ROY COOPER
Governor
ELIZABETH S. BISER
Secretary
MICHAEL ABRACZINSKAS
Director

NORTH CAROLINA
Environmental Quality

DRAFT

Mr. John McCarthy
General Manager
Blue Ridge Paper Products LLC
175 Main Street
Canton, NC 28716

SUBJECT: Air Quality Permit No. 08961T30
Facility ID: 4400159
Blue Ridge Paper Products LLC
Canton
Haywood County
Fee Class: Title V
PSD Class: Major

Dear Mr. McCarthy:

In accordance with your completed Air Quality Permit Applications for Significant 02Q .0501(b)(2) Part II modifications of your Title V permit, we are forwarding herewith Air Quality Permit No. 08961T30 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 identified as such in the permit. Please note the requirements for the annual compliance certification are contained in General Condition P in Section 4. The current owner is responsible for submitting a compliance certification for the entire year regardless of who owned the facility during the year.

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

If any parts, requirements, or limitations contained in this Air Quality Permit are unacceptable to you, you have the right to file a petition for contested case hearing in the North Carolina Office of Administrative Hearings. Information regarding the right, procedure, and time limit for permittees and other persons aggrieved to file such a petition is contained in the attached "Notice Regarding the Right to Contest A Division of Air Quality Permit Decision."

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

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

Haywood County has triggered increment tracking under PSD for NO_X. Any increment changes associated with this modification were addressed in the Part 1 permit applications (Nos. 4400159.20C, 4400159.20D and 4400159.21B).

This Air Quality Permit shall be effective from DRAFT and shall expire on the earlier of [DRAFT+5yrs] or the renewal of Permit No. 08961T29 has been issued or denied. This Air Quality Permit is nontransferable to future owners and operators, and shall be subject to the conditions and limitations as specified therein.

Should you have any questions concerning this matter, please contact Connie Horne at (919) 707-8722 or email Connie.Horne@ncdenr.gov.

Sincerely yours,

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

Enclosure

cc: Michael Sparks, EPA Region 4 (Permit and Review)
Asheville Regional Office
Central Files

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

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

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

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

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

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

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

* * *

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

Summary of Changes to Permit

The following changes were made to Air Permit No. 08961T29:*

Page No.	Section	Description of Changes
Cover Letter	---	Modified to reflect current permit number, issue and effective dates
All	Headers	Amended permit revision number
1-152	Entire permit, where applicable	Modified to reflect current permit number, issue and effective dates
4-11	Section 1	Removed footnotes £ and ^ from table of permitted emission sources
98	2.2 B 1 2.2 B 3 2.2 B 4 2.2 B 6	Removed "15A NCAC 02Q .0504: OPTION FOR OBTAINING CONSTRUCTION AND OPERATION PERMIT". These requirements were satisfied with the following applications: (.18G) received May 29, 2018, (.20C) received June 16, 2020, (.20D) received November 3, 2020, (.21B) received June 10, 2021, respectively.
142-143	Section 3	Moved Insignificant Activities list from attachment to Section 3
144-152	Section 4	Updated General Conditions to version 6.0 (01/07/2022) and moved to Section 4.

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

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

AIR QUALITY PERMIT

Permit No.	Replaces Permit No.	Effective Date	Expiration Date
08961T30	NA	DRAFT	TBD**

**This permit shall expire on the earlier of DRAFT+5years or the renewal of Permit No. 08961T29 has been issued or denied.

Until such time as this permit expires or is modified or revoked, the below named Permittee is permitted to construct and operate the emission source(s) and associated air pollution control device(s) specified herein, in accordance with the terms, conditions, and limitations within this permit. This permit is issued under the provisions of Article 21B of Chapter 143, General Statutes of North Carolina as amended, and Title 15A North Carolina Administrative Codes (15A NCAC), Subchapters 02D and 02Q, and other applicable Laws.

Pursuant to Title 15A NCAC, Subchapter 02Q, the Permittee shall not construct, operate, or modify any emission source(s) or air pollution control device(s) without having first submitted a complete Air Quality Permit Application to the permitting authority and received an Air Quality Permit, except as provided in this permit.

