuel Boiler **(ID No. ES-65-25-0290)** or No. 2 Hog Fuel Boiler **(ID No. ES-65-25-0310)** or the No. 5 Recovery Boiler **(ID No. ES-10-25-0110)** or the Thermal Oxidizer **(ID No. CD-64-22-2000)**, as specified above. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0524 if these procedures are not followed or if the records are not maintained.

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

e. 40 CFR 60.284(d) –reporting of excess emissions.

f. The Permittee shall submit a summary report of the monitoring and recordkeeping activities given in Section 2.1 J.1.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.

K. Low volume, high concentration (LVHC) non-condensible gas (NCG) collection system routed to the No. 2 Hog Fuel Boiler (ID No. ES-65-25-0310)or the No. 5 Lime Kiln (ID No. ES-14-60-3000)

Evaporator operations controlled by the LVHC NCG collection system
No. 6 Black Liquor Evaporator System (ID No. ES-09-20-0320), Concentrator Hotwell (ID No. ES-09-35-0200), No. 7 black liquor evaporator system (ID No. ES-09-25-0510) , Secondary Turpentine Decanter Tank (ID No. ES-09-TURPDECANT), Secondary Turpentine Decanter Weir (ID No. ES-09-TURPWEIR), Secondary Turpentine Underflow Tank (ID No. ES-09-TURPUND), Secondary Turpentine Storage Tank (ID No. ES-09-TURPSTOR)

Fiberline sources controlled by the LVHC NCG collection system
No. 6 fiberline digester flash condenser (ID No. ES-06-10-2420), No. 7 fiberline digester flash condenser (ID No. ES-07-10-2420), turpentine decanter weir (ID No. ES-08-61-1020), turpentine tank (ID No. ES-08-61-1080), turpentine decanter tank (ID No. ES-08-61-1000), and turpentine decanter underflow tank (ID No. ES-08-61-1040)

Condensate stripper feed tank (ID No. ES-09-25-1000)

The following table provides a summary of limits and standards for the emission sources described above:

Regulated Pollutant	Limits/Standards	Applicable Regulation
Total Reduced Sulfur (TRS)	5 ppm by volume on a dry basis, corrected to 10 percent oxygen.	15A NCAC 02D .0524 (40 CFR Part 60 Subpart BB)
HAP Emissions	See Permit Condition 2.2 A..	15A NCAC 02D .1111 and 02D .1109 (40 CFR Part 63 Subpart S)

1. 15A NCAC 02D .0524: NSPS 40 CFR 60 SUBPART BB

a. The Permittee shall comply with all applicable provisions, including the notification, testing, reporting, recordkeeping, and monitoring requirements contained in Environmental Management Commission Standard 15A NCAC 02D .0524 "New Source Performance Standards (NSPS) as promulgated in 40 CFR Part 60 Subpart BB, including Subpart A "General Provisions."[15A NCAC 02D .0524]

Emissions Limitations [15A NCAC 02D .0524]

b. No owner or operator shall cause to be discharged into the atmosphere any gases which contain TRS in excess of 5 ppm by volume on a dry basis, corrected to 10 percent oxygen, unless the following conditions are met [40 CFR Part 60, Subpart 60.283(a)(1)]:
   i. The gases are combusted in the No. 2 Hog Fuel Boiler where they are subjected to a minimum temperature of 650 °C (1200 °F) for at least 0.5 second; or
   ii. The gases are combusted in a lime kiln subject to the provisions of 60.283(a)(5).

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

c. If emissions testing is required, the testing shall be performed in accordance with General Condition JJ found in Section 3. If the results of this test are above the limit given in Section 2.1 K.1.b above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0524.

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

d. The Permittee shall follow the closed vent inspection procedures per Section 2.2 A to ensure that the LVHC NCG collection system emissions are routed to either the No. 2 Hog Fuel Boiler **(ID No. ES-65-25-0310)** or the No. 5 Lime Kiln **(ID No. ES-14-60-3000)** as specified above. The Permittee shall be deemed in noncompliance with 02D .0524 if these procedures are not followed or if the records are not maintained.

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

e. 40 CFR 60.284(d) –reporting of excess emissions.

f. The Permittee shall submit a summary report of the 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. All instances of deviations from the requirements of this permit must be clearly identified.**L. Condensate stripper reflux condenser (ID No. ES-09-**

25-1050) and associated stripper off gas (SOG) non condensable gas (NCG) collection system routed to the No. 2 hog fuel boiler (ID No. ES-65-25-0310) or No. 5 lime kiln (ID No. ES-14-60-3000)

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

Regulated Pollutant	Limits/Standards	Applicable Regulation
Total Reduced Sulfur (TRS)	5 ppm by volume on a dry basis, corrected to 10 percent oxygen	15A NCAC 02D .0524 (40 CFR Part 60 Subpart BB)
HAP Emissions	See Permit Condition 2.2 A..	15A NCAC 02D .1111 and 02D .1109 (40 CFR Part 63 Subpart S)

1. 15A NCAC 02D .0524: NSPS 40 CFR 60 SUBPART BB

a. The Permittee shall comply with all applicable provisions, including the notification, testing, reporting, recordkeeping, and monitoring requirements contained in Environmental Management Commission Standard 15A NCAC 02D .0524 "New Source Performance Standards (NSPS) as promulgated in 40 CFR Part 60 Subpart BB, including Subpart A "General Provisions."[15A NCAC 02D .0524]

Emissions Limitations [15A NCAC 02D .0524]

b. No owner or operator shall cause to be discharged into the atmosphere any gases which contain TRS in excess of 5 ppm by volume on a dry basis, corrected to 10 percent oxygen, unless the following conditions are met [40 CFR Part 60, Subpart 60.283(a)(1)]:
   i. The gases are combusted in the No. 2 hog fuel boiler where they are subjected to a minimum temperature of 650 °C (1200 °F) for at least 0.5 second; or
   ii. The gases are combusted in the lime kiln subject to the provisions of 60.283(a)(5).

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

c. If emissions testing is required, the testing shall be performed in accordance with General Condition JJ found in Section 3. If the results of this test are above the limit given in Section 2.1 L.1.b above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0524.

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

d The Permittee shall follow the closed vent inspection procedures per Specific Condition 2.2 A to ensure that the SOG NCG collection system emissions are routed to either the No. 2 hog fuel boiler **(ID No. ES-65-25-0310)** or the No. 5 lime kiln **(ID No. ES-14-60-3000)** as specified above. The Permittee shall be deemed in noncompliance with 02D .0524 if these procedures are not followed or if the records are not maintained.

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

e 40 CFR 60.284(d) –reporting of excess emissions.

f. The Permittee shall submit a summary report of the 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. All instances of deviations from the requirements of this permit must be clearly identified.

M. No. 6 and No. 7 Fiberline Operations:

1. **<u>No. 6 bleach plant sources controlled by white liquor scrubber (ID No. CD-06-35-8100):</u>**
   2C washer filtrate tank (ID No. ES-06-32-2480); ClO_2 3rd stage tower (ID No. ES-06-33-3060); 4th stage extraction tower and filtrate tank (ID Nos. ES-06-34-4080 and ES-06-34-4100); ClO2 5th stage tower (ID No. ES-06-35-5060); and 5th stage filtrate tank (ID No. ES-06-35-5080 all controlled by White liquor scrubber (ID No. CD-06-35-8100)

2. **<u>No. 7 bleach plant sources controlled by white liquor scrubber (ID No. CD-07-36-8000):</u>**
   ClO2 3rd stage tower (ES-07-33-3080); ClO2 5th stage tower (ID No. ES-07-35-5060); 5th stage filtrate tank (ID No. ES-07-35-5080); Blend box (sump) (ID No. ES-07-33-Blendbox); Base effluent neutralization tank (ID No. ES-08-67-1200); Acid effluent neutralization tank (ID No. ES-08-67-1300); white liquor oxidation tank (ID No. ES-08-70-1000); and Acid sewer (ID No. ES-08-67-1400) all controlled by White liquor scrubber (ID No. CD-07-36-8000)

3. **<u>No. 6 bleach plant uncontrolled sources:</u>**
   Oxygen delignification system (ID No. ES-06-31-0180), 1st stage O_2 surge tank (ID No. ES-06-31-1000); 2nd stage O_2 reactor blow tube (ID No. ES-06-32-2060); 2nd stage wash tower (ID No. ES-06-32-2100); and 2A/2B filtrate tank (ID No. ES-06-32-2120); and

   Not part of the Oxygen Delignification System: No. 28 high density tank (ID No. ES-06-32-2300); No. 29 high density tank (ID No. ES-06-32-2340); No. 30 high density tank (ID No. ES-06-32-2380); 2C washer (ID No. ES-06-32-2460); 6th Stage Peroxide Reactor Blow Tube (ID No. ES-06-P2); 6th Stage Peroxide stage washer, filtrate tank, vacuum pump, and exhaust blower (ID No. ES-06-P3) and building fugitives (ID No. FS-003)

4. **<u>No. 7 Bleach Plant uncontrolled sources:</u>**
   Oxygen delignification system (ID No. ES-07-31-1100): 1st stage O_2 surge tank (ID No. ES-07-31-1000); 1st stage O_2 reactor blow tube (ID No. ES-07-31-1140); 1st stage wash tower (ID No. ES-07-31-1180); 1A/1B filtrate tank (ID No. ES-07-31-1200); 3rd stage feed tank (ID No. ES-07-33-3000); 4th stage extraction tower and filtrate tank (ID Nos. ES-07-34-4080 and ES-07-34-4100); 6th stage peroxide tower and filtrate tank (ID Nos. ES-07-36-6040 and ES-07-36-6060); and

   Not part of the Oxygen Delignification System: building fugitives (ID No. FS-004)

5. **<u>No. 6 and No. 7 fiberline common sources, controlled by white liquor scrubber (ID No. CD-07-36-8000)</u>**
   10% sulfuric acid day tank (ID No. ES-08-50-3140)

The following table provides a summary of limits and standards for the emission sources described above:

Regulated Pollutant	Limits/Standards	Applicable Regulation
Carbon Monoxide	**<u>No. 6 Bleach Plant</u>** Total CO emissions shall not exceed 73.3 pounds per hour and 321.1 tons per consecutive 12-month period (based on the BACT emission factor of 2.2 pounds CO per bone dry ton of unbleached pulp). **<u>No. 7 Bleach Plant</u>** Total CO emissions shall not exceed 114.6 pounds per hour and 502.0 tons per consecutive 12-month period (based on the BACT emission factor of 2.2 pounds CO per bone dry ton of unbleached pulp).	15A NCAC 02D .0530
Criteria Pollutants	Annual tracking report. See Permit Condition 2.2 C and D.	15A NCAC 02D .0530(u)

Regulated Pollutant	Limits/Standards	Applicable Regulation
HAP Emissions	See Permit Condition 2.2 A.	15A NCAC 02D .1111 and 02D .1109 (40 CFR Part 63 Subpart S)

1. 15A NCAC 02D. 0530: PREVENTION OF SIGNIFICANT DETERIORATION:

a. Carbon monoxide emissions from the No. 6 Bleach Plant that are discharged into the atmosphere shall not exceed 73.3 pounds per hour and 321.1 tons per consecutive twelve month period.

b. Carbon monoxide emissions from the No. 7 Bleach Plant that are discharged into the atmosphere shall not exceed 114.6 pounds per hour and 502.0 tons per consecutive twelve month period.

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

c. If emissions testing is required, the testing shall be performed in accordance with 15A General Condition JJ. If the results of this test are above the hourly limit given in Section 2.1 M.1.a or b above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0530.

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

d. To ensure that emissions are less than the above-specified limits, the Permittee shall not operate the No. 6 Bleach Plant at a production rate in excess of 800 bone dry tons of unbleached pulp per day and shall not operate the No. 7 Bleach Plant at a production rate in excess of 1,250 bone dry tons of unbleached pulp per day. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0530 if the amount of unbleached pulp processed in a bleach plant exceeds the applicable limit.

e. To ensure compliance, the Permittee shall maintain records as follows:
   i. The Permittee shall record and maintain records of the amounts (in bone dry tons) of unbleached pulp processed in the No. 6 Bleach Plant during each day and each month,
   ii. The Permittee shall record and maintain records of the amounts (in bone dry tons) of unbleached pulp processed in the No. 7 Bleach Plant during each day and each month, and;
   iii. The records of the amounts unbleached pulp (in bone dry tons) processed during each day and month in the No. 6 Bleach Plant and the No. 7 Bleach Plant shall be made available to an authorized representative of DAQ upon request.

   The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0530 if the daily process amount of unbleached pulp exceeds the applicable limit or if the daily and monthly unbleached pulp process rates are not recorded each month.

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

f. 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 periods between July and December, and July 30 of each calendar year for the preceding six-month period between January and June. The report shall identify all instances of deviations from the requirements of this permit or a statement that no deviations occurred during the reporting period. The report shall contain the following:
   i. the monthly quantities of unbleached pulp processed in the No. 6 Bleach Plant for the previous 17 months. The total quantities must be calculated for each of the 12-month periods over the previous 17 months;
   ii. the monthly quantities of unbleached pulp processed in the No. 7 Bleach Plant for the previous 17 months. The total quantities must be calculated for each of the 12-month periods over the previous 17 months; and

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

N. East and west lime mud filter – hood exhausts (ID Nos. ES-14-30-5000 and ES-14-30-6000) with associated scrubber/mist eliminator (ID No. CD-14-30-6025)

The following table provides a summary of limits and standards for the emission sources described above:

Regulated Pollutant	Limits/Standards	Applicable Regulation
Particulate Matter	$E = 4.10(P)^{0.67}$ Where E = allowable emission rate in pounds per hour P = process weight input in tons per hour (up to 30 tph) $E = 55(P)^{0.11} - 40$ Where E = allowable emission rate in pounds per hour P = process weight input in tons per hour (greater than 30 tph)	15A NCAC 02D .0515
Visible Emissions	20 percent opacity	15A NCAC 02D .0521

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

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

$E = 4.10 \times P^{0.67}$ Where E = allowable emission rate in pounds per hour
P = process weight in tons per hour

$E = 55(P)^{0.11} - 40$ Where E = allowable emission rate in pounds per hour
P = process weight input in tons per hour (greater than 30 tons per hr)

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 N.1.a above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0515.

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

c. The Permittee shall maintain a record which identifies the types of materials processed and specifies the maximum throughput of the materials processed 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 or the types of materials are not monitored.

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

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

Testing [15A NCAC 02Q .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 N.2.a above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0521.

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

c. Visible emissions from the lime mud filter exhausts shall be controlled by the scrubber/mist eliminator. The Permittee shall perform inspections and maintenance of the scrubber as specified by the approved Basic Care route or as recommended by the manufacturer. In addition to the manufacturer's inspection and maintenance recommendations, or if there is no manufacturer's inspection and maintenance recommendations, as a minimum, the inspection and maintenance requirement shall include a monthly visual inspection of the system ductwork and scrubber/mist

eliminator for leaks. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0521 if the ductwork and scrubber are not inspected and maintained.

d. 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 scrubber/mist eliminator; and
   iv. any variance from the manufacturer's recommendations, if any, and corrections made..

   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 the results of any maintenance performed on the scrubber/mist eliminator within 30 days of a written request by the DAQ.

f. The Permittee shall submit a summary report 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. All instances of deviations from the requirements of this permit must be clearly identified.

O. Carpentry woodworking operations (ID No. ES-94-15) with cyclone (ID No. CD-94-15-0450)

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	adequate duct work and properly designed collectors	15A NCAC 02D .0512
Visible Emissions	40 percent opacity	15A NCAC 02D .0521

1. 15A NCAC 02D .0512: PARTICULATES FROM MISCELLANEOUS WOOD PRODUCTS FINISHING PLANTS

a. The Permittee shall not cause, allow, or permit particulate matter caused by the working, sanding, or finishing of wood to be discharged from any stack, vent, or building into the atmosphere without providing, as a minimum for its collection, adequate duct work and properly designed collectors. In no case shall the ambient air quality standards be exceeded beyond the property line.