Permittee:	**Blue Ridge Paper Products LLC**
Facility ID:	**4400159**
Primary SIC Code:	**2621 / Paper Mills Exc Building Paper**
NAICS Code:	**322121 / Paper (except Newsprint) Mills**
Facility Site Location:	**175 Main Street**
City, County, State, Zip:	**Canton, Haywood County, North Carolina 28716**
Mailing Address:	**175 Main Street**
City, State, Zip:	**Canton, North Carolina 28716**
Application Number(s):	**4400159.20D, 4400159.20C and 4400159.21B**
Complete Application Date(s):	**November 3, 2020, June 16, 2020, and June 10, 2021**
Division of Air Quality, Regional Office Address:	**Asheville Regional Office** **2090 US Highway 70** **Swannanoa, North Carolina 28778**

Permit issued this the XXnd day of DRAFT

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

Table of Contents

List of Acronyms

AOS	Alternative Operating Scenario
BACT	Best Available Control Technology
BAE	Baseline Actual Emissions
Btu	British thermal unit
CAA	Clean Air Act
CAM	Compliance Assurance Monitoring
CEMS	Continuous Emission Monitoring System
CEDRI	Compliance and Emissions Data Reporting Interface
CFR	Code of Federal Regulations
CO	Carbon Monoxide
COMS	Continuous Opacity Monitoring System
CSAPR	Cross-State Air Pollution Rule
DAQ	Division of Air Quality
DEQ	Department of Environmental Quality
EMC	Environmental Management Commission
EPA	Environmental Protection Agency
FR	Federal Register
GACT	Generally Available Control Technology
GHGs	Greenhouse Gases
HAP	Hazardous Air Pollutant
LAER	Lowest Achievable Emission Rate
MACT	Maximum Achievable Control Technology
NAA	Non-Attainment Area
NAAQS	National Ambient Air Quality Standards
NAICS	North American Industry Classification System
NCAC	North Carolina Administrative Code
NCGS	North Carolina General Statutes
NESHAP	National Emission Standards for Hazardous Air Pollutants
NO_X	Nitrogen Oxides
NSPS	New Source Performance Standard
NSR	New Source Review
OAH	Office of Administrative Hearings
PAE	Projected Actual Emissions
PAL	Plantwide Applicability Limitation
PM	Particulate Matter
$PM_{2.5}$	Particulate Matter with Nominal Aerodynamic Diameter of 2.5 Micrometers or Less
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

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

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

Emission Source ID No.	Emission Source Description	Control Device ID No.	Control Device Description
CHIP HANDLING AND STORAGE (AREA 01)			
G01002*	Chip Handling Operations	NA	NA
G01003*	Chip Storage Area	NA	NA
DIGESTER AREA (AREA 02)			
G02004 **MACT S**	***Digester Area:*** Eighteen (18) batch digesters (No. 02-PU-001) No. 1 Hardwood Blow Heat System: Blow Tank (No. 02-PU-005) Fiberline Accumulator (No. 02-PU-006) Secondary Condenser (No. 02-PU-008) No. 2 Pine Blow Heat System, including: Blow Tank (No. 02-PU-003) Fiberline Accumulator (No. 02-PU-007) Secondary Condenser (No. 02-PU-009) *NOTE: Foul condensates to condensate stripper system via closed collection system (ID No. G07018)*	G09028 (primary) G09029 (backup)	No. 4 Lime Kiln via NCG closed collection system No. 5 Lime Kiln via NCG closed collection system
BROWNSTOCK WASHING (AREA 03)			
G03005 **MACT S**	***No. 1 Hardwood Fiberline Brownstock Washing System:*** Nos. 1 through 4 Brownstock Washers (No. 03-PU-001) Foam Tank No. 1 (No. 03-TK-003) Foam Tank No. 2 (No. 03-TK-004)	NA	NA
G03006 **MACT S**	***No. 2 Pine Fiberline Brownstock Washing System:*** Washers and Filtrate Tanks (No. 03-PU-032)$^{\Delta}$ Brownstock Washer Mix Tanks (Nos. 03-TK-015, 03-TK-016, 03-TK-017)	NA	NA
G03007	Reject Knots	NA	NA
OXYGEN DELIGNIFICATION (AREA 04)			
G04009 **MACT S**	***No. 1 Hardwood Fiberline Oxygen Delignification System:*** O_2 Reactor (No. 04-PU-001)$^{\Delta}$ O_2 Blow Tank (No. 04-TK-005) Post-O_2 Washer (No. 04-PU-002) Post-O2 Filtrate Chest (No. 04-TK-008)	NA	NA
G04010 **MACT S**	***No. 2 Pine Fiberline Oxygen Delignification System:*** O_2 Reactor (No. 04-PU-014)$^{\Delta}$ O_2 Blow Tank (No. 04-TK-018) Post-O_2 washer (No. 04-PU-016)	NA	NA
G04011	White Liquor Oxidation System (maximum production rate of 40,500 pounds of white liquor per hour)	04-CD-021-01	Chevron demister

Emission Source ID No.	Emission Source Description	Control Device ID No.	Control Device Description
G04025 **MACT S**	No. 1 Hardwood Fiberline Pulp Screening System (No. 04-TK-009)	NA	NA
G04026 **MACT S**	No. 2 Pine Fiberline Pulp Screening System	NA	NA
G24087 **MACT S**	***No. 1 Hardwood Fiberline Deckers:*** East Decker (No. 04-PU-003) West Decker (No. 04-PU-004) Decker Filtrate Tank (No. 04-TK-007)	NA	NA
G24088 **MACT S**	***No. 2 Pine Fiberline Deckers:*** Decker (No. 04-PU-015) Decker Filtrate Tank (No. 04-TK-017)	NA	NA
G24092	Hardwood Brownstock High Density Storage	NA	NA
G24094	Pine Brownstock High Density Storage	NA	NA
BLEACHING (AREA 05)			
G05012 **MACT S**	***No. 1 Hardwood Fiberline Bleaching System:*** D1 Stage (ClO_2): Tower (No. 05-PU-002), Washer (No. 05-PU-004), Filtrate Tank (No. 05-TK-003) Eo Stage (Extraction): Tower (No. 05-PU-008), Washer (No. 05-PU-007), Filtrate Tank (No. 05-TK-009) D2 Stage (ClO_2): Tower (No. 05-PU-010) Washer (No. 05-PU-012) Filtrate Tank (No. 05-TK-011) NOTE: Extraction stage is not subject to MACT Subpart S	05-CD-002-01	No. 1 Fiberline Bleaching countercurrent packed tower-type wet scrubber (190 gallons per minute white liquor design flow rate)
G05013 **MACT S**	***No. 2 Pine Fiberline Bleaching System:*** D1 Stage (ClO_2): Tower (No. 05-PU-017), Washer$^{\Delta}$ (No. 05-PU-022), Filtrate Tank (No. 05-TK-018) Eo Stage (Extraction): Tower (No. 05-PU-019), Washer$^{\Delta}$ (No. 05-PU-023), Filtrate Tank (No. 05-TK-020), D2 Stage (ClO_2): Tower (No. 05-PU-021), Washer$^{\Delta}$ (No. 05-PU-024), Filtrate Tank (No. 05-TK-027) NOTE: Extraction stage is not subject to MACT Subpart S	05-CD-017-01	No. 2 Fiberline Bleaching countercurrent packed tower-type wet scrubber (70 gallons per minute white liquor design flow rate)
G05073	Minerals Removal Process (MRP)	NA	NA