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

b. Particulate matter emissions from the carpentry woodworking operations are controlled by a cyclone. To ensure compliance, the Permittee shall perform inspections and maintenance as specified in the approved Basic Care Route or as recommended by the manufacturer. The Permittee shall, as a minimum, perform monthly external inspection of the ductwork and cyclone noting the structural integrity. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0512 if the ductwork and cyclone are not inspected and maintained.

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

c. The results of inspection and maintenance for the control device (cyclone) 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; and
   iii. the results of maintenance performed on any filters or cyclone.
   The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0512 if these records are not maintained.

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

d. The Permittee shall submit the results of any maintenance performed on the filters, ductwork or cyclone within 30 days of a written request by the DAQ.

e. The Permittee shall submit a summary report 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. 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 this emission sources shall not be more than 40 percent opacity when averaged over a six-minute period. However, six-minute averaging periods may exceed 40 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 90 percent opacity. [15A NCAC 02D .0521 (d)]

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 O.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 month the Permittee shall observe the emission points of the source for any visible emissions above normal. The monthly observation must be made for each month of the calendar year period to ensure compliance with this requirement. If visible emissions from the source are observed to be above normal, the Permittee shall either:

i. take appropriate action to correct the above-normal emissions 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 in accordance with 15A NCAC 02D .2610 (Method 9) for 12 minutes is below the limit given in Section 2.1 O.2.a above.

The Permittee shall be deemed to be in noncompliance with 15A NCAC 02D .0521 if the monthly 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.

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

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.

   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 observations 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.

P. Seven diesel-fired emergency engines (ID Nos. ES-14-60-3000a, ES-53-40-0130, ES-53-40-0140, ES-53-40-0145, ES-71-95-0500, ES-73-05-4510, ES-73-05-4580)

The following table provides a summary of limits and standards for the emission sources described above:

Regulated Pollutant	Limits/Standards	Applicable Regulation
Sulfur dioxide	2.3 pounds per million Btu heat input	15A NCAC 02D .0516
Visible emissions	20 percent opacity each	15A NCAC 02D .0521
Hazardous air pollutants	Work practices	15A NCAC 02D .1111 40 CFR Part 63, Subpart ZZZZ

1. 15A NCAC 02D .0516: SULFUR DIOXIDE EMISSIONS FROM COMBUSTION SOURCES

a. Emissions of sulfur dioxide from the emergency engines shall not exceed **2.3 pounds per million Btu heat input**. Sulfur dioxide formed by the combustion of sulfur in fuels, wastes, ores, and other substances shall be included when determining compliance with this standard. [15A NCAC 02D .0516]

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

b. If emissions testing is required, the testing shall be performed in accordance with General Condition JJ found in Section 3. If the results of this test are above the limit given in Section 2.1 P.1.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, or reporting is required for sulfur dioxide emissions from firing diesel fuel.

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

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

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

b. If emissions testing is required, the testing shall be performed in accordance with General Condition JJ found in Section 3. If the results of this test are above the limit provided in Section 2.1 P.2.a above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0521.

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

c. No monitoring, recordkeeping, or reporting is required for visible emissions from the firing of diesel fuel.

3. 15A NCAC 02D 1111: MAXIMUM ACHIEVABLE CONTROL TECHNOLOGY
40 CFR Part 63, Subpart ZZZZ "National Emission Standards For Hazardous Air Pollutants For Stationary Reciprocating Internal Combustion Engines (RICE).

Operating Conditions [40 CFR 63.6595 (a)]

a. The Permittee shall comply with the operating restrictions identified in Section 2.1 P.3.c for existing compression ignition (CI) emergency engine greater than 500 HP **(ID No. ES-71-95-0500)**.

b. The Permittee shall comply with the operating restrictions, work practices, monitoring, recordkeeping, and reporting requirements identified in Sections 2.1 P.3.d to m below and shall install a non-resettable hour meter if one is not already installed for existing CI emergency engines no more than 500 HP **(ID Nos. ES-14-60-3000a, ES-53-40-0130, ES-53-40-0140, ES-53-40-0145, ES-73-05-4510, ES-73-05-4580)**.

Operating Restrictions Applicable to Stationary CI Emergency Engines Greater Than 500 HP
[40 CFR 63.6640(f)]

c. The Permittee shall restrict the operation of engine as follows to maintain its status as an "emergency" engine as required by 40 CFR 40 CFR 63.6640 (f)(2)(i) through (iii):

i. The Permittee may operate the emergency stationary RICE for the purpose of maintenance checks and readiness testing, provided that the tests are recommended by the manufacturer, the vendor, or the insurance company

associated with the engine. Required testing of such units should be minimized, but there is no time limit on the use of emergency stationary RICE in emergency situations and for routine testing and maintenance.

ii. The Permittee may operate the emergency stationary RICE for an additional 50 hours per year in non-emergency situations. The 50 hours per year for non-emergency situations cannot be used for peak shaving or to generate income for a facility, to supply power to an electric grid, or otherwise supply power as part of a financial arrangement with another entity.

The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111 if the non emergency operation of the engine, with the exception of routine maintenance, exceeds 50 hours during any calendar year.

Operating Restrictions Applicable to Stationary CI Emergency Engines No More Than 500 HP.
[40 CFR 63.6605(b) and 63.6640(f)]

d. The Permittee shall operate and maintain each engine in a manner consistent with safety and good air pollution control practices for minimizing emissions.

e. The Permittee shall restrict the operation of each engine as follows to maintain its status as an "emergency" engine as required by 40 CFR 63.6640 (f)(1)(i) through (iii):

i. Operate the emergency engine in emergency situations as needed with unrestricted hours.

ii. Limit the operation of the engine in non-emergency situations to 50 hours per year. The 50 hours per year for non-emergency situations cannot be used for peak shaving or to generate income for a facility to supply power to an electric grid.

iii. Limit the operation of the engine to no more than 30 minutes prior to the time when the emergency condition is expected to occur, and terminate the engine's operation immediately after the facility is notified that the emergency condition is no longer imminent.

iv. Limit the operation of the engine for the purpose of maintenance checks and readiness testing, provided that the tests are recommended by the Federal, State or local government, the manufacturer, the vendor, or the insurance company associated with the engine, to 100 hours per year unless records indicate that more time is allowed. The owner/operator may petition the Administrator for approval of additional hours to be used for maintenance checks and readiness testing. All non-emergency operation of the RICE counts toward the 100 hours per year provided for maintenance and testing.

v. Restrict the operation of the emergency engine to a maximum of 15 hours per year when used as part of a demand response program if the regional transmission organization or equivalent balancing authority and transmission operator has determined there are emergency conditions that could lead to a potential electrical blackout. These 15 hours are counted as part of the 50 hours of operation per year provided for nonemergency situations.

The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111 if the non emergency operation of the engine, with the exception of routine maintenance, exceeds 50 hours during any calendar year or if maintenance checks and readiness testing exceed 100 hours per year.

Work Practices Applicable to Stationary CI Emergency Engines No More Than 500 HP [40 CFR 63.6603, 63.6625(h), and 63.6640; Table 2c]

f. For each emergency engine, the Permittee shall change oil and filter every 500 hours of operation or annually, whichever comes first. If an emergency engine is operating during an emergency and it is not possible to shut down the engine in order to perform the work practice requirements or if performing the work practice on the required schedule would otherwise pose an unacceptable risk under Federal, State, or local law, the work practice can be delayed until the emergency is over or the unacceptable risk under Federal, State, or local law has abated. The work practice should be performed as soon as practicable after the emergency has ended or the unacceptable risk under Federal, State, or local law has abated. Sources must report any failure to perform the work practice on the schedule required and the Federal, State or local law under which the risk was deemed unacceptable.

g. An oil analysis program may be used to extend the time allowed in 2.1 P.3.f above between oil changes. The analysis program must, at a minimum, analyze the (1) total base number, (2) viscosity, and (3) percent water content. An oil change is not required if all three of the following conditions are meet:

i. the total base number is greater than or equal to 30 percent of the total base number of the oil when new;

ii. the viscosity of the oil has not changed by more than 20 percent from the viscosity of the oil when new; and

iii. the percent water content (by volume) is less than or equal to 0.5.

If one of the above limits is exceeded, the owner or operator must change the oil within 2 days of receiving the results of the analysis or before commencing operation, whichever is later. If using an oil analysis program to extend the time between oil changes, the owner or operator must keep records of the results of the analysis and the oil changes for the engine and include the analysis program in the maintenance plan for the engine.

h. For each existing emergency engine, the Permittee shall inspect the air cleaner every 1,000 hours of operation or annually, whichever comes first.

i. For each emergency engine, the Permittee shall inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary or follow approved alternate work practice.

j. The Permittee shall minimize the engine's time spent at idle during startup and minimize the engine's startup time to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes for each existing emergency engine.

k. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111 if the applicable work practices specified in Sections 2.1 P.f to j above are not followed.

Operation/Maintenance/Recordkeeping Requirements Applicable to Stationary CI Emergency Engines No More Than 500 HP [15A NCAC 02Q .0508(f)]

l. The Permittee shall operate and maintain each engine according to the manufacturer's emission-related operation and maintenance instructions; *OR* develop and follow a site specific maintenance plan which provides to the extent practicable for the maintenance and operation of the engine in a manner consistent with good practice for minimizing air emissions maintenance checks and readiness testing.

m. The Permittee shall keep records of maintenance performed and the hours of operation of each engine that is recorded through the non-resettable hour meter and document how many hours are spent for emergency operation, including what classified the operation as emergency and how many hours are spent for non-emergency operation. If the engines are used for demand response operation, the owner or operator must keep records of the notification of the emergency situation, and the time the engine was operated as part of demand response. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111 if maintenance performed on the emergency engines is not recorded and maintained on site for a period of two years.

Reporting Requirements Applicable to Stationary CI Emergency Engines No More Than 500 HP
[15A NCAC 02Q .0508(f)]

n. The Permittee shall submit a semi-annual compliance report 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 must contain a description and the corrective actions taken for all deviations from any operating limitation and any malfunction during the reporting period. If there are no deviations from any operating limitations (work practice requirements), provide a statement that there were no deviations during the reporting period.

Q. Lignin Recovery Process Operation:

1. **Alkaline Stage sources controlled by the HVLC collection system:**
   40% Black Liquor Cooler (ID No. ES-09-27-1100)
   Filtrate 1 Storage Tank (ID No. ES-09-27-1200)
   Carbonator Tower (ID No. ES-09-27-1400)
   Agitated Conditioning Tank (ID No. ES-09-27-1800)
   Agitated Buffer Tank (ID No. ES-09-27-2000
   LRP Primary Filter Press (ID No. ES-09-27-2100) - partially controlled by vacuum pull
   Cloth Wash Water Tank 1 (ID No. ES-09-27-2300)
   Filtrate Tank 1 (ID No. ES-09-27-2400)
   Filtrate 1 Buffer Tank (ID No. ES-09-27-2500)
   Dewatered Lignin Conveyor 1 (ID No. ES-09-27-2610)
   Dewatered Lignin Conveyor 2 (ID No. ES-09-27-2620)

2. **Alkaline Stage sources uncontrolled:**
   40% Black Liquor Storage Tank (ID No. ES-09-27-1000)
   LRP Primary Filter Press (ID No. ES-09-27-2100)

3. **Acid Stage sources uncontrolled:**
   Filter Press 2A (ID No. ES-09-27-3000)
   Cloth Wash Water Tank 2 (ID No. ES-09-27-3100)

4. **Acid Stage sources controlled by Carbonator Tower (ID No. ES-09-27-1400):**
   Agitated Acidification Tank (ID No. ES-09-27-2700)
   Agitated Acid Conditioning Tank (ID No. ES-09-27-2800)
   Acidification Overflow/Foam Tank (ID No. ES-09-27-2770)

5. **Acid Stage sources controlled by the HVLC collection system:**
   Stage 2 Filtrate Tank 2 (ID No. ES-09-27-3200)

The following table provides a summary of limits and standards for the emission sources described above:

Regulated Pollutant	Limits/Standards	Applicable Regulation
TRS (as H_2S) and H_2S	25.9 tons per year (12-month running total) 23.6 tons per year (12-month running total)	15A NCAC 02D .0530
Criteria Pollutants	Annual tracking report. See Permit Condition 2.2 D	15A NCAC 02D .0530(u)
NC Toxic Air Pollutants	See Section 2.2 E.2 – State-Enforceable Only	15A NCAC 02D .1100

1. 15A NCAC 02D. 0530: PREVENTION OF SIGNIFICANT DETERIORATION:

a. Total reduced sulfur (as H_2S) emissions from the Lignin Recovery Process Operations that are discharged into the atmosphere shall not exceed 25.9 tons per consecutive twelve-month period.

b. Hydrogen sulfide emissions from the Lignin Recovery Process Operations that are discharged into the atmosphere shall not exceed 23.6 tons per consecutive twelve-month period.

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

c. If emissions testing is required, the testing shall be performed in accordance with General Condition JJ. If the results of this test indicate that the annual emission rates would exceed the limits given in Section 2.1 Q.1.a or b., above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0530.

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

d. To ensure that emissions are less than the above-specified limits, the Permittee shall not operate the Lignin Recovery Process at a production rate in excess of 32,850 oven dried metric tons of lignin solids per consecutive 12-month period. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0530 if the amount of lignin processed exceeds the applicable limit.

e. To ensure compliance, the Permittee shall maintain records as follows:
   i. The Permittee shall record and maintain records of the amounts (in oven dried metric tons) of lignin processed in the Lignin Recovery Process each month,
   ii. The Permittee shall record and maintain records of the TRS (as H_2S) and hydrogen sulfide emissions from the Lignin Recovery Process Operations each month, and;
   iii. The records of the amounts lignin (in oven dried metric tons) processed during each month in the Lignin Recovery Process and the TRS (as H_2S) and hydrogen sulfide emissions shall be made available to an authorized representative of DAQ upon request.

   The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0530 if the processed lignin, TRS (as H_2S) emissions and hydrogen sufide emissions exceed the applicable limits or if the monthly records are not maintained each month.

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

f. 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 periods between July and December, and July 30 of each calendar year for the preceding six-month period between January and June. The report shall identify all instances of deviations from the requirements of this permit or a statement that no deviations occurred during the reporting period. The report shall contain the following:
   i. the monthly TRS (as H_2S) emissions from the Lignin Recovery Process Operations for the previous 17 months. The total quantities must be calculated for each of the 12-month periods over the previous 17 months;
   ii. the monthly hydrogen sulfide emissions from the Lignin Recovery Process Operations for the previous 17 months. The total quantities must be calculated for each of the 12-month periods over the previous 17 months;
   iii. the monthly quantities of lignin processed in the Lignin Recovery Process for the previous 17 months. The total quantities must be calculated for each of the 12-month periods over the previous 17 months; and
   iv. All instances of deviations from the requirements of this permit must be clearly identified.

R. C3 Condensate (ID No. ES-09-35-0140)

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

Regulated Pollutant	Limits/Standards	Applicable Regulation
Total Reduced Sulfur	C3 Condensate (**ID No. ES-09-25-1050)** may be routed to the waste water treatment plant (**ID No. ES-73-05-2000**) without first being processed through the condensate stripper reflux condenser (**ID No. ES-09-25-1050**) for no more than 30 days in any consecutive twelve month period.	15A NCAC 02Q .0317 (15A NCAC 02D .0530 Avoidance)
NC Toxic Air Pollutants	Toxic air pollutant emissions from the waste water treatment plant (**ID No. ES-73-05-2000**) shall not exceed a limit listed in Section 2.2.E.2 See Section 2.2.E.2 – State-Enforceable Only	15A NCAC 02D .1100
Odors	The Permittee shall implement management practices, as necessary, to prevent odorous emissions from the C3 Condensate (**ID No. ES-09-25-1050)** sewering from causing or contributing to objectionable odors beyond the facility's boundary. See Section 2.2.E.2 – State-Enforceable Only	15A NCAC 02D .1806

15A NCAC 02Q. 0317: AVOIDANCE CONDITIONS for

1. 15A NCAC 02D .0530: PREVENTION OF SIGNIFICANT DETERIORATION

a. In order to avoid applicability of 15A NCAC 02D .0530 (g) for major sources and major modifications, emissions total reduced sulfur (TRS) from the direct sewering of the C3 Condensate (**ID No. ES-09-35-0140)** shall be less than 10 tons per consecutive twelve (12) month period.

b. The Permittee may route the C3 Condensate (**ID No. ES-09-35-0140)** directly to the waste water treatment plant (**ID No. ES-73-05-2000**) without first being processed through the condensate stripper reflux condenser (**ID No. ES-09-25-1050**) for no more than 30 days in any consecutive twelve month period.