Emission Source ID No.	Emission Source Description	Control Device ID No.	Control Device Description
CHLORINE DIOXIDE PREPARATION (AREA 06)			
G06014 **112(r)**	***Chlorine Dioxide Generation System:*** R-8 Chlorine Dioxide Generator (No. 06-PU-002), and Three Chlorine Dioxide Solution Storage Tanks (Nos. 06-TK-007, 06-TK-008, and 06-TK-009, 125,000 gallons capacity, each)	06-CD-002-01 05-CD-002-01	Primary Operating Scenario: Two scrubbers in series: one two-section packed tower wet scrubber (70 to 80 gallons of chilled water per minute minimum flow rate); and No. 1 Fiberline Bleaching countercurrent packed tower-type wet scrubber (190 gallons per minute white liquor design flow rate) Alternate Operating Scenario: One two-section packed tower wet scrubber (ID No. 06-CD-002-01)
EVAPORATORS (AREA 07)			
G07016 **MACT S**	***Black Liquor Evaporation System:*** Swenson Countercurrent Evaporator, consisting of six effects and one concentrator -147,402 pounds per hour black liquor solids maximum design capacity (No. 07-PU-002) Swenson Evaporator Hotwell - collects condensates from the 4th, 5th, and 6th evaporator effects (No. 07-TK-006) *NOTE: Foul condensates to Foul Condensate Stripper System (ID No. G07018) via closed collection system* West GB Countercurrent Evaporator, consisting of six bodies and five effects and steam liquor heater - 131,614 pounds per hour black liquor solids maximum design capacity (No. 07-PU-003) West GB Evaporator Hotwell – collects condensates from the 2nd through 6th evaporator effects (No. 07-TK-007 *NOTE: Foul condensates to Foul Condensate Stripper System (ID No. G07018) via closed collection system*	G09028 (primary) or G09029 (backup)	No. 4 Lime Kiln via NCG closed collection system No. 5 Lime Kiln via NCG closed collection system (Control system serves both evaporators)
G07018 **NSPS BB** **MACT S**	***Foul Condensate Stripper System***: Condensate Stripper (No. 07-PU-015), Stripper Feed Tank (No. 07-TK-011), and Reflux Tank (No. 07-TK-014) *NOTE: Foul condensates are collected from the digester area (ID No. G02004), the evaporators (ID No. G07016), the turpentine recovery systems (ID Nos. G20060 and G20062), the LVHC collection system, the HVLC collection system, and the black liquor oxidation gas collection system (ID No. G08022b)*	G09029 (primary) or G09028 (backup)	No. 5 Lime Kiln via NCG closed collection system No. 4 Lime Kiln via closed collection system

Emission Source ID No.	Emission Source Description	Control Device ID No.	Control Device Description
G07019	***Heavy Black Liquor Storage***: East Storage Tank (No. 07-TK-023) West Storage Tank (No. 07-TK-024) Red Liquor Tank (No. 07-TK-022) Backup Tank (No. 07-TK-025)	NA	NA
G07086	***Weak Black Liquor Storage:*** Eight Storage Tanks (No. 07-TK-004, 07-TK-013, 07-TK-016, 07-TK-017, 07-TK-018, 07-TK-019, 07-TK-020, 07-TK-021)	NA	NA
RECOVERY (AREA 08)			
G08020 **MACT MM**	No. 10 Recovery Furnace (No. 08-PU-001): Black liquor solids, ultra-low sulfur No. 2 fuel oil blended with black liquor solids, natural gas, and No. 6 fuel oil and No. 2 fuel oil-fired new design recovery furnace (121,000 pounds per hour maximum black liquor solids firing rate and 382 million Btu per hour maximum heat input rate from natural gas, No. 6 fuel oil and No. 2 fuel oil)	08-CD-001-01	3-Chamber, 6-field wet bottom electrostatic precipitator (nominal 115,236 square feet of collection plate area)
G08021 **MACT MM**	No. 11 Recovery Furnace (No. 08-PU-002): Black liquor solids, ultra-low sulfur No. 2 fuel oil blended with black liquor solids, natural gas, and No. 6 fuel oil and No. 2 fuel oil-fired new design recovery furnace (121,000 pounds per hour maximum black liquor solids firing rate, 382 million Btu per hour maximum heat input rate from natural gas, No. 6 fuel oil, No. 2 fuel oil and 0.25 million Btu per hour maximum heat input rate from propane igniters)	08-CD-002-01	3-Chamber, 4-Field wet bottom electrostatic precipitator (nominal 115,236 square feet of collection plate area)
G08022a	Black liquor oxidation system: Collection of vent gases from black liquor oxidation - (No. 08-PU-005, 228,000 pounds per hour maximum design black liquor solids feed rate based on calendar day average)	CD-BLO CD-BLOXRTO CD-RTOSCR	Three cyclones, one on each oxidizer tank (60 inches in diameter, each); One natural gas-fired regenerative thermal oxidizer (4.2 million Btu per hour heat input); One caustic scrubber (5 to 7-gallons per minute NaOH injection design flow rate)
G08022b[u]	Black Liquor Oxidation System: Condensate Collection Tank (No. 08-TK-001)	G07018 Or G16082	Foul condensate stripper system Or Via hard pipe to and discharged below the liquid surface of the WTP Aeration and Digestion Basins
G08023 **MACT MM** **NSPS BB**	No. 10 Smelt Dissolving Tank (No. 08-PU-011, 121,000 pounds per hour black liquor solids feed rate)	08-CD-011-01	chevron mist eliminator (33.5 square feet of collection surface area) with a secondary shower after the demister pad (86 gallons per minute minimum 3-hour average flow rate)

Emission Source ID No.	Emission Source Description	Control Device ID No.	Control Device Description
G08024 **MACT MM** **NSPS BB**	No. 11 Smelt Dissolving Tank (No. 08-PU-012, 121,000 pounds per hour black liquor solids feed rate)	08-CD-012-01	chevron mist eliminator (33.5 square feet of collection surface area) with a secondary shower after the demister pad (86 gallons per minute minimum 3-hour average flow rate)
LIME PRODUCTION (AREA 09)			
G09027 [π]	***Lime Production – Other Units:*** No. 4 Lime Pre-Coat Filter (No. 09-PU-001) No. 4 Lime Pre-Coat Filter Vacuum Pump (No. 09-PU-001a) No. 5 Lime Pre-Coat Filter (No. 09-PU-002) No. 5 Lime Pre-Coat Filter Vacuum Pump (No. 09-PU-002a) No. 6 Lime Pre-Coat Filter (No. 09-PU-004) No. 6 Lime Pre-Coat Filter Vacuum Pump (No. 09-PU-004a)	NA	NA
G09027-3 [π]	Dregs Filter	NA	NA
G09028 **MACT MM**	No. 4 Lime Kiln (No. 09-PU-009): Natural gas/No. 6 fuel oil/No. 2 fuel oil-fired lime kiln (9.0 tons per hour maximum calcium oxide design capacity; 60.0 million Btu per hour maximum permitted heat input rate, with propane igniters) *NOTE: Provides primary control for collected NCG foul gases and backup control for stripper off-gases from the condensate stripper system.*	09-CD-009-01	Cyclonic mist eliminator (120 inches in diameter) in series with a flooded disc-type wet scrubber (360 gallons per minute liquid design flow rate, with pH control)
G09029 **MACT MM**	No. 5 Lime Kiln (No. 09-PU-010): Natural gas/No. 6 fuel oil/No. 2 fuel oil-fired lime kiln (12.0 tons per hour maximum calcium oxide design capacity; 100.0 million Btu per hour maximum permitted heat input rate, with propane igniters) *NOTE: Provides backup control for collected NCG foul gases and primary control for stripper off-gases from the condensate stripper system.*	09-CD-010-01	One 4-stage MicroMist™ venturi scrubber (quench, venturi, impingement tray, and chevron mist eliminator, 156 inches in diameter, 250 gallons per minute venturi design rate, with pH control)
G09031	***No. 6 Lime Silo Dust Collection System:*** Lime Storage Silo (No. 09-TK-018, 150 tons maximum capacity) Fresh Lime Storage Silo (No. 09-TK-019, 150 tons maximum capacity) No. 6 Hot Lime Conveyor (No. 09-PU-011) Lime Crusher (No. 09-PU-012) Bucket Elevator (No. 09-PU-013)	09-CD-018-01	Cartridge-type bagfilter (1,728 square feet of filter area)
G09032	***No. 5 Lime Silo Dust Collection System:*** No. 5 Lime Storage Silo (No. 09-TK-013, 400 tons maximum capacity) Hot Lime Conveyor (No. 09-PU-014), Lime Crusher (No. 09-PU-015), Bucket Elevator (No. 09-PU-016)	09-CD-013-01	Cartridge-type bagfilter (1,728 square feet of filter area)
CAUSTICIZING (AREA 10)			