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

c. To ensure compliance, for each time the C3 Condensate (**ID No. ES-2)** is discharged directly to the waste water treatment plant (**ID No. ES-73-05-2000**), the Permittee shall record the dates and the total number of gallons of C3 condensate sewered.. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0530 if the required dates and volume of C3 condensate sewered are not recorded.

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

d 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 periods 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 number of days and volume of direct C3 condensate sewered and the associated TRS emissions for each consecutive twelve month period during the reporting period.

S. Portable log chipper(s) (ID No. ES-TEMP-CHIP)

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	$E = 4.10(P)^{0.67}$ Where E = allowable emission rate in pounds per hour P = process weight input in tons per hour (up to 30 tph) $E = 55(P)^{0.11} - 40$ Where E = allowable emission rate in pounds per hour P = process weight input in tons per hour (greater than 30 tph)	15A NCAC 02D .0515
Visible Emissions	20 percent opacity standard	15A NCAC 02D .0521
PM_{10}	No more than 14.9 tons emitted per consecutive 12-month period.	15A NCAC 02Q .0317 (15A NCAC 02D .0530 Avoidance)

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

a. Emissions of particulate matter from the portable log chipper(s) **(ID No. ES-TEMP-CHIP)** shall not exceed an allowable emission rate as calculated by the following equation: [15A NCAC 02D .0515(a)]

$E = 4.10 \times P^{0.67}$ Where E = allowable emission rate in pounds per hour
P = process weight in tons per hour

$E = 55(P)^{0.11} - 40$ Where E = allowable emission rate in pounds per hour
P = process weight input in tons per hour (greater than 30 tons per hr)

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 S.1.a above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0515.

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

c. The Permittee shall maintain a record which identifies the types of materials processed, specifies the maximum throughput of the materials processed 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 or the types of materials are not monitored.

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

a. Visible emissions from the portable log chipper(s) **(ID No. ES-TEMP-CHIP)** shall not be more than **20 percent opacity** each when averaged over a six-minute period. However, six-minute averaging periods may exceed 20 percent not more than once in any hour and not more than four times in any 24-hour period. In no event shall the six-minute average exceed 87 percent opacity. [15A NCAC 02D .0521 (d)]

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

b. If emissions testing is required, the testing shall be performed in accordance with General Condition JJ found in Section 3. If the results of this test are above the limit provided in Section 2.1 S.2.a above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0521.

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

c. When the portable log chipper(s) is(are) in operation on site, Permittee shall observe once each month the emission points of the source(s) for any visible emissions above normal. The monthly obersvation must be made for each month of the calendar year period when the portable log chipper(s) is(are) in operation on site to ensure compliance

with this requirement. If visible emissions from the emission source(s) are observed to be above normal, the Permittee shall either:

i. take appropriate action to correct the above-normal emissions 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 S.2.a above.

The Permittee shall be deemed to be in noncompliance with 15A NCAC 02D .0521 if the monthly 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.

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

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.

   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 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.

3. 15A NCAC 02Q. 0317: AVOIDANCE CONDITIONS for
15A NCAC 02D .0530: Prevention of Significant Deterioration

a. In order to avoid applicability of 15A NCAC 02D .0530 (g) for major sources and major modifications, the portable log chipper(s) **(ID No. ES-TEMP-CHIP)** discharge into the atmosphere no more than **14.9 tons of PM_{10} per consecutive twelve month period per consecutive twelve month period**.

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 limits given in Section 2.1 S.3.a above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0530.

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

c During each period the portable log chipper(s) **(ID No. ES-TEMP-CHIP)** operate(s) on site, the Permittee shall record and maintain the following records in a logbook (written or electronic format):
   i. the tons of logs processed through the portable log chipper(s) during the previous month; and
   ii. the tons of PM_{10} emissions from portable log chipper(s) for the previous month.

   The monthly records, as specified above, shall be made available to an authorized representative of DAQ upon request. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0530 if the records in are not maintained or if PM_{10} emissions exceed the limit in 2.1 R.3.a above.

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

d. Following each period the portable log chipper(s) **(ID No. ES-TEMP-CHIP)** operate(s) on site, 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 monthly PM_{10} emissions for each consecutive twelve month period during the previous 17 months.

2.2 Multiple Emission Sources Specific Limitations and Conditions

A. 40 CFR 63, Subpart S Affected Sources

Emission Source ID No.	Emission Source Description	Control Device ID No.	Control Device Description
HVLC Sources			
No. 6 Fiberline			
ES-06-10-2380	Chip bin relief condenser	ES-65-25-0310 or ES-64-25-0290 or ES-10-25-0110 or CD-64-22-2000	HVLC collection system to No. 2 Hog Fuel Boiler (primary) or No. 1 Hog Fuel Boiler (secondary) or No. 5 Recovery Boiler (as backup) or Thermal Oxidizer (as backup)
ES-06-21-1200	Digester blow tank		
ES-06-22-1080	Secondary knotter		
ES-06-22-1280	Quaternary screen		
ES-06-22-1100	Screen dilution tank		
ES-06-23-1200	Decker hood		
ES-06-23-1220	Decker filtrate tank		
No. 6 Oxygen Delignification			
ES-06-31-0180	Oxygen delignification system	NA	No control required per Clean Condensate Alternative under 40 CFR 63.447 (Permittee uses methanol biodegradation by the wastewater treatment system to offset methanol emissions from the O_2 delignification sources)
ES-06-31-1000	1st stage O2 surge tank	NA	
ES-06-32-2060	2nd stage O2 reactor blow tube	NA	
ES-06-32-2100	2nd stage wash tower	NA	
ES-06-32-2120	2A/2B filtrate tank	NA	
No. 7 Fiberline			
ES-07-10-2380	Chip bin relief condenser	ES-65-25-0310 or ES-64-25-0290 or ES-10-25-0110 or CD-64-22-2000	HVLC collection system to No. 2 Hog Fuel Boiler (primary) or No. 1 Hog Fuel Boiler (secondary) or No. 5 Recovery Boiler (as backup) or Thermal Oxidizer (as backup)
ES-07-21-1200	Digester blow tank		
ES-07-22-1080	Secondary knotter		
ES-07-22-1280	Quaternary screen		
ES-07-22-1100	Screen dilution tank		
ES-07-23-1200	Decker hood		
ES-07-23-1220	Decker filtrate tank		
No. 7 Oxygen Delignification			
ES-07-31-1100	Oxygen delignification system	NA	No control required per Clean Condensate Alternative under 40 CFR 63.447 (Permittee uses methanol biodegradation by the wastewater treatment
ES-07-31-1000	1st stage O2 surge tank	NA	
ES-07-31-1140	1st stage O2 reactor blow tube	NA	
ES-07-31-1180	1st stage wash tower	NA	
ES-07-31-1200	1A/1B filtrate tank	NA	

Emission Source ID No.	Emission Source Description	Control Device ID No.	Control Device Description
ES-07-33-3000	3rd stage feed tank	NA	system to offset methanol emissions from O_2 delignificaiton sources)
LVHC SOURCES			
No. 6 Fiberline			
ES-06-10-2420	Digester flash condenser	CD-14-55-2020 and ES-14-60-3000 or ES-65-25-0310	LVHC collection system to No. 2 hog fuel boiler or LVHC white liquor scrubber followed by the No. 5 lime kiln
No. 7 Fiberline			
ES-07-10-2420	Digester flash condenser	CD-14-55-2020 and ES-14-60-3000 or ES-65-25-0310	LVHC collection system to No. 2 hog fuel boiler or LVHC white liquor scrubber followed by the No. 5 lime kiln
No. 6 & 7 Fiberline (common facilities)			
ES-08-61-1020	Turpentine decanter weir	ES -65-25-0310 or CD-14-55-2020 and ES-14-60-3000	LVHC collection system to No. 2 hog fuel boiler or LVHC white liquor scrubber (80 gpm minimum white liquor injection rate) followed by the No. 5 lime kiln
ES-08-61-1080	Turpentine tank		
ES-08-61-1000	Turpentine decanter tank		
ES-08-61-1040	Turpentine underflow tank		
Chemical Recovery: Evaporator Operations			
ES-09-20-0320	No. 6 black liquor evaporator system	ES -65-25-0310 or CD-14-55-2020 and ES-14-60-3000	LVHC collection system to No. 2 hog fuel boiler or LVHC white liquor scrubber (80 gpm minimum white liquor injection rate) followed by the No. 5 lime kiln
ES-09-35-0200	Concentrator hotwell		
ES-09-25-0510	No. 7 black liquor evaporator system		
ES-09-TURPDECANT	Secondary Turpentine Decanter Tank	ES -65-25-0310 or CD-14-55-2020 and ES-14-60-3000	LVHC collection system to No. 2 hog fuel boiler or LVHC white liquor scrubber(80 gpm minimum white liquor injection rate) followed by the No. 5 lime kiln
ES-09-TURPWEIR	Secondary Turpentine Decanter Weir		
ES-09-TURPUND	Secondary Turpentine Underflow Tank		
ES-09-TURPSTOR	Secondary Turpentine Storage Tank		
Bleaching System Sources			
No. 6 Bleach Plant			
ES-06-33-3060	3rd stage ClO_2 tower	CD-06-35-8100	White liquor scrubber (45 gpm minimum circulation flow, pH $\geq$ 10, and
ES-06-35-5060	5th stage ClO2 tower		

Emission Source ID No.	Emission Source Description	Control Device ID No.	Control Device Description
ES-06-35-5080	5th stage filtrate tank		scrubber fan operations status)
No.7 Bleach Plant			
ES-07-33-3080	3rd stage tower - ClO2 stage	CD-07-36-8000	White liquor scrubber (105 gallons per minute minimum circulation flow, and min pH of 10, and scrubber fan operations status
ES-07-35-5060	5th stage tower – ClO2 stage		
ES-07-35-5080	5th stage filtrate tank		
Pulping Process Condensates Sources			
ES-09-25-1000	Condensate stripper feed tank	ES -65-25-0310 or CD-14-55-2020 and ES-14-60-3000	LVHC collection system to No. 2 hog fuel boiler or LVHC white liquor scrubber(80 gpm minimum white liquor injection rate) followed by the No. 5 lime kiln
ES-09-25-1050	Condensate stripper reflux condenser	ES -14-60-3000 or ES-65-25-0310	SOG collection system to the No. 5 lime kiln or No. 2 hog fuel boiler

Table 2.2 A-1

The following table provides a summary of limits and standards for the emission sources describe above:

Regulated Pollutant	Limits/Standards	Applicable Regulation
Hazardous Air Pollutants	**Bleaching System** 10 ppmv total chlorinated HAP or 99 percent reduction by weight **LVHC Collection System** Route system vents to No. 2 hog fuel boiler or LVHC white liquor scrubber followed by the No. 5 lime kiln **HVLC Collection System** Route the listed Nos. 6 and 7 fiberline HVLC vents to the No. 1 or No. 2 Hog Fuel Boiler or No. 5 Recovery Boiler or Thermal Oxidizer. Comply with Clean Condensate Alternative Delignification System. **Pulping Condensate Collection System** Collect a minimum 11.1 pounds per ton ODP followed by treatment in the Steam Stripper meeting: 92 percent HAP removal, or 10.2 pounds per ton ODP removal	15 A NCAC 02D .1111 (40 CFR 63 Subpart S)

1. 15A NCAC 02D .1111: MACT 40 CFR 63 SUBPART S

a. The Permittee shall comply with all applicable provisions, including the notification, testing, reporting, recordkeeping, and monitoring requirements contained in Environmental Management Commission Standard 15A NCAC 02D .1111 "Maximum Achievable Control Technology" (MACT) as promulgated in 40 CFR Part 63 Subpart S, including Subpart A "General Provisions" as defined per 63.440(g) and indicated per Table 1 of Subpart S. As

outlined in Table 1, per 40 CFR 63.6(f)(1), these emission standards shall apply at all times except as otherwise specified in 40 CFR Part 63, Subpart S. Terms used throughout this section are defined in the Clean Air Act as amended in 1990 and in 40 CFR 63.2 and 63.441. Units and abbreviations are defined in 40 CFR 63.3 [15A NCAC 02D .1111]

Standards for the Bleaching System [40 CFR 63.445]

b. The Permittee shall meet the following control requirements for bleaching systems using chlorinated compounds [40 CFR 63, Subpart 63.445]:
   i. The equipment at each bleaching stage of the bleaching systems, where chlorinated compounds are introduced, shall be enclosed and vented into a closed vent system meeting the requirements specified in 40 CFR 63.450 and introduced into the white liquor scrubbers **(ID Nos. CD-06-35-8100 and CD-07-36-8000)**;
   ii. The scrubbers **(ID Nos. CD-06-35-8100 and CD-07-36-8000)** shall achieve a treatment device outlet concentration of 10 ppmv or less of total chlorinated HAP or achieve a 99 percent reduction by weight; and
   iii. The Permittee shall not use hypochlorite or chlorine for bleaching in the bleaching systems listed above.

Standards for the LVHC and HVLC pulping systems at kraft processes [40 CFR 63.443(a)].

c. The Permittee shall enclose each LVHC system component and vent to a closed vent system meeting the requirement of 40 CFR 63.450 and route to:
   i. the No. 5 Lime Kiln **(ID No. ES-14-60-3000)** by introducing the HAP emission stream with the primary fuel or into the flame zone: or
   ii. the No. 2 Hog Fuel Boiler **(ID No. ES-65-25-0310),** when the boiler is operating at a heat input capacity greater than 150 million Btus per hour, by introducing the HAP emissions stream with the combustion air/primary fuel/into flame zone.

d. The Permittee shall enclose each HVLC Nos. 6 and 7 Fiberline system component and vent into a closed vent system, meeting the requirements of 40 CFR 63.450 and controlled per 40 CFR 63.443(d), and route to:
   i. the No. 2 Hog Fuel Boiler **(ID No. ES-65-25-0310),** operating at a heat input capacity greater than 150 million Btus per hour, by introducing the HAP emissions stream with the combustion air or with the primary fuel into flame zone; or
   ii. the No. 1 Hog Fuel Boiler **(ID No. ES-64-25-0290),** operating at a heat input capacity greater than 150 million Btus per hour, by introducing the HAP emissions stream with the combustion air or with the primary fuel into flame zone; or
   iii. the No. 5 Recovery Boiler **(ID No. Es-10-25-0110)**, by introducing the HAP emissions stream with the combustion air or with the primary fuel into the flame zone; or
   iv. the Thermal Oxidizer **(ID No. CD-64-22-2000)**, designed and operated at a minimum temperature of 871^{O}C (1600^{O}F) and a minimum residence time of 0.75 seconds.

e. Periods of excess emissions reported under 40 CFR 63.455 shall not be a violation of 40 CFR 63.443 (c) and (d) provided that the time of excess emissions (excluding periods of startup, shutdown, or malfunction) divided by the total process operating time in a semi-annual reporting period does not exceed the following levels:
   i. One percent for control devices used to reduce the total HAP emissions from the LVHC and SOG system;
   ii. Four percent for control devices used to reduce the total HAP emissions from the HVLC system; and
   iii. Four percent for control devices used to reduce the total HAP emissions from both the LVHC and HVLC systems.