Emission Source ID No.	Emission Source Description	Control Device ID No.	Control Device Description
G10035	No. 5 Lime Slaker (No. 10-PU-027) – serves No. 5 Lime Kiln	10-CD-027-01	one natural draft condensing scrubber (nominal 30 gallons per minute mill water injection rate)
G10034	No. 6 Lime Slaker (No. 10-PU-036) – serves No. 4 Lime Kiln	10-CD-036-01	one natural draft scrubber (nominal 30 gallons per minute mill water injection rate)
G10089	***Green Liquor Clarification and Storage:*** West Green Liquor Storage (No. 10-TK-002)[π] North Green Liquor Storage (No. 10-TK-013) South Green Liquor Clarifier (No. 10-TK-005)[π] North Green Liquor Clarifier (No. 10-TK-006)[π]	NA	NA
G10090	Green Liquor Stabilization (No. 10-TK-008)	NA	NA
POWER (AREA 11)			
G11039 **PSD** **MACT** **DDDDD**	Riley Coal (No. 11-CU-005): Coal-fired utility boiler (399 million Btu per hour maximum heat input rate) equipped with low-NO_X burners and natural gas/kerosene igniters	11-CD-005-01 11-CD-005-02	2-Chamber, 3-Field electrostatic precipitator (40,500 square feet of plate area) Wet caustic scrubber
G11040 **NSPS D** **PSD** **MACT** **DDDDD**	No. 4 Power Boiler (No. 11-CU-006): Coal-fired (535 million Btu per hour maximum heat input rate) pulverized dry bottom-type design and natural gas-fired (12 burners, 20 million Btu per hour, each, maximum heat input), equipped with low-NO_X burner components and a Separated Overfire Air (SOFA) system.	11-CD-006-01 11-CD-006-02 11-CD-006-03	2-Chamber, 4-Field electrostatic precipitator (115,236 square feet of plate area) Urea-based Selective Non-Catalytic Reduction (SNCR) NO_X emission reduction system Wet caustic scrubber
G11042 **MACT** **DDDDD**	Riley Bark Boiler (No. 11-CU-016): Biomass[¥]/coal-fired hybrid suspension grate boiler (380 million Btu per hour maximum heat input rate) with partial flyash reinjection and grate fire ignition (kerosene and rags)	11-CD-016-01 11-CD-016-02	multicyclone (approximately 160 tubes, 9 inches in diameter, each) venturi-type wet scrubber (water with pH adjustment)
G11044	Riley Bark Boiler Fuel Feed System and associated transfer cyclone (No. 11-PU-042)	NA	NA
G11045	Utility Boiler Flyash Handling System Main Flyash Silo (25,300 cubic feet); and Pneumatic flyash collection system	11-CD-021-01 11-CD-021-02	One bin vent bagfilter (95 square feet of filter area); One cyclone separator with bagfilter (479 square feet of filter area)
G11025	No. 4 Power Boiler Flyash Transfer Silo (600 cubic feet)	11-CD-021-03	One bin vent bagfilter (26 square feet of filter area)

Emission Source ID No.	Emission Source Description	Control Device ID No.	Control Device Description
G11052 G11053 **NSPS Y**	***Coal Processing and Conveying:*** Crusher (No. 13A-CRUSHER) Coal Conveying and Storage System Equipment: o Collecting Conveyor No. 1 (No. 13A-001) o Receiving Conveyor No. 2 (No. 13A-002) o Stockpile Conveyor No. 3 (No. 13A-003) o Overland Conveyor No. 4 (No. 13A-004) o Overland Conveyor No. 5 (No. 13A-005) o Transfer Conveyor No. 6 (No. 13A-006) o Transfer Conveyor No. 7 (No. 13A-007) o Bunker Feed Conveyor No. 8 (No. 13A-008)	NA	NA
G11041 **NSPS Y**	No. 4 Boiler Bunker (No. N4-BUNKER)	CD-013-011, CD-013-012, CD-013-015	Three fabric filters (65 square feet of filter area, each)
G11050 **NSPS Db** **MACT DDDDD**	No. 1 Natural Gas Package Boiler: Natural gas-fired package boiler (225 million Btu per hour maximum heat input rate) equipped with low NO_X burners and an oxygen trim system	NA	NA
G11051 **NSPS Db** **MACT DDDDD**	No. 2 Natural Gas Package Boiler: Natural gas-fired package boiler (225 million Btu per hour maximum heat input rate) equipped with low NO_X burners and an oxygen trim system	NA	NA
PAPER MACHINES (AREA 12)			
G12048 G12049 G12050 G12051	***Four paper machines:*** No. 20 Paper Machine; No. 19 Paper Machine; No. 12 Paper Machine; No. 11 Paper Machine	NA	NA
CHEMICAL PREPARATION (AREA 13)			
G13054	East starch storage silo (30 tons per hour maximum throughput)	13-CD-014-01	one bagfilter (255 square feet of filter area)
G13055	West starch storage silo (30 tons per hour maximum throughput)	13-CD-016-01	one bin vent filter (183 square feet of filter area)
G13056	Center starch storage silo (30 tons per hour maximum throughput)	13-CD-020-01	one bagfilter (255 square feet of filter area)
WASTEWATER TREATMENT PLANT (AREA 16)			
G16081	WTP Primary Clarifiers	NA	NA
G16082	WTP Aeration and Digestion Basins	NA	NA
PAPER CONVERTING (AREA 19)			
G19058	Rewinders on Trim System No. 1	NA	NA
G19059	Rewinders on Trim System No. 2	NA	NA