Standards for kraft pulping process condensates [40 CFR 63.446].

f. The pulping process condensates as identified per 40 CFR 63.446(b) shall be conveyed in a closed collection system that is designed and operated to meet the following requirements:
   i. Each closed collection system shall meet the individual drain system requirements specified in 40 CFR 63.960, 63.961, and 63.962, except for closed vent systems;
   ii. Closed vent systems shall be designed and operated in accordance with 40 CFR 63.450;
   iii. The process condensate streams collected in total shall contain a minimum of 11.1 pounds per ton of oven dried pulp produced (based on a 30 day rolling average);
   iv. The condensate stripper feed tank **(ID No. ES-09-25-1000)** shall meet the requirements per 40 CFR 63.446(d)(2); and
   v. The pulping process condensates collected shall be treated by the condensate stripper reflux condenser **(ID No. ES-09-25-1050)** which shall:
      (A) Reduce or destroy the total HAPs by at least 92 percent or more by weight; or
      (B) Remove a minimum of 10.2 pounds per ton of oven dried pulp (ODP);

vi. For each steam stripper system used to comply with the requirements specified in paragraph 40 CFR 63.456(e)(3), periods of excess emissions reported under 40 CFR 63.455 shall not be a violation of paragraphs 40 CFR 63.446(d), (e), and (f) provided that the time of excess emissions (including periods of startup, shutdown, or malfunction) divided by the total process operating time in a semi-annual reporting period does not exceed 10 percent

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

g. If emissions testing is required, the testing shall be performed in accordance General Condition JJ. If the results of this test are above the limits given in Section 2.2 A.b to f above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111.

Monitoring for the Bleaching System Scrubber [40 CFR 63, Subpart 63.453]

h. The Permittee shall install, calibrate, certify, operate, and maintain a CMS, on the white liquor scrubbers (**ID Nos. CD-06-35-8100 and CD-07-36-8000**). The CMS shall include a continuous recorder. The CMS shall be operated to ensure the following operational parameters are maintained [40 CFR 63, Subpart 63.453]:
   i. The minimum pH of the scrubber effluent shall be 10.0 (3 hour average);
   ii. The scrubber inlet vent gas fan operating status of "on" (on or off based on motor load); and
   iii. The minimum scrubber liquid recirculation rate shall be 45 gallons per minute (3 hour rolling average) for the No. 6 Bleach Plant white liquor scrubber **(ID No. CD-06-35-8100)** and 105 gallons per minute (3 hour rolling average**)** for the No. 7 Bleach Plant white liquor scrubber **(ID No. CD-07-36-8000)**.

   If any monitoring parameter values are exceeded or if the monitoring procedures are not followed or if an operational parameter is exceeded, the Permittee shall be deemed in noncompliance with 02D .1111.

Monitoring for the LVHC and HVLC Pulping Systems Control Devices [15A NCAC 02Q .0508(f)]

i. The Permittee shall install, calibrate, certify, oprate, and maintain according to the manufacturer's specifications, a continuous monitoring system as specified below. The CMS shall include a continuous recorder. [40 CFR 60, Subpart S, 63.453]
   i. The Permittee shall operate a CMS to measure the temperature in the firebox or in the ductwork downstream from the firebox and before any substantial heat exchange for the Thermal Oxidizer **(ID No. CD-64-22-2000)**. [40 CFR 63.453(b)]
   ii. No control device parameter monitoring is required for pulping vent systems routed to the No. 5 lime kiln **(ID No. ES-14-60-3000)** or the No. 2 Hog Fuel Boiler **(ID No. ES-65-25-0310)**.

Monitoring for the Pulping Process Condensate Collection [15A NCAC 02Q .0508(f)]

j. To ensure compliance, the Permittee shall monitor the condensate collection system in accordance with the Methanol Factor Statistical Model, approved by the NC DAQ on June 24, 2011. Condensate samples from the stripper feed tank shall be collected on Monday, Wednesday, and Friday each week (unless there is a valid reason which results in the lab technician being unable to collect a sample on one of these days) and a weekly composite shall be analyzed to ensure that the minimum of 11.1 pounds of HAP per ton of oven dried pulp produced (based on a 30-day rolling average) is collected. If any monitoring parameter demonstrates collection less than 11.1 pounds of HAPs per oven dried pulp (based on a 30-day rolling average) or if the monitoring procedures are not followed, the Permittee shall be deemed in noncompliance with 02D .1111.

Monitoring for the pulping process condensates [15A NCAC 02Q .0508(f)]
Condensate stripper reflux condenser (ID No ES-09-25-1050):

k. The Permittee shall install, calibrate, certify, operate, and maintain a CMS on the condensate stripper reflux condenser **(ID No ES-09-25-1050).** The CMS shall include a continuous recorder. The CMS shall be operated to ensure the steam to feed ratio is maintained at a minimum of 17 percent.[40 CFR 60, Subpart S, 63.453].

l. If any monitoring parameter value in Section 2.2 A.1.j or A.1.k is exceeded or if the monitoring procedures are not followed, the Permittee shall be deemed in noncompliance with 02D .1111.

Monitoring for Enclosures and Closed Vent Systems [15A NCAC 02Q .0508(f)]

m. The Permittee shall follow the monitoring requirements listed in 40 CFR 63.453 for each enclosure and closed vent system. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111 if the monitoring is not performed.

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

n. The results of the CMS monitoring, the enclosure system monitoring, and the closed-vent system monitoring shall be maintained (in written or electronic format) per the requirements of 40 CFR 63.454 and 63.455. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111 if these records are not maintained.

o. When actions taken during a startup, shutdown, or malfunction (including an action taken to correct a malfunction) are not consistent with the procedures specified in the facility's Startup Shutdown Malfunction (SSM) Plan, the Permittee shall record the actions taken for that event for inclusion in the semiannual SSM report. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111 if these records are not maintained.

p. When actions taken by the Permittee during a startup, shutdown, or malfunction (including actions taken to correct a malfunction) are consistent with the procedures specified in the facility's SSM plan, the Permittee shall keep records for that event that demonstrate that the procedures specified in the SSM plan were followed. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111 if these records are not maintained.

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

q. If any excess emissions have occurred or if any monitoring parameter in Sections 2.2 A.1.h, j, and k has been exceeded during the preceding quarter, the Permittee shall submit a summary report of the monitoring and recordkeeping activities postmarked on or before January 30 of each calendar year for the preceding three-month period between October and December, April 30 of each calendar year for the preceding three-month period between January and March, July 30 of each calendar year for the preceding three-month period between April and June, and October 30 for the calendar year for the preceding three-month period between July and September. All instances of deviations from the requirements of this permit must be clearly identified.
   i. When no emissions and no monitoring parameter excursions have occurred, the Permittee shall submit a semiannual summary report stating that no excess emissions and no monitoring parameter excursion have occurred during the reporting period.
   ii. The Permittee may combine excess emissions and/or summary reports for the facility for Subpart MM and Subpart S.

r. The Permittee shall comply with the reporting requirements of 40 CFR 63, Subpart A as specified in Table 1 of 40 CFR 63.440.

2. 15A NCAC 02D .1109 CAA 112(j); CASE-BY-CASE MACT FOR START-UP, SHUTDOWN, OR MALFUNCTION (SSM) CONDITIONS IN 40 CFR PART 63, SUBPART S REQUIREMENTS

No. 6 and No. 7 Fiberline Continuous Digesters

a. The Permittee shall conduct startup and shutdown of each digester in a manner consistent with established mill standard operating procedures (SOP) to ensure safe and reliable operation of the process and the minimization of emissions. The Permittee shall follow the proper startup sequence which includes in order (1) startup of the incineration device, (2) startup of the LVHC or the HVLC NCG collection and transportation system, and (3) startup of the process equipment that is the source of vent gases or foul condensates. The Permittee shall follow the proper shutdown sequence which includes in order (1) shutdown of the process equipment that is the source of vent gases, (2) shutdown of the collection and transportation system, and (3) shutdown of the incineration device. Emissions occurring during the period of startup, shutdown, and/or malfunction for each affected source, managed in accordance with the SOP and the work practices in Sections 2.2 A.2.b to d below, shall not be an excess emission under 40 CFR Part 63 Subpart S or 15A NCAC 02D .1111.

b. During each digester startup, LVHC or HVLC NCG gases may be vented at the source or from the LVHC or HVLC NCG collection systems due to process safety or process surges. The interlocks and alarms in the mill distributed control system (DCS) shall be utilized to ensure and verify key steps in the SOP are accomplished. The continuous digester system startup is considered complete when:
   i. the digester operations are stable;
   ii. the No. 6 digester chip feed is above 4.5 rpm;
   iii. the No. 7 digester chip feed is above 6 rpm; and
   iv. the HVLC and LVHC NCG's are being incinerated.

c. During a No. 6 or No. 7 continuous digester cold shutdown, HVLC or LVHC NCG gases may be vented at the source or from the HVLC or LVHC NCG collection system due to process safety or process surges. The Permittee shall use the interlocks and alarms in the mill distributed control system (DCS) to ensure and verify key steps in the SOP are

accomplished including the shutdown of the chip feed system and the cooling down of the No. 6 and No. 7 continuous digesters.

d. Upon knowledge of a parameter excursion, the Permittee shall take immediate steps to identify the cause of the parameter excursion; implement emission minimization steps identified in MACT I SSM Plan malfunction table for the No. 6 or No. 7 continuous digester; and correct the parameter excursion as soon as practicable.

No. 6 and No. 7 Fiberline Pulp Washing and Screening System

e. The Permittee shall conduct startup and shutdown of the pulp washing and screening system in a manner consistent with established mill standard operating procedures (SOP) to ensure safe and reliable operation of the process and the minimization of emissions. The Permittee shall follow the proper startup sequence which includes in order (1) startup of the incineration device, (2) startup of the LVHC or the HVLC NCG collection and transportation system, and (3) startup of the process equipment that is the source of vent gases or foul condensates. The Permittee shall follow the proper shutdown sequence which includes in order (1) shutdown of the process equipment that is the source of vent gases, (2) shutdown of the collection and transportation system, and (3) shutdown of the incineration device. Emissions occurring during the period of startup, shutdown, and/or malfunction for each affected source, managed in accordance with the SOP and the work practices in Sections 2.2 A.2.f to h below, shall not be an excess emission under 40 CFR Part 63 Subpart S or 15A NCAC 02D .1111.

f. The Permittee shall use the interlocks and alarms in the mill distributed control system (DCS) to ensure and verify key steps in the SOP are accomplished.

g. The Permittee shall not vent HVLC NCG's during the shutdown of the pulp washing and screening system. Once the system is down, HVLC NCG's may be vented per maintenance procedures. The mill DCS and Process Explorer data shall be used to verify shutdown.

h. Upon knowledge of a parameter excursion, the Permittee shall take immediate steps to identify the cause of the parameter excursion; implement emission minimization steps identified in MACT I SSM Plan malfunction table including reduction of the pulping rates at specific time intervals if venting continues; and correct the parameter excursion as soon as practicable.

No. 6 and No. 7 Evaporator Systems, Concentrator System, and Stripper Feed Tank

i. The Permittee shall conduct startup and shutdown of the evaporator systems, concentrator system, and stripper feed tank in a manner consistent with established mill standard operating procedures (SOP) to ensure safe and reliable operation of the process and the minimization of emissions. The Permittee shall follow the proper startup sequence in the SOP which includes in order (1) starting the LVHC NCG collection and transportation system, (2) initiating feed to the evaporators and concentrator; (3) switching from vent to collect mode within two (2) hours after black liquor feed temperature is greater than 150 ^{o}F and the steam rate is greater than 30,000 pounds per hour, and (4) verifying the evaporator and concentrator systems are operating within normal ranges for process temperatures, pressures, flows, and conductivity. Startup is complete when the source reaches the normal operating conditions.

j. Using the conductivity diversion system, the Permittee shall automatically send foul condensates with a high conductivity to either the boil out or save all tanks.

k. The Permittee shall use the mill distributed control system (DCS) to ensure and verify key steps in the SOP are accomplished.

l. The LVHC NCG vent collection shall remain in operation during the shutdown from normal operations of the evaporator systems, the concentrator system, and/or the stripper feed tank.

m. Upon knowledge of a parameter excursion, the Permittee shall take immediate steps to identify the cause of the parameter excursion; implement emission minimization steps identified in MACT I SSM Plan malfunction table including reduction of the pulping rates at specific time intervals if venting continues; and correct the parameter excursion as soon as practicable.

n. Emissions occurring during the period of startup, shutdown, and/or malfunction for each affected source, managed in accordance with the SOP and the work practices in this section, shall not be an excess emission under 40 CFR Part 63 Subpart S or 15A NCAC 02D .1111.

No. 6 and No. 7 Bleach Plants and Gas Collection Systems

o. The Permittee shall conduct startup and shutdown of the bleach plants and gas collection systems in a manner consistent with established mill standard operating procedures (SOP) to ensure safe and reliable operation of the process and the minimization of emissions. Emissions occurring during the period of startup, shutdown, and/or malfunction for each affected source, managed in accordance with the SOP and the work practices in Sections 2.2 A.2.p to r below, shall not be an excess emission under 40 CFR Part 63 Subpart S or 15A NCAC 02D .1111.

p. During startup, which begins when brown stock is first feed to the bleach plants and chemical is applied, bleach plant emissions shall be minimized by the R8/R10 chlorine dioxide generation process that provides 100% chlorine substitution. All vent gases, except for short term "puffing" (which is mainly ambient air and less than 1% of the total gas volume collected by the scrubbers) during down stroke washing cycles from the 3rd and 5th stage towers, from process equipment that uses chlorinated compounds, shall be collected and sent to the bleach plant scrubber. Bleach plant operation shall be interlocked so that a startup cannot begin until the bleach plant scrubber is operational.

q. Shutdown begins when the brown stock and chemical feed to the bleach plant have been stopped. The Permittee shall operate the gas collection system until bleach plant is shutdown. The bleach plants can be shutdown with stock in the system.

r. Upon knowledge of a parameter excursion, the Permittee shall take immediate steps to identify the cause of the parameter excursion; implement emission minimization steps identified in MACT I SSM Plan malfunction table for the No. 6 and No. 7 Bleach Plants and the gas collection system and correct the parameter excursion as soon as practicable.

Steam Stripper and SOG Collection System

s. The Permittee shall conduct startup and shutdown of the steam stripper and SOG collection system in a manner consistent with established mill standard operating procedures (SOP) to ensure safe and reliable operation of the process and the minimization of emissions. Emissions occurring during the period of startup, shutdown, and/or malfunction for each affected source, managed in accordance with the SOP and the work practices in Sections 2.2 A.2.t to v below, shall not be an excess emission under 40 CFR Part 63 Subpart S or 15A NCAC 02D .1111.

t. Prior to startup of the steam stripper, the No. 5 lime kiln or the No. 2 hog fuel boiler and the SOG collection system shall be in operation and ready to receive SOG. Startup of the stripper system and SOG collection system begins when foul condensate is introduced to the stripper and is complete when the operation is stable. During a normal startup, SOG's may be vented due to high pressure conditions which are the result of temperature fluctuations in the steam stripper reflux condenser. All other gases generated during startup shall be collected by the SOG collection system and transported to the No. 5 lime kiln or No. 2 hog fuel boiler for control.

u. Stripper shutdown is initiated with a ramp down of the steam flow and foul condensate feed rate. The shutdown is complete when the foul condensate and steam feed is stopped. The No. 5 lime kiln or No. 2 hog fuel boiler and the SOG collection system shall continue to receive SOG's during the shutdown of the stripper. Under normal operation conditions and including times when the stripper is down, LVHC gases from the stripper feed tank shall be collected.

v. Upon knowledge of a parameter excursion, the Permittee shall take immediate steps to identify the cause of the parameter excursion; implement emission minimization steps identified in MACT I SSM Plan malfunction table for the steam stripper, which include reduction of feed rate to steam stripper after 4 continuous hours related to a malfunction and then an orderly shutdown of the steam stripper after 16 continuous hours related to a malfunction; and correct the parameter excursion as soon as practicable.