Emission Source ID No.	Emission Source Description	Control Device ID No.	Control Device Description
TURPENTINE RECOVERY (AREA 20)			
G20060 **MACT S**	***No. 1 Hardwood Turpentine Recovery System:*** Turpentine Entrainment System (No. 20-PU-001) Turpentine Condenser (No. 20-PU-002) Turpentine Underflow Tank (No. 20-TK-004) Turpentine Transfer Tank (No. 20-TK-005) *NOTE: Foul condensates to Foul Condensate Stripper System (ID No. G07018) system via closed collection system*	G09028 (primary) or G09029 (backup)	No. 4 Lime Kiln via NCG closed collection system No. 5 Lime Kiln via NCG closed collection system
G20062 **MACT S**	***No. 2 Pine Turpentine Recovery System:*** Turpentine Entrainment System (No. 20-PU-006) Turpentine Condenser (No. 20-PU-007) Turpentine Decanter (No. 20-TK-008) Turpentine Underflow Tank (No. 20-TK-009) Turpentine Transfer Tank (No. 20-TK-010) *NOTE: Foul condensates to Foul Condensate Stripper System (ID No. G07018) via closed collection system*	G09028 (primary) or G09029 (backup)	No. 4 Lime Kiln via NCG closed collection system No. 5 Lime Kiln via NCG closed collection system
TALL OIL PRODUCTION (AREA 21)			
G21072	Tall Oil Reactor	21-ST-008-01	Packed tower-type wet scrubber (10 to 15 gallons per minute minimum white liquor design injection rate)
NCG COLLECTION (AREA 23)			
G23078*	NCG Collection System Fugitives	NA	NA
G23066.k	No. 1 Fiberline Building Ventilation – Fugitives (former ID No. G0308a)	NA	NA
G23066.l	No. 2 Fiberline Building Ventilation – Fugitives (former ID No. G0410a)	NA	NA
MISCELLANEOUS			
16-CU-001 **MACT ZZZZ**	One 1850 horsepower, diesel-fired emergency generator	NA	NA

[*] Sources with no applicable requirements that emit greater than *de minimis* for classification as Insignificant Activities per 15A NCAC 02Q .0503(8).

[Δ] Sources are fully enclosed and do not have emission points.

[¥] 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.

[μ] The Black Liquor Oxidation System: Condensate Collection Tank (ID No. G08022b.08-TK-001) is 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.

[π] The Nos. 4, 5, and 6 Lime Pre-Coat Filters (No. G09027.09-PU-001, 002, and 004), Nos. 4, 5, and 6 Lime Pre-Coat Filter Vacuum Pumps (No. G09027.09-PU-001a, 002a, and 004a), the Dregs Filter (ID No. G09027-3), North and South Green Liquor Clarifiers (ID No. G10089, Nos. 10-TK-005 and 10-TK-006), West Green Liquor Storage Tank (ID No. G10089, No. 10-TK-002), and the Nos. 4 and 5 Lime Kilns (ID Nos. G09028 and G09029) and associated wet scrubbers (ID Nos. 09-CD-009-01 and 09-CD-010-01) 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.