B. 40 CFR 63, Subpart MM Affected Sources:

Source ID No.	Source Description	Control ID No	Control Description
ES-10-25-0110	No. 5 Recovery Boiler	CD-10-45-0220 and CD-10-45-0010	North and South Electrostatic Precipitators
ES-14-05-0050	North Smelt Tank	CD-14-05-0700	Ducon alkaline scrubber
ES-14-05-0300	South Smelt Tank	CD-14-05-0750	Ducon alkaline scrubber
ES-14-60-3000	No. 5 Lime Kiln	CD-14-70-2012	Venturi scrubber

Table 2.2 B-1

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

Regulated Pollutant	Limits/Standards	Applicable Regulation
Hazardous Air Pollutants	**No. 5 Recovery Boiler** • PM emissions shall be no greater than 0.044 gr/dscf corrected to 8% oxygen. • Opacity shall not be greater than 35 percent for more than 2 percent of the operating time within any semiannual period. **North Smelt Tank** • PM emissions shall be no greater than 0.078 gr/dscf and no greater than 0.191 lb/TBLS. • Scrubber spray header flow shall be greater than 75 gpm (3-hour average), rod box flow rate shall be greater than 50 gpm (3-hour average), and pressure drop shall be greater than 3 in. H_2O (3-hour average). **South Smelt Tank** • PM emissions shall be no greater than 0.078 gr/dscf and no greater than 0.190 lb/TBLS. • Scrubber spray header flow shall be greater than 75 gpm (3-hour average), rod box flow rate shall be greater than 50 gpm (3-hour average), and pressure drop shall be greater than 3 in. H_2O (3-hour average). **No. 5 Lime Kiln** • PM emissions shall be no greater than 0.13 gr/dscf, corrected to 10% oxygen, when firing fuel oil. • PM emissions shall be no greater than 0.066 gr/dscf, corrected to 10% oxygen, when firing natural gas. • Scrubber liquid flow shall be no less than 800 gpm (3-hour average). • Scrubber pressure drop shall be no more than 5 in H_2O (3-hour average) and the liquid nozzle header pressure range shall be from 240 to 275 psig (3-hour average). **Overall Chemical Recovery System PM Limit** • Total PM emissions from the No. 5 Recovery Boiler, North and South Smelt Tanks, and No. 5 Lime Kiln shall be no greater than 1.528 lb/TBLS.	15 A NCAC 02D .1111 (40 CFR 63 Subpart MM)

1. 15A NCAC 02D .1111: MACT 40 CFR 63 SUBPART MM

a. The Permittee shall comply with all applicable provisions, including the notification, testing, reporting, recordkeeping, and monitoring requirements contained in Environmental Management Commission Standard 15A NCAC 02D .1111 "Maximum Achievable Control Technology" (MACT) as promulgated in 40 CFR Part 63 Subpart MM, including Subpart A "General Provisions" as defined per 63.440(g) and indicated per Table 1 of Subpart MM. Terms used throughout this section are defined in the Clean Air Act as amended in 1990 and in 40 CFR 63.2 and 63.861. Units and abbreviations are defined in 40 CFR 63.3. [15A NCAC 02D .1111]

Emission Limitations [15A NCAC 02D .1111]

b. The following emission limits apply to the No. 5 Recovery Boiler **(ID No. ES-10-25-0110)**, North and South Smelt Tanks **(ID Nos. ES-14-05-0050 and ES-14-05-0300)**, and No. 5 Lime Kiln **(ID No. ES-14-60-3000)**:
   i. Particulate matter emissions from the recovery boiler, smelt tanks, and lime kiln shall not exceed the limits presented in Table 2.2 B-1, above. [40 CFR 63.862(a)(1)(ii) and 63.865(a)]
   ii. The chemical recovery system emission limits must be re-established if either:
      (A) the ESPs installed on the No. 5 Recovery Boiler **(ID Nos. CD-10-45-0220 and CD-14-45-0010)**, the scrubbers installed on the North and South Smelt Tanks **(ID Nos. CD-14-05-0700 and CD-14-05-0750)**, and the scrubber installed on the No. 5 Lime Kiln **(ID No. CD-14-70-2012)** is modified (as defined in 40 CFR 63.861) or replaced, or
      (B) the No. 5 Recovery Boiler **(ID No. ES-10-25-0110)**, North and South Smelt Tanks **(ID Nos. ES-14-05-0050 and ES-14-05-0300)**, or No. 5 Lime Kiln **(ID No. ES-14-60-3000)** are shut down for more than 60 consecutive days. [40 CFR 63.862(a)(1)(ii)(D)]
   iii. At all times, the Permittee shall operate and maintain the recovery boiler, smelt tanks, and lime kiln, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. The general duty to minimize emissions does not require the Permittee to make any further efforts to reduce emissions if levels required by the applicable standard have been achieved. Determination of whether a source is operating in compliance with operation and maintenance requirements will be based on information available to DAQ which may include, but is not limited to, monitoring results, review of operation and maintenance procedures, review of operation and maintenance records, and inspection of the source.

Testing [15A NCAC 02D .1111]

c. Emissions testing shall be performed according to the procedures in 40 CFR 63.7 and 63.865, and General Condition JJ. If the results of the testing indicate that the chemical recovery system emission rate is greater than the emission limits presented in the table above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111. [40 CFR 63.865]

d. The Permittee shall conduct a performance test using the methods and procedures specified in Section 2.2 B.1.c, above, on the No. 5 Recovery Boiler **(ID No. ES-10-25-0110)**, North and South Smelt Tanks **(ID Nos. ES-14-05-0050 and ES-14-05-0300)**, and No. 5 Lime Kiln **(ID No. ES-14-60-3000)** no later than October 13, 2020 and thereafter every 5 years following the previous performance test. [40 CFR 63.865]
   i. The Permittee may use a previously-conducted performance test to satisfy the October 13, 2020, testing requirement provided DAQ has approved the test.
   ii. The Permittee shall conduct performance tests based on representative performance of the No. 5 Recovery Boiler, North and South Smelt Tanks, and No. 5 Lime Kiln for the period being tested. Representative conditions does not include periods of startup and shutdown.
   iii. The Permittee shall not conduct performance tests during periods of malfunction.

   The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111 if the periodic performance tests are not conducted as required.

Monitoring [15A NCAC 02D .1111]

e. The Permittee must install, calibrate, maintain, and operate a continuous opacity monitoring system (COMS) at the outlet of No. 5 Recovery Boiler **(ID No. ES-10-25-0110)** in accordance with Performance Specification 1 in Appendix B to 40 CFR Part 60 and the provisions in 40 CFR Part 63.6(h) and 63.8 and as follows: [40 CFR 63.864(d)]
   i. Each COMS shall complete a minimum of one cycle of sampling and analyzing for each successive 10-second period and one cycle of data recording for each successive 6-minute period.
   ii. Per 40 CFR 63.8(g)(2), each 6-minute COMS data average opacity shall be calculated as the average of 36 or more data points equally spaced over each 6-minute period.

If these monitoring procedures are not followed, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111.

f. For each required continuous parameter monitoring system (CPMS), the Permittee shall meet the following requirements. [40 CFR 63.864(e)]
   i. On and after October 11, 2019, the Permittee shall maintain proper operation of automatic voltage control of the ESP installed on the No. 5 Recovery Boiler. [40 CFR 63.864(e)(1)]
   ii. The Permittee must install, calibrate, maintain, and operate CMPS that can be used to determine and record the pressure drop, liquid nozzle header pressure, and the scrubbing liquid flow rate of the scrubber **(ID No. CD-14-70-2012)** installed on the No. 5 Lime Kiln and scrubber and the pressure drop, scrubber spray header flow rate, and rod box flow rate of the scrubbers **(ID Nos. CD-14-05-0700 and CD-14-05-0750)** installed on the North and South Smelt Tanks. These scrubber parameters shall be monitored at least once every successive 15-minute period using the procedures in 63.8(c), as well as the following [40 CFR 63.864(e)(10) and (13)]:
      (A) The monitoring device used for the continuous measurement of the pressure drop of the gas stream across the scrubber must be certified by the manufacturer to the accurate to within a gauge pressure of ±500 pascals (±2 inches of water gauge pressure); and
      (B) The monitoring device used for continuous measurement of the scrubbing liquid flow rate must be certified by the manufacturer to be accurate within ±5 percent of the design scrubbing liquid flow rate.

   If these monitoring procedures are not followed, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111.

g. Per 40 CFR 63.8(g)(5), monitoring data recorded during periods of unavoidable CMS breakdowns, out-of-control periods, repairs, maintenance periods, calibration checks, and zero (low-level) and high level adjustments must not be included in any data averages computed for compliance with Section 2.2 B.1. The Permitee shall be deemed in noncompliance with 15A NCAC 02D .1111 if data averages are not calculated as specified above. [40 CFR 63.864(h)]

Operating Limits [15A NCAC 02D .1111]

h. The Permittee shall confirm or reestablish operating limits for the monitoring parameters identified in Table 2.2 B-1, above, during performance tests conducted per Section 2.2 B.1.c and B.1.d, above, as follows [40 CFR 63.864(j)]:
   i. The Permittee shall establish operating limits on values recorded during the performance tests conducted according to Section 2.2 B.1.c and B.1.d, above; or
   ii. The Permittee may base operating limits on values recorded during previous performance tests or conduct additional performance tests for the specific purpose of establishing operating ranges, provided that test data used to establish the operating ranges are or have been obtained using the test methods required in 40 CFR Part 63, Subpart MM. The Permittee shall certify that all control devices and processes have not been modified subsequent to the testing upon which the data used to establish the operating parameter ranges were obtained.
   iii. The Permittee may establish expanded or replacement operating limits for the monitoring parameters specified in Table 2.2 B-1, above, during subsequent performance tests using the test methods in 40 CFR 63.865.
   iv. The Permittee shall continuously monitor each parameter and determine the arithmetic average value of each parameter during each performance test run. Multiple performance tests may be conducted to establish a range of parameter values. Operating outside a previously established parameter limit during a performance test to expand the operating limit range does not constitute a monitoring period of noncompliance.
   v. The Permittee shall set a the minimum scrubber pressure drop operating limit for the North and South Smelt Tanks and the No. 5 Lime Kiln Scrubbers **(ID Nos. CD-14-05-0700, CD-14-05-0750, and CD-14-70-2012)** as the lowest of the 1-hour average pressure drop values associated with each test run demonstrating compliance with the applicable emission limits specified in Section 2.2 B.1.b, above.

   The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111 if operating limits are not established as required.

Ongoing Compliance Requirements [15A NCAC 02D .1111]

i. The Permittee is required to implement corrective action if the following monitoring exceedances occur during times when spent pulping liquor is fed to the No. 5 Recovery Boiler or lime mud is fed to the No. 5 Lime Kiln. Corrective action can include completion of transient startup and shutdown conditions as expediently as possible.
   i. For the No. 5 Recovery Boiler, when the average of ten consecutive 6-minute averages results in a measurement greater than 20 percent opacity; [40 CFR 63.864(k)(1)(i)]

ii. For the No. 5 Lime Kiln or the North or South Smelt Tank, when any 3-hour average wet scrubber parameter value is below the minimum operating limit established in Section 2.2 B.1.i, above, with the exception of pressure drop during periods of startup and shutdown. [40 CFR 63.864(k)(1)(iii) and (vi)]

The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111 if the Permittee does not implement corrective action as specified.

j. Before October 11, 2019, the Permittee is in violation of the emission limits in Section 2.2 B.1.b, above, if the following monitoring exceedances occur.
   i. For No. 5 Recovery Boiler, when opacity is greater than 35 percent for 6 percent or more of the operating time within any quarterly period. [40 CFR 63.864(k)(2)(i)[4]]
   ii. For the No. 5 Lime Kiln or the North or South Smelt Tank, when 3-hour average parameter values are outside the range of values established during performance testing as indicated in the table above for six or more days within any 6 month reporting period.[40 CFR 63.864(k)(2)(iv) and (viii)[4]]

k. On and after October 11, 2019, the Permittee is in violation of the emission limits in Section 2.2 B.1.b, above, if the following monitoring exceedances occur during times when spent pulping liquor is being fed to the No. 5 Recovery Boiler or lime mud is fed to the No. 5 Lime Kiln. [40 CFR 63.864(k)(2)]
   i. For No. 5 Recovery Boiler, when opacity is greater than 35 percent for 2 percent or more of the operating time within any semiannual period. [40 CFR 63.864(k)(2)(i)]
   ii. For the No. 5 Lime Kiln or the North or South Smelt Tank, when six or more 3-hour average parameter values within any 6-month reporting period are below the minimum operating limits specified in Table 2.2 B-1, above, with the exception of pressure drop during periods of startup or shutdown. [40 CFR 63.864(k)(2)(iv) and (viii)]

l. For purposes of determining the number of nonopacity monitoring exceedances, no more than one exceedance will be attributed in any given 24-hour period. [40 CFR 63.864(k)(3)]

Recordkeeping [15A NCAC 02D .1111]

m. Before October 11, 2019, the Permittee must develop and implement a written plan as described in 63.6(e)(3) that contains specific procedures to be followed for operating and maintaining the source during periods of startup, shutdown, and malfunction, and a program of corrective action for malfunctioning process and control systems used to comply with Subpart MM. In addition to the information required in 63.6(e), the plan must include the requirements given in 40 CFR 63.866(a)(1) and (2). [40 CFR 63.866(a)[4]]

n. In addition to the general records required by 40 CFR 63.10(b)(2)(iii) and (vi) through (xiv), the Permittee shall maintain records of the following information [40 CFR 63.866(b) and (c)]:
   i. Records of black liquor solids firing rates in units of megagram (Mg) per day (Mg/day) or ton per day (ton/day) for the No. 5 Recovery Boiler ;
   ii. Records of lime (CaO) production rates in units of Mg/day or ton/day for the No. 5 Lime Kiln;
   iii. Records of parameter monitoring data required under Section 2.2 B.1.e and B.1.f, above, including any period when the operating parameter levels were inconsistent with the levels established during the performance test, with a brief explanation of the cause of the monitoring exceedance, the time the exceedance occurred, the time corrective action was initiated and completed, and the corrective action taken;
   iv. Records and documentation of supporting calculations for the chemical recovery system emissions limit in Section 2.2 B.1.b, above;
   v. Records of parameter operating limits established under Section 2.2 B.1.h;
   vi. On and after October 11, 2019, the Permittee shall also maintain the following:
      A. Records demonstrating compliance with the requirement specified in Section 2.2 B.1.f.i, above, to maintain proper ESP AVC.
      B. The Permittee shall maintain records of any occurrence when corrective action is required under Section 2.2 B.1.i, above, and when a violation is noted under Section 2.2 B.1.j, above, occurs.
      C. Records of process information that is necessary to document operating conditions during performance tests and an explanation to support that such conditions represent normal conditions.

The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111 if the specified records are not maintained.

o. On and after October 11, 2019, the Permittee shall maintain the following records [63.866(d)(1)]:

[4] From April 20, 2006 version of 40 CFR Part 63, Subpart MM, [*71 FR 20458*].

i. In the event that the No. 5 Recovery Boiler **(ID No. ES-10-25-0110)**, North and South Smelt Tanks **(ID Nos. ES-14-05-0050 and ES-14-05-0300)**, or No. 5 Lime Kiln **(ID No. ES-14-60-3000)** fails to meet an applicable standard, including any emission limit or any opacity or CPMS operating limit in Table 2.2 B-1, above, record the number of failures. For each failure record the date, start time, and duration of each failure.
ii. For each failure to meet an applicable standard, record and retain a list of the affected sources or equipment, and the following information:
    A. For any failure to meet an emission limit in Table 2.2 B-1, above, record an estimate of the quantity of each regulated pollutant emitted over the emission limit and a description of the method used to estimate the emissions.
    B. For each failure to meet an operating limit in Table 2.2 B-1, above, maintain sufficient information to estimate the quantity of each regulated pollutant emitted over the emission limit. This information must be sufficient to provide a reliable emissions estimate if requested by the Administrator.
iii. Record actions taken to minimize emissions in accordance with Section 2.2 B.1.b.iii, above, and any corrective actions taken to return the affected unit to its normal or usual manner of operation.

The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111 if the specified records are not maintained.

p. All records shall be maintained in a logbook (written or electronic format) on-site and made available to an authorized representative upon request. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111 if the records are not maintained.

q. The Permittee shall keep CPMS data quality assurance procedures consistent with the requirements in 40 CFR 63.8(d)(1) and (2) on record for the life of the No. 5 Recovery Boiler **(ID No. ES-10-25-0110)**, North and South Smelt Tanks **(ID Nos. ES-14-05-0050 and ES-14-05-0300)**, and No. 5 Lime Kiln **(ID No. ES-14-60-3000)**. The program of corrective action should be included in the plan required under 40 CFR 63.8(d)(2). If the performance evaluation plan is revised, the Permittee shall keep previous versions on record to be made available to DAQ upon request for a period of 5 years after each revision to the plan. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111 if the required CPMS data quality assurance procedures are not followed. [40 CFR 63.864(f)]

Reporting [15A NCAC 02D .1111]

r. After DAQ has approved the emissions limits specified in Section 2.2 B.1.b, above, the Permittee shall notify DAQ before any of the following actions are taken [40 CFR 63.867(b)(3)]:
    i. The ESPs installed on the No. 5 Recovery Boiler **(ID Nos. CD-10-45-0220 and CD-14-45-0010)**, the scrubbers installed on the North and South Smelt Tanks **(ID Nos. CD-14-05-0700 and CD-14-05-0750)**, or the scrubber installed on the No. 5 Lime Kiln **(ID No. CD-14-70-2012)** are modified or replaced;
    ii. The No. 5 Recovery Boiler, North or South Smelt Tank, or No. 5 Lime Kiln are shut down for more than 60 consecutive days;
    iii. A continuous monitoring parameter or the value or range of values of a continuous monitoring parameter for No. 5 Recovery Boiler, North or South Smelt Tank, or No. 5 Lime Kiln is changed; or
    iv. The black liquor solids firing rate for No. 5 Recovery Boiler during any 24-hour averaging period is increased by more than 10 percent above the level measured during the most recent performance test.

s. If the Permittee is required to recalculate the overall PM emissions limit for the No. 5 Recovery Boiler, North or South Smelt Tank, and No. 5 Lime Kiln as required in Section 2.2 B.1.b.ii, above, the Permittee shall resubmit the calculations and supporting documentation used in 40 CFR 63.865 to DAQ for approval. [40 CFR 63.867(b)(4)]

t. The Permittee shall submit summary reports of the monitoring and recordkeeping activities as specified in the following paragraphs. [40 CFR 63.867(c)[5]]
    i. Before October 11, 2019, if a measured parameter exceeds a limit specified in Table 2.2 B-1, Section 2.2 B.1.i, or Section 2.2 B.1.j, the Permittee shall submit a summary report postmarked on or before January 30 of each calendar year for the preceding three-month period between October and December, April 30 of each calendar year for the preceding three-month period between January and March, July 30 of each calendar year for the preceding three-month period between April and June, and October 30 for the calendar year for the preceding three-month period between July and September. If measured parameters meet any of the conditions specified in Section 2.2 B.1.k, the report must contain the information specified in 40 CFR 63.10(c) as well as the number

[5] From April 20, 2006 version of 40 CFR Part 63, Subpart MM, [*71 FR 20458*].

and duration of occurrences when the source met or exceeded the conditions in condition 2.2 B.1.i, and the number and duration of occurrences when the source met or exceeded the conditions in condition 2.2 B.1.j. All instances of deviations from the requirements of this permit must be clearly identified in the report. Reporting excess emissions below the thresholds of Sections 2.2 B.1.i and B.1.j does not constitute a violation of the applicable standard.

(A) When no exceedances of parameters have occurred, the Permittee shall submit a semiannual summary report stating that no excess emissions occurred during the reporting period.

(B) The Permittee may combine excess emissions and/or summary reports for the facility for 40 CFR Part 63, Subpart MM and Subpart S.

ii. On and after October 11, 2019, the Permittee shall submit semiannual excess emissions reports postamarked on or before January 30 of each calendar year for the preceeding six-month period between July and December and July 30 of each calendar year for the preceeding six-month period between January and June. Each report shall contain the following information and shall be submitted following the reporting procedures specified in 40 CFR 63.867(d). The [40 CFR 63.867(c)]

(A) If the total duration of excess emissions or process control system parameter exceedances for the reporting period is less than 1 percent of the total reporting period operating time, and CMS downtime is less than 5 percent of the total reporting period operating time, only the summary report is required to be submitted. This report will be titled "Summary Report—Gaseous and Opacity Excess Emissions and Continuous Monitoring System Performance" and must contain the information specified in 40 CFR 63.867(c)(1)(i) through (x). [40 CFR 63.867(c)(1)]

(B) If measured parameters meet any of the conditions specified in Section 2.2 B.1.i or B.1.k, above, the owner or operator of the affected source must submit a semiannual report describing the excess emissions that occurred. If the total duration of monitoring exceedances for the reporting period is 1 percent or greater of the total reporting period operating time, or the total CMS downtime for the reporting period is 5 percent or greater of the total reporting period operating time, or any violations according to Section 2.2 B.1.k, above, occurred, information from both the summary report and the excess emissions and continuous monitoring system performance report must be submitted. This report will be titled "Excess Emissions and Continuous Monitoring System Performance Report" and must contain the information specified in 40 CFR 63.867(c)(1)(i) through (x), in addition to the information required in 40 CFR 63.10(c)(5) through (14), as specified in 40 CFR 63.867(c)(3)(i) through (vi). Reporting monitoring exceedances does not constitute a violation of the applicable standard unless the violation criteria in Section 2.2 B.1.k and B.1.l, above, are reached. [40 CFR 63.867(c)(3)]

(C) If a source fails to meet an applicable standard, including any emission limit or operating limit specified in Table 2.2 B-1, the Permittee shall report such events in the semiannual excess emissions report. The Permittee shall report the number of failures to meet an applicable standard and for each instance, the date, time and duration of each failure. For each failure, the report shall include a list of the affected sources or equipment, and for any failure to meet an emission limit specified in Table 2.2 B-1, above, the Permittee shall provide an estimate of the quantity of each regulated pollutant emitted over the emission limit, and a description of the method used to estimate the emissions. [40 CFR 63.867(c)(4)]

(D) The Permittee may combine excess emissions and/or summary reports for the facility for 40 CFR Part 63, Subpart MM and Subpart S. [40 CFR 63.867(c)(5)]

2. 15A NCAC 02D .1109 CAA 112(j); CASE-BY-CASE MACT FOR START-UP, SHUTDOWN, OR MALFUNCTION (SSM) CONDITIONS IN 40 CFR PART 63, SUBPART MM REQUIREMENTS

a. The Permittee shall comply with this CAA §112(j) standard until October 10, 2019. Beginning on October 11, 2019, the Permittee shall comply with the applicable CAA §112(d) standard for ''National Emission Standards for Hazardous Air Pollutants for Chemical Recovery Combustion Sources at Kraft, Soda, Sulfite, and Stand-Alone Sehmichemical Pulp Mills" in Section 2.2 B.1, above.

No. 5 Recovery Boiler

b. The Permittee shall conduct startup and shutdown of the No. 5 Recovery Boiler in a manner consistent with established mill standard operating procedures (SOP) to ensure safe and reliable operation of the boiler and the minimization of emissions. Emissions occurring during the period of startup, shutdown, and/or malfunction for the boiler, managed in accordance with the SOP and the work practices in 2.2 B.2.c to B.2.f below, shall not be an excess emission under 40 CFR Part 63 Subpart MM or 15A NCAC 02D .1111.

c. The Permittee shall follow the startup procedures as categorized below according to the conditions at startup as addressed in the "MACT II SSM Plan."

i. Cold Startup Procedures.
ii. Hot Restart Conditions Procedures.
iii. Chill and Blow Startup Procedures.
iv. Startup After an Emergency Shutdown Procedures.

d. The No. 5 Recovery Boiler startup is considered complete when the normal operating parameters in the standard operating procedures (SOP) have been established.

e. The Permittee shall follow the shutdown procedures categorized below according to the conditions at shutdown as addressed in the "MACT II SSM Plan."
i. Normal Shutdown Procedures.
ii. Emergency Shutdown Procedures (ESP).[6]

f. Upon knowledge of a parameter excursion, the Permittee shall take immediate steps to identify the cause of the parameter excursion; implement emission minimization steps identified in MACT II SSM Plan malfunction table for the No. 5 Recovery Boiler which includes the NC DAQ approved No. 5 Recovery Boiler Malfunction Abatement Plan; and correct the parameter excursion as soon as practicable.

North and South Smelt Tanks

g. The Permittee shall conduct startup and shutdown of the North snd South Smelt Tanks in a manner consistent with established mill SOP to ensure safe and reliable operation of the tanks and the minimization of emissions. Emissions occurring during the period of startup, shutdown, and/or malfunction for the tanks, managed in accordance with the SOP and the work practices in 2.2 B.2.h and B.2.i, below, shall not be an excess emission under 40 CFR Part 63 Subpart MM or 15A NCAC 02D .1111.
i. The Permittee shall follow the proper sequence for safe startup which includes in order the (1) startup of the vent stack scrubbers, (2) startup of the smelt tanks, and (3) startup of the No. 5 Recovery Boiler going on black liquor.

h. The smelt tank scrubbers shall operate until the North and South Smelt Tanks and the No. 5 Recovery Boiler are shutdown. The Permittee shall use the mill distributed control system (DCS) to ensure and verify key steps in the SOP are accomplished prior to shutting down the scrubbers.

i. Upon knowledge of a parameter excursion, the Permittee shall take immediate steps to identify the cause of the parameter excursion; implement emission minimization steps identified in MACT II SSM Plan malfunction table for the North and South Smelt Tanks; and correct the parameter excursion as soon as practicable.

No. 5 Lime Kiln

j. The Permittee shall conduct startup and shutdown of the No. 5 Lime Kiln in a manner consistent with established mill standard operating procedures (SOP) to ensure safe and reliable operation of the kiln and the minimization of emissions. Emissions occurring during the period of startup, shutdown, and/or malfunction for the kiln, managed in accordance with the SOP and the work practices in 2.2 B.2.k to B.2.m, below, shall not be an excess emission under 40 CFR Part 63 Subpart MM or 15A NCAC 02D .1111.

k. During startup, the No. 5 Lime Kiln shall be under a slight negative pressure and the venturi scrubber control device should be fully operational prior to introduction of pollutants. Startup is complete when the No. 5 Lime Kiln is operating at normal conditions as defined by the mill's operating manuals and SOPs and verified by DCS data. A stable operating rate is equal to or greater than 300 gpm of lime mud.

l. There is a transition from normal operations to shutdown and methods for the minimization of emissions during the No. 5 Lime Kiln shutdown period. Procedures that meet this objective include reducing mud flow to filters before taking the cake off. The No. 5 Lime Kiln is shutdown, as defined by the mill's operating manuals and SOPs and verified by DCS data.
m. Upon knowledge of a parameter excursion, the Permittee shall take immediate steps to identify the cause of the parameter excursion; implement emission minimization steps identified in MACT II SSM Plan malfunction table for the No. 5 Lime Kiln; and correct the parameter excursion as soon as practicable.

[6] ESPs are initiated whenever any known or suspected amount of water has entered the firebox to avoid a possible smelt-water explosion.

C. NC-5 Paper Line, No. 5 Recovery Boiler, and No. 6 and No. 7 Fiberlines

1. 15A NCAC 02D .0530(u): USE OF PROJECTED ACTUAL EMISSIONS

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

a. 15A NCAC 02D .0530(u) Use Of Projected Actual Emissions – Pursuant to 15A NCAC 02D .0530(u) because the Permittee relied on projected actual emissions for the purposes of demonstrating that the proposed project described in permit Application No. **5900069.09B** for the conversion of the NC-5 paper line, the modification to the No. 5 recovery boiler to allow HVLC gas to be burned, the addition of a peroxide stage to the No. 6 fiberline, and increasing the ClO2 production capacity, did not result in a significant emissions increase over baseline actual emissions. The owner or operator shall submit a report to the Regional Office within 60 days after the end of each calendar year during which these records must be generated. The report shall contain the items listed in 40 CFR 51.166(r)(6)(v)(a) through (c) and the following parameters listed below:

Parameter	**Projection (annual unless otherwise provided) ***
NC-5 Production	643,743 air dry tons finished product/year
Hours HVLC gases burned in No. 5 recovery boiler	5,000 hours/year
Pulp production through the fiberlines	504,522 air-dried (unbleached) metric tons (ADMT)/year

* These projections are not enforceable limitations. If parameter exceeds the projection, consistent with 15A NCAC 02D .0530, the permit shall include in its annual report an explanation as to why the actual rates exceeded the projection.

b. These records and reports required above shall be maintained for **five** years following regular operations after the change.

D. No. 6 and No. 7 Fiberlines

1. 15A NCAC 02D .0530(u): USE OF PROJECTED ACTUAL EMISSIONS

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

a. 15A NCAC 02D .0530(u) Use Of Projected Actual Emissions – Pursuant to 15A NCAC 02D .0530(u) because the Permittee relied on projected actual emissions for the purposes of demonstrating that the proposed project described in permit Application No. **5900069.12D** for the addition of a lignin dewatering process and other energy improvements did not result in a significant emissions increase over baseline actual emissions. The owner or operator shall submit a report to the Regional Office within 60 days after the end of each calendar year during which these records must be generated. The report shall contain the items listed in 40 CFR 51.166(r)(6)(v)(a) through (c) and the following parameter listed below:

Parameter	**Projection (annual unless otherwise provided) ***
Pulp production through the fiberlines	536,657 air-dried (unbleached) metric tons (ADMT)/year

* These projections are not enforceable limitations. If parameter exceeds the projection, consistent with 15A NCAC 02D .0530, the permit shall include in its annual report an explanation as to why the actual rates exceeded the projection. If production was over 504,522 ADMT unbleached pulp, the annual report shall include a statement, that it is due to the realization of the lignin project, which was permitted **October 10, 2012** (Application No. **5900069.12D**).

b. These records and reports required above shall be maintained for **ten** years following regular operations after the change.

E. All Emission Sources

State Enforceable Only Requirement

1. 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, other than those odors resulting from No. 5 recovery boiler, the North and South Smelt Tanks, the No. 5 Lime Kiln, the No. 6 and No. 7 Fiberline Bleach Plants Systems, the No. 6 and No. 7 Black Liquor Evaporator Systems, and the Condensate Feed Tank and Reflux Stripper, from the facility from causing or contributing to objectionable odors beyond the facility's boundary.

State Enforceable Only Requirement

2. 15A NCAC 02D .1100: CONTROL OF TOXIC AIR POLLUTANTS

Pursuant to 15A NCAC 02D .1100 and in accordance with the application for an air toxic compliance demonstration performed on a source by source basis, submitted with Application No. 5900069.11A and .12D, and approved by NC DAQ on April 2, 2012; Application No. 5900069.14A approved February 19, 2014; Application No. 5900069.14F approved October 21, 2014; Application No. 5900069.16C approved August 31, 2017 and September 19, 2017; and Application No. 5900069.18A approved April 30, 2018, the Permittee shall be subject to the following facility wide toxic air pollutant emission limits in Table 2.2 E.2.a and source-by-source toxic air pollutant emission limits in Table 2.2 E.2.b for known compounds emitted from the combined pulp and paper mill and the wood products mill. The limits are optimized, which means that the sources would have to generate emissions greater than potential-to-emit in order to exceed the acceptable ambient levels established in 15A NCAC 02D.1104. As a condition of issuance of Permit Revision T42, the emissions from the LSRP Stage 2 Filtrate Tank (ES-09-27-3200) shall be routed to the existing HVLC collection system which is controlled through the No. 2 Hog Fuel Boiler (Primary) or the No. 1 Hog Fuel Boiler (Backup) or the No. 5 Recovery Furnance (backup) prior beginning operation of the No. 5 Soap Storage Tank (ES-09-12-0250) and the Black Liquor Separator Tank (ES-09-12-0050).

Table 2.2 E.2.a: Facility Wide Toxic Air Pollutant Emission Limits[7]

TOXIC AIR POLLUTANT	TOTAL FACILITY EMISSIONS LIMIT		
	lb/hr	lb/24-hour	lb/12-month
Acetaldehyde	342.56		
Acrolein	6.76		
Arsenic & compounds			6,885.84
Benzo(a)pyrene			281,590
Beryllium			32,920.86
1,3 Butadiene			7,061.95
Cadmium			23,523.92
Carbon disulfide		702.35	
Carbon tetrachloride			51,482.49
Chlorine		20.78	
Chromium (VI)		384.44	
1,2-Dichloroethane (Ethylene dichloride)			44,906.45
Hydrogen chloride	749.44		
Manganese & compounds		34,434.04	
Mercury, aryl & inorganic Compounds		357.65	

[7] The NC TAP included in this table are those for which compliance was demostrated at 9.8 percent of the AAL or less. Because emission limits were optimized such that the maximum concentration is 98 percent of the AAL, the margin of compliance is sufficient such that the facility will never be able to exceed the limit based on actual emissions.

TOXIC AIR POLLUTANT	TOTAL FACILITY EMISSIONS LIMIT		
	lb/hr	lb/24-hour	lb/12-month
Methylene chloride	29.05		149,474.37
Nickel, metal		6,136.47	
Phenol	137.35		
Vinyl chloride			542,027.02

Table 2.2 E.2.b: Source by Source Toxic Air Pollutant Emission Limits[8]

Emission Source ID (Modeling ID)	Source Description	Compound	Emission Limit	Averaging Period
ES-08-70-0900 (F11)	White Liquor Surge Tank	Benzene	8.19	lb/yr
		Formaldehyde	0.194	lb/hr
ES-06-32-2460 (F15)	2C Washer	Benzene	27.7	lb/yr
		Chloroform	1,680	lb/yr
		Cresol	0.645	lb/hr
		Formaldehyde	0.0935	lb/hr
		Hydrogen sulfide	17.3	lb/day
		Methyl mercaptan	0.0349	lb/hr
ES-06-32-2300 (F17)	No. 28 High Density Tank	Benzene	1.56	lb/yr
		Chloroform	8.43	lb/yr
		Cresol	1.36	lb/hr
		Formaldehyde	$1.26x10^{-04}$	lb/hr
		Methyl mercaptan	$4.04x10^{-06}$	lb/hr
ES-06-32-2340 (F18)	No. 29 High Density Tank	Benzene	1.56	lb/yr
		Chloroform	8.43	lb/yr
		Cresol	1.36	lb/hr
		Formaldehyde	$1.26x10^{-04}$	lb/hr
		Methyl mercaptan	$4.04x10^{-06}$	lb/hr
ES-06-32-2380 (F19)	No. 30 High Density Tank	Benzene	1.56	lb/yr
		Chloroform	8.43	lb/yr
		Cresol	1.36	lb/hr
		Formaldehyde	$1.26x10^{-04}$	lb/hr
		Methyl mercaptan	$4.04x10^{-06}$	lb/hr
ES-08-52-1060 (F34)	R8/10 chlorine dioxide generator	Chloroform	20.0	lb/yr
ES-08-65-1060 (6N7SPLTK)	Spill Collection Tank	Ammonia	0.144	lb/hr
		Benzene	1.88	lb/yr
		Chloroform	7.56	lb/yr
ES-05-30-1300 (F60)	No. 5 Hot Water Tank/ Evaporator Condensate	Formaldehyde	0.00141	lb/hr
		Hydrogen sulfide	0.0612	lb/day
		Methyl mercaptan	0.0337	lb/hr
ES-07-34-4080 and ES-07-34-4100 (EOP)	4th Stage Extraction Tower and Filtrate Tank	Benzene	5.93	lb/yr
		Chloroform	518	lb/yr
		Methyl mercaptan	0.00517	lb/hr
ES-07-36-6040 and ES-07-36-6060 (PEROX)	Peroxide Stage 6th Stage Extraction Tower and Filtrate Tank	Benzene	5.93	lb/yr
		Chloroform	518	lb/yr
		Methyl mercaptan	0.00517	lb/hr

[8]Source-by-source emission limits based on optimizated emissions such that the maximum concentration is 98 percent of the AAL.

Emission Source ID (Modeling ID)	Source Description	Compound	Emission Limit	Averaging Period
IES-06-P1 (6FEEDTNK)	No. 6 Bleach Plant, 6th stage hydrogen peroxide tank	Benzene	5.52	lb/yr
		Chloroform	483	lb/yr
ES-06-P2 (6BLOWTBE)	6th Stage Peroxide Reactor Blow Tube	Benzene	25.9	lb/yr
		Chloroform	2,260	lb/yr
ES-06-P3 (6EXHAUST)	6th Stage Peroxide Stage Washer	Benzene	91.4	lb/yr
		Chloroform	8,000	lb/yr
ES-08-40-1000 (F35)	No. 32 High Density Pulp Tank	Benzene	0.445	lb/yr
		Chloroform	161	lb/yr
		Hydrogen sulfide	0.0658	lb/day
		Methyl mercaptan	0.00353	lb/hr
IES-06-10-1200 (F41)	No. 6 Digester Sand Separator Dumpster	Benzene	1.56	lb/yr
		Chloroform	8.43	lb/yr
		Cresol	1.36	lb/hr
		Formaldehyde	1.26×10^{-4}	lb/hr
		Methyl Mercaptan	4.04×10^{-6}	lb/hr
IES-07-10-1200 (F42)	No. 7 Digester Sand Separator Dumpster	Benzene	3.24	lb/yr
		Chloroform	17.6	lb/yr
		Cresol	2.83	lb/hr
		Formaldehyde	9.70×10^{-4}	lb/hr
		Methyl Mercaptan	3.03×10^{-4}	lb/hr
ES-09-05-0200 (R24)	East 18% Liquor Tank	Benzene	1.02	lb/yr
		Chloroform	0.0278	lb/yr
		Formaldehyde	0.00159	lb/hr
		Hydrogen sulfide	0.108	lb/day
		Methyl mercaptan	0.0460	lb/hr
ES-09-05-0150 (R25)	18% Liquor Mix Tank (west)	Benzene	1.02	lb/yr
		Chloroform	0.0278	lb/yr
		Formaldehyde	0.00159	lb/hr
		Hydrogen sulfide	0.108	lb/day
		Methyl mercaptan	0.0460	lb/hr
ES-09-05-0100 (R26)	West 18% Liquor Tank	Benzene	1.02	lb/yr
		Chloroform	0.0278	lb/yr
		Formaldehyde	0.00159	lb/hr
		Hydrogen sulfide	0.108	lb/day
		Methyl mercaptan	0.0460	lb/hr
ES-09-05-0210 (SWBLTANK)	South WBL Storage Tank	Ammonia	0.00259	lb/hr
		Benzene	0.509	lb/yr
		Chloroform	2.05	lb/hr
		Formaldehyde	1.50×10^{-04}	lb/hr
ES-09-20-0250 (R71)	Combined Condensate Tank	Benzene	8.02	lb/yr
		Formaldehyde	2.21×10^{-4}	lb/hr
		Hydrogen sulfide	0.0575	lb/day
		Methyl mercaptan	0.0283	lb/hr
ES-09-30-0010 (R27)	North 48% Black Liquor Storage Tank	Benzene	0.229	lb/yr
		Chloroform	0.267	lb/yr
		Formaldehyde	0.00398	lb/hr
		Hydrogen sulfide	1.37	lb/day
		Methyl mercaptan	1.12×10^{-4}	lb/hr

Emission Source ID (Modeling ID)	Source Description	Compound	Emission Limit	Averaging Period
ES-09-30-0020 (R28)	South 48% Black Liquor Storage Tank	Benzene	0.229	lb/yr
		Chloroform	0.267	lb/yr
		Formaldehyde	0.00398	lb/hr
		Hydrogen sulfide	1.37	lb/day
		Methyl mercaptan	$1.12x10^{-4}$	lb/hr
ES-09-40-0010 (R29)	East 65% Liquor Storage Tank	Benzene	0.229	lb/yr
		Chloroform	0.267	lb/yr
		Formaldehyde	0.00398	lb/hr
		Hydrogen sulfide	1.37	lb/day
		Methyl mercaptan	$1.12x10^{-4}$	lb/hr
ES-09-40-0020 (R30)	West 65% Liquor Storage Tank	Benzene	0.229	lb/yr
		Chloroform	0.267	lb/yr
		Formaldehyde	0.00398	lb/hr
		Hydrogen sulfide	1.37	lb/day
		Methyl mercaptan	$1.12x10^{-4}$	lb/hr
ES-09-95 (R31, R32, R33, R72)	Four Saveall Tanks	Benzene	1.70	lb/yr
		Chloroform	0.829	lb/yr
		Formaldehyde	0.0135	lb/hr
		Hydrogen sulfide	4.22	lb/day
		Methyl mercaptan	0.00494	lb/hr
ES-09-10 (R40, R41, R42, R43)	Four Soap Storage Tanks	Benzene	4.06	lb/yr
		Chloroform	0.111	lb/yr
		Formaldehyde	0.00636	lb/hr
		Hydrogen sulfide	0.434	lb/day
		Methyl mercaptan	0.0184	lb/hr
ES-09-19-0020 and ES-09-19-0030 (R36)	East and West Liquor Heaters	Benzene	1.02	lb/yr
		Chloroform	0.0278	lb/yr
		Formaldehyde	0.00159	lb/hr
		Hydrogen sulfide	0.108	lb/day
		Methyl mercaptan	0.00460	lb/hr
ES-09-20-0070 (R34)	No. 6 Evaporator Soap Skim Tank	Benzene	0.229	lb/yr
		Chloroform	0.267	lb/yr
		Formaldehyde	0.00398	
		Hydrogen sulfide	1.37	lb/day
		Methyl mercaptan	$1.12x10^{-4}$	lb/hr
ES-09-12-0250 (5SOAP)	No. 5 Soap Storage Tank	Benzene	1.02	lb/yr
		Chloroform	0.0278	lb/yr
		Formaldehyde	0.00159	lb/hr
		Hydrogen sulfide	0.108	lb/day
		Methyl mercaptan	0.00460	lb/hr
ES-09-12-0050 (LIQSEP)	Black Liquor Separator Tank	Benzene	1.02	lb/yr
		Chloroform	0.0278	lb/yr
		Formaldehyde	0.00159	lb/hr
		Hydrogen sulfide	0.108	lb/day
		Methyl mercaptan	0.00460	lb/hr
ES-09-25-0140 (R37)	No. 7 Evaporator Soap Skim Tank	Benzene	0.229	lb/yr
		Chloroform	0.267	lb/yr
		Formaldehyde	0.00398	lb/hr
		Hydrogen sulfide	1.37	lb/day
		Methyl mercaptan	$1.12x10^{-4}$	lb/hr

Emission Source ID (Modeling ID)	Source Description	Compound	Emission Limit	Averaging Period
ES-09-25-0540 (R38)	No. 7 Evaporator Boilout Tank	Benzene	0.229	lb/yr
		Chloroform	0.267	lb/yr
		Formaldehyde	0.00398	lb/hr
		Hydrogen sulfide	1.37	lb/day
		Methyl mercaptan	$1.12x10^{-4}$	lb/hr
ES-09-30-0030 (R39)	Soap Collection Tank	Benzene	1.02	lb/yr
		Chloroform	0.0278	lb/yr
		Formaldehyde	0.00159	lb/hr
		Hydrogen sulfide	0.108	lb/day
		Methyl mercaptan	0.00460	lb/hr
ES-09-25-0340 (R44)	Diverter Tank	Benzene	0.229	lb/yr
		Chloroform	0.267	lb/yr
		Formaldehyde	0.00398	lb/hr
		Hydrogen sulfide	1.37	lb/day
		Methyl mercaptan	$1.12x10^{-4}$	lb/hr
ES-10-45-0450 (R05)	No. 5 Precipitator Mix Tank	Benzene	0.819	lb/yr
		Formaldehyde	0.00712	lb/hr
		Methyl Mercaptan	0.0113	lb/hr
ES-14-25-0050 (R07)	Hydrosulfide Storage Tank	Benzene	8.19	lb/yr
		Formaldehyde	0.194	lb/hr
ES-14-10-0050 (R14) ES-14-10-0400 (R18) ES-14-10-0750 (R19) ES-14-10-1000 (NO5GLC)	Gl Process Area: [9] No. 4 Green Liquor Clarifier No. 3 Green Liquor Clarifier No. 3 Green Liquor Storage Tank No. 5 Green Liquor Clarifier	Benzene	30.0	lb/yr
		Hydrogen sulfide	0.0228	lb/day
		Methyl mercaptan	0.0464	lb/hr
ES-14-25-0450 (R16) ES-14-25-0350 (NO5WLC)	Nos. 3 and 5 White Liquor Clarifier[10]	Benzene	8.19	lb/yr
		Formaldehyde	0.194	lb/hr
ES-14-25-0800 (R17)	No. 4 WL Clarifier	Benzene	8.19	lb/yr
		Formaldehyde	0.194	lb/hr
ES-14-25-0150 (R22)	Synthetic Liquor Mix Tank	Benzene	8.19	lb/yr
		Formaldehyde	0.194	lb/hr
ES-14-70-2045 (R45)	Lime kiln scrubber water standpipe	Benzene	45.9	lb/yr
ES-14-15-0800 (R09)	Dregs Filter	Benzene	1.19	lb/yr
		Hydrogen sulfide	0.0401	lb/day
		Methyl mercaptan	0.00105	lb/hr
ES-14-15-0900 (R10)	Dregs Filter Vacuum System	Benzene	1.19	lb/yr
		Hydrogen sulfide	0.0401	lb/day
		Methyl mercaptan	0.00105	lb/hr
ES-14-15-DREGS (R12)	Dregs Dumpster	Benzene	1.19	lb/yr
		Hydrogen sulfide	0.0401	lb/day
		Methyl mercaptan	0.00105	lb/hr

[9] Per 502(b)(10) notification (No. 5900069.17D), the Permittee is replacing the Nos. 3 and 4 Green Liquor Clarifiers and the No. 3 Green Liquor Storage Tank with the No. 5 Green Liquor Clarifier. The TAP limits in this table apply to all four sources.
[10] Per 502(b)(10) notification (No. 5900069.17D), the Permittee is replacing the No. 3 White Liquor Clarifier with the No. 5 White Liquor Clarifier. The TAP limits in this table apply to both sources.

Emission Source ID (Modeling ID)	Source Description	Compound	Emission Limit	Averaging Period
ES-14-15-0600 (R13)	Dregs Surge Tank	Benzene	1.19	lb/yr
		Hydrogen sulfide	0.0401	lb/day
		Methyl mercaptan	0.00105	lb/hr
ES-14-20-2020 (R53)	East Lime Slaker	Ammonia	4.77	lb/hr
		Benzene	5.25	lb/yr
		Formaldehyde	0.00389	lb/hr
ES-14-20-2085 (R58)	West Lime Slaker	Ammonia	4.77	lb/hr
		Benzene	5.25	lb/yr
		Formaldehyde	0.00389	lb/hr
ES-14-30-5000 and ES-14-30-6000 (R50)	East and West Lime Mud Filter – Hood Exhaust	Benzene	6.77	lb/yr
		Chloroform	10.4	lb/yr
		Formaldehyde	0.0309	lb/hr
		Methyl mercaptan	0.00698	lb/hr
ES-14-30-5040 (R65) ES-14-30-6040 (R66)	Two Lime Mud Filter Vacuum Systems: • Lime Mud Vacuum System No. 1 • Lime Mud Vacuum System No. 2	Benzene	6.69	lb/yr
		Chloroform	112	lb/yr
		Hydrogen sulfide	0.0298	lb/day
		Methyl mercaptan	0.0112	lb/hr
ES-14-30-0310 (R46)	Lime mud mix tank	Benzene	2.65	lb/yr
		Hydrogen sulfide	0.147	lb/day
		Methyl mercaptan	0.0184	lb/hr
ES-14-30-1450 (R15)	Lime mud storage tank	Benzene	2.65	lb/yr
ES-14-30-0350 (R47)	Nos. 2 Lime Mud Wash Tank	Benzene	7.90	lb/yr
ES-14-30-0700 (R49)	Nos. 3 Lime Mud Wash Tank	Benzene	7.90	lb/yr
ES-14-70-2020 (R76)	Scrubber Water Clarifier	Benzene	23.0	lb/yr
ES-FP-STOCKTANKS (P27A-H)	NC-5 HD and LD Stock Tanks	Benzene	38.6	lb/yr
		Chloroform	923	lb/yr
ES-32-STOCKTANKS (P09A-F)	NC-2 HD and LD Stock Tanks	Benzene	16.2	lb/yr
		Chloroform	387	lb/yr
ES-32-93-0100 (NC1_2_A through M)	NC-2 Line Building Roof Vents	Benzene	159	lb/yr
		Chloroform	147	lb/yr
		Formaldehyde	0.457	lb/hr
		Methyl mercaptan	0.278	lb/hr
ES-45-93-0100 (NC5_1-29)	NC-5 Line Building Fugitives	Benzene	368	lb/yr
		Chloroform	341	lb/yr
		Formaldehyde	1.27	lb/hr
		Methyl mercaptan	0.771	lb/hr
CD-64-22-2000 (THERMALOX)	Thermal Oxidizer	Ammonia	9.61×10^{-4}	lb/hr
		Benzene	2.29	lb/yr
		Chloroform	11.6	lb/yr
		Formaldehyde	0.0258	lb/hr
		Hydrogen sulfide	20.6	lb/day
		Methyl mercaptan	3.10	lb/hr
ES-73-05-2000	WWTP operations treating wastewater including the 5th effect of evaporator No. 6 and the C3 condensate	Ammonia	37.8	lb/hr
		Chloroform	4,224	lb/yr
		Cresol	4.04×10^{-8}	lb/hr
		Formaldehyde	0.6	lb/hr

Emission Source ID (Modeling ID)	Source Description	Compound	Emission Limit	Averaging Period
ES-09-27-3100 (LRP SCWT)	LRP Secondary Cloth Wash Tank	Ammonia	$1.07x10^{-4}$	lb/hr
		Benzene	0.0210	lb/yr
		Chloroform	0.0844	lb/yr
		Formaldehyde	$6.17x10^{-6}$	lb/hr
		Hydrogen sulfide	3.24	lb/day
		Methyl mercaptan	0.00547	lb/hr
ES-09-27-1000 (LRP 40%)	LRP 40% Black Liquor Tank	Benzene	0.229	lb/yr
		Chloroform	0.267	lb/yr
		Formaldehyde	0.00398	lb/hr
		Hydrogen sulfide	1.37	lb/day
		Methyl mercaptan	$1.12x10^{-4}$	lb/hr
ES-09-27-3000 (LRPPRS2)	LRP Press Building Fugitives	Ammonia	$1.07x10^{-4}$	lb/hr
		Benzene	0.0210	lb/yr
		Chloroform	0.0844	lb/yr
		Formaldehyde	$6.17x10^{-6}$	lb/hr
		Hydrogen sulfide	18.9	lb/day
		Methyl mercaptan	0.127	lb/hr
ES-09-27-2100 (LRPPRS1A, LRPPRS1B)	LRP Press Building (Primary and Secondary)	Ammonia	$1.07x10^{-4}$	lb/hr
		Benzene	0.0210	lb/yr
		Chloroform	0.0844	lb/yr
		Formaldehyde	$6.17x10^{-6}$	lb/hr
		Hydrogen sulfide	104	lb/day
		Methyl mercaptan	0.0925	lb/hr
ES-09-27-2700, ES-09-27-2770, ES-09-27-2800, IES-09-27-3700, IES-09-27-3600 (LRPSSUMP)	LSRP Fugitives: Agitated Acidification Tank, Acidification Overflow/Foam Tank, Agitated Acid Conditioning Tank; Acid Sump Pit Alkaline Sump Pit	Hydrogen sulfide	3.42	lb/day
		Methyl mercaptan	0.00304	lb/hr

State Enforceable Only Requirement

3. TOXIC AIR POLLUTANT EMISSIONS LIMITATION AND REPORTING REQUIREMENTS

a. Pursuant to 15A NCAC 02Q .0711 "Emission Rates Requiring a Permit," for each of the below listed toxic air pollutants (TAPs), the Permittee has made a demonstration that actual emissions do not exceed the Toxic Permit Emission Rates (TPERs) listed in 15A NCAC 02Q .0711. The facility shall be operated and maintained in such a manner that emissions of any listed TAPs from the facility (excluding those sources exempt under 15A NCAC 02Q .0702 "Exemptions" and those sources subject to an applicable requirement under 40 C.F.R. Parts 61 or 63, or subject to a case-by-case maximum achievable control technology (MACT) permit requirement), including fugitive emissions, will not exceed TPERs listed in 15A NCAC 02Q .0711.

i. A permit to emit any of the below listed TAPs shall be required for this facility if actual emissions from all sources will become greater than the corresponding TPERs.

ii. PRIOR to exceeding any of these listed TPERs, the Permittee shall be responsible for obtaining a permit to emit TAPs and for demonstrating compliance with the requirements of 15A NCAC 02D.1100 "Control of Toxic Air Pollutants."

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

TPERs Limitations				
Pollutant (CAS Number)	**Carcinogens (lb/yr)**	**Chronic Toxicants (lb/day)**	**Acute Systemic Toxicants (lb/hr)**	**Acute Irritants (lb/hr)**
Acetic Acid (64-19-7)				0.96
Benzo(a)pyrene (50-32-8)	2.2			
Chlorine				0.23
Chlorobenzene (108-90-7)		46		
Di(2-ethylhexyl)phthalate (117-81-7)		0.63		
1,4-Dichlorobenzene (106-46-7)				16.8
Dimethyl Sulfate(77-78-1)		0.063		
Hexachlorodibenzo-p-dioxin (57653-85-7)	0.0051			
Methyl chloroform (71-55-6)		250		64
Methyl ethyl ketone (78-93-3)		78		22.4
Methyl isobutyl ketone (108-10-1)		52		7.6
Nitric Acid (7697-37-2)				0.256
Styrene (100-42-5)			2.7	
Tetrachlordibenzo-p-dioxin (1746-01-6)	0.00020			
1,1,2,2-Tetrachloroethane (79-34-5)	430			
Tetrachloroethylene (127-18-4)	13,000			
Toluene (108-88-3)		98		14.4
Trichloroethylene (79-01-6)	4000			
Trichlorofluoromethane (75-69-4)			140	
Vinylidiene Chloride (75-35-4)		2.5		
Xylene (1330-20-7)		57		16.4

F. Permit Application Submittal Requirement

1. 15A NCAC 02Q .0504: OPTION FOR OBTAINING CONSTRUCTION AND OPERATION PERMIT

Permitting [15A NCAC 02Q .0504(d)]

a. For completion of the two-step significant modification process pursuant to 15A NCAC 02Q .0501(c)(2) or (d)(2), As required under 15A NCAC 02Q .0501(c)(2), the Permittee shall file an amended application following the procedures of Section 15A NCAC 02Q .0500 within one year from the date of beginning operation of the Secondary Turpentine Decanter Tank **(ID No. ES-09-TURPDECANT)**, Secondary Turpentine Decanter Weir **(ID No. ES-09-TURPWEIR)**, and Secondary Turpentine Underflow Tank **(ID No. ES-09-TURPUND)**.

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

b. The Permittee shall notify the Regional Office, in writing, of the date of beginning operation of the Secondary Turpentine Decanter Tank **(ID No. ES-09-TURPDECANT)**, Secondary Turpentine Decanter Weir **(ID No. ES-09-TURPWEIR)**, and Secondary Turpentine Underflow Tank **(ID No. ES-09-TURPUND)**, postmarked no later than 30 days after such date.

2. 15A NCAC 02Q .0504: OPTION FOR OBTAINING CONSTRUCTION AND OPERATION PERMIT

Permitting [15A NCAC 02Q .0504(d)]

a. For completion of the two-step significant modification process pursuant to 15A NCAC 02Q .0501(c)(2) or (d)(2), As required under 15A NCAC 02Q .0501(c)(2), the Permittee shall file an amended application following the procedures of Section 15A NCAC 02Q .0500 within one year from the date of beginning operation of either the Electrostatic Precipitator **(ID No. CD-65-58-2000)** or the Thermal Oxidizer **(ID No. CD-64-22-2000)**.

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

b. The Permittee shall notify the Regional Office, in writing, of the date of beginning operation of either the Electrostatic Precipitator **(ID No. CD-65-58-2000)** or the Thermal Oxidizer **(ID No. CD-64-22-2000),** postmarked no later than 30 days after such date.

G. Facility-Wide Sources

- **New, Modified and Affected Sources identified in Section 1.0 Table of Permitted Emission Sources.**

1. 15A NCAC 02D .0530(u): USE OF PROJECTED ACTUAL EMISSIONS

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

a. The Permittee has used projected actual emissions to avoid applicability of prevention of significant deterioration requirements pursuant to application 5900069.18A for the Mill Optimization Project, consisting of modifications to the No. 2 Hog Fuel Boiler **(ID No. ES-65-25-0310)**, including the installation of the electrostatic precipitator **(ID No. CD-65-58-2000)**; installation of the Thermal Oxidizer **(ID No. CD-64-22-2000)**; modifications to the NC-5 Pulp Machine **(ID Nos. ES-45-93-0100 and ES-FP-STOCKTANKS)**; and which impacted several sources at the facility. In order to verify the assumptions used in the projected actual emissions calculations, the Permittee shall comply with the requirements in Section 2.2 G.1.b, below.

Monitoring/Recordkeeping/Reporting [15A NCAC 02D .0530(u) and 2Q .0308]

b. The Permittee shall perform the following:
   i. Upon commencement of regular operation of the modified No. 2 Hog Fuel Boiler, the Thermal Oxidizer, and the modified NC-5 Pulp Machine, the Permittee shall maintain records of annual CO, Lead, NO_X, PM, PM_{10}, $PM_{2.5}$, SO_2, H_2SO_4 mist, H_2S, TRS (sum of compounds), VOC, Fluorides, and CO_2e emissions in tons per year, on a calendar year basis related to the Mill Optimization Project as listed above. The Permittee shall calculate these annual emissions for five years following startup of regular operations of the modified No. 2 Hog Fuel Boiler, the Thermal Oxidizer, and the modified NC-5 Pulp Machine.
   ii. The Permittee shall submit a report to the director, postmarked on or before June 30th, after the end of each calendar year during which these records must be generated. The report shall contain the items listed in 40 CFR 51.166(r)(6)(v)(a) through (c).
   iii. The Permittee shall make the information documented and maintained under this condition available to the Director or the general public pursuant to the requirements in 40 CFR 70.4(b)(3)(viii).
   iv. The Permittee shall provide a comparison of the reported actual emissions (post-construction emissions) for each of the five calendar years to the projected actual emissions (pre-construction projection) as included below:

Pollutant	Projected Actual Emissions* (tons per year)
CO	7,064
Pb	5.64×10^{-2}
NO_X	1,620
PM (filterable only)	565
PM_{10}	456
$PM_{2.5}$	337
SO_2	615
H_2SO_4 mist	8.57
H_2S	23.3
TRS	82.2
VOC	692
F	0.17
CO_2e	1,880,854

* These projections are not enforceable limitations. If projected emissions are exceeded, consistent with 15A NCAC 02D .0530, the Permittee shall include, in its annual report, an explanation as to why the actual rates exceeded the projection.

SECTION 3 - GENERAL CONDITIONS (version 5.4, 07/20/2020)

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 and any information submitted in support of the application package. The permit and application shall be made available to an authorized representative of 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, two copies 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. **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
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 and Permit Deviations** [15A NCAC 02D .0535(f) and 02Q .0508(f)(2)]
"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.)*

"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.

Excess Emissions

1. 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.
2. 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).

Permit Deviations

3. Pursuant to 15A NCAC 02Q .0508(f)(2), the Permittee shall report deviations from permit requirements (terms and conditions) as follows:
    a. Notify the Regional Supervisor or Director of all other deviations from permit requirements not covered under 15A NCAC 02D .0535 quarterly. 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.B **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. **Emergency Provisions** [40 CFR 70.6(g)]
The Permittee shall be subject to the following provisions with respect to emergencies:

1. An emergency means any situation arising from sudden and reasonably unforeseeable events beyond the control of the facility, including acts of God, which situation requires immediate corrective action to restore normal operation, and that causes the facility to exceed a technology-based emission limitation under the permit, due to unavoidable increases in emissions attributable to the emergency. An emergency shall not include noncompliance to the extent caused by improperly designed equipment, lack of preventive maintenance, careless or improper operation, or operator error.

2. An emergency constitutes an affirmative defense to an action brought for noncompliance with such technology-based emission limitations if the conditions specified in 3. below are met.
3. The affirmative defense of emergency shall be demonstrated through properly signed contemporaneous operating logs or other relevant evidence that include information as follows:
   a. an emergency occurred and the Permittee can identify the cause(s) of the emergency;
   b. the permitted facility was at the time being properly operated;
   c. during the period of the emergency the Permittee took all reasonable steps to minimize levels of emissions that exceeded the standards or other requirements in the permit; and
   d. the Permittee submitted notice of the emergency to the DAQ within two working days of the time when emission limitations were exceeded due to the emergency. This notice must contain a description of the emergency, steps taken to mitigate emissions, and corrective actions taken.
4. In any enforcement proceeding, the Permittee seeking to establish the occurrence of an emergency has the burden of proof.
5. This provision is in addition to any emergency or upset provision contained in any applicable requirement specified elsewhere herein.

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 and EPCRA Enforcement Branch, EPA, Region 4, 61 Forsyth Street SW, Atlanta, GA 30303) postmarked on or before March 1 a compliance certification (for the preceding calendar year) by a responsible official with all federally-enforceable terms and conditions in the permit, including emissions limitations, standards, or work practices. 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; and
4. the method(s) used for determining the compliance status of the source during the certification period.

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. **Prevention of Accidental Releases General Duty Clause - Section 112(r)(1) –** FEDERALLY-ENFORCEABLE ONLY
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.

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, .0912, .1110, .1111, or .1415 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, 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 this Section if the methods can be demonstrated to determine compliance of permitted emission sources or pollutants.
    b. The Director may authorize the Division of Air Quality to conduct independent tests of any source subject to a rule in this Subchapter 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 Section 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 (EPA - Air Planning Branch, 61 Forsyth Street SW, Atlanta, GA 30303) in writing at least seven days before the change is made. The written notification shall include:
   a. a description of the change at the facility;
   b. the date on which the change will occur;
   c. any change in emissions; and
   d. any permit term or condition that is no longer applicable as a result of the change.

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 Environmental Protection Agency (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.

ATTACHMENT

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
CEM	Continuous Emission Monitor
CFR	Code of Federal Regulations
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
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
PM_{10}	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
SO_2	Sulfur Dioxide
TAP	Toxic Air Pollutant
tpy	Tons Per Year
VOC	Volatile Organic Compound