SECTION 2 – SPECIFIC LIMITATIONS AND CONDITIONS

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

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

DIGESTER AREA (AREA 02)

A. Digester Area (ID No. G02004), consisting of:

- **Eighteen (18) batch digesters (No. 02-PU-001);**
- **No. 1 Hardwood Blow Heat System:**
  - **Blow Tank (No. 02-PU-005),**
  - **Fiberline Accumulator (No. 02-PU-006), and**
  - **Secondary Condenser (No. 02-PU-008);**
- **No. 2 Pine Blow Heat System:**
  - **Blow Tank (No. 02-PU-003),**
  - **Fiberline Accumulator (No. 02-PU-007), and**
  - **Secondary Condenser (ID No. 02-PU-009).**

Gases are collected via the NCG closed collection system and burned in the No. 4 Lime Kiln (ID No. G09028, primary) or No. 5 Lime Kiln (ID No. G09029, backup). Foul condensates are collected in a closed collection system and treated in the Foul Condensate System (ID No. G07018).

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

Pollutant	Limits/Standards	Applicable Regulation
Total Reduced Sulfur	5 ppm (as H_2S) by volume on a dry basis	15A NCAC 02D .0528
Hazardous Air Pollutants	See Section 2.2 C.1	15A NCAC 02D .1111 (40 CFR Part 63, Subpart S)

1. 15A NCAC 02D .0528: TOTAL REDUCED SULFUR FROM KRAFT PULP MILLS

a. The emissions of total reduced sulfur shall not exceed five parts per million from the digester **(ID No. G02004)**, measured as hydrogen sulfide on a dry gas basis and averaged per discrete contiguous 12-hour time 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.1.a, above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0528

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

c. Except as allowed under Section 2.2 C.1.c, the Digester Area emission sources **(ID No. G02004)**, shall comply with the limitation above by ensuring the gases are combusted in the No. 4 Lime Kiln **(ID No. G09028)** or the No. 5 Lime Kiln **(ID No. G09029)**. The Permittee shall be considered in noncompliance with 15A NCAC 02D 0528 if the gases are not combusted in the No. 4 or No. 5 Lime Kiln.

d. The Permittee shall follow the closed-vent inspection procedures per Section 2.2 C.1 to ensure that the emissions are routed to either the No. 4 Lime Kiln **(ID No. G09028)** or No. 5 Lime Kiln **(ID No. G09029)** as specified above. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0528 if these procedures are not followed or if the 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.

BROWNSTOCK WASHING (AREA 03)

B. Brownstock Washing Area, consisting of:

- **No. 1 Hardwood Fiberline Brownstock Washing System (ID No. G03005):**
  - **Nos. 1 through 4 Brownstock Washers (No. 03-PU-001)**
  - **Foam Tank No. 1 (No. 03-TK-003)**
  - **Foam Tank No. 2 (No. 03-TK-004)**
- **No. 2 Pine Fiberline Brownstock Washing System (ID No. G03006)**
  - **Washers and Filtrate Tanks (Nos. 03-PU-032)**
  - **Brownstock Washer Mix Tanks (Nos. 03-TK-015, 03-TK-016, and 03-TK-017)**

NOTE: No. 2 Pine fiberline brownstock washing system washers and filtrate tanks are fully enclosed and are not sources of emissions.

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

Pollutant	Limits/Standards	Applicable Regulation
Hazardous Air Pollutants	See Section 2.2 C.1	15A NCAC 02D .1111 (40 CFR Part 63, Subpart S)

OXYGEN DELIGNIFICATION (AREA 04)

C. Oxygen Delignification Area, consisting of:

- **No. 1 Hardwood Fiberline Oxygen Delignification System (ID No. G04009), including:**
  - **one O_2 reactor,**
  - **one oxygen blow tank, and**
  - **post-O_2 washers**
- **No. 2 Pine Fiberline Oxygen Delignification System (ID No. G04010), including:**
  - **one O_2 reactor,**
  - **one oxygen blow tank, and**
  - **post-O_2 washers**
- **No. 1 Hardwood Fiberline Pulp Screening System (ID No. G04025)**
- **No. 2 Pine Fiberline Pulp Screening System (ID No. G04025)**

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

Pollutant	Limits/Standards	Applicable Regulation
Hazardous Air Pollutants	See Section 2.2 C.1	15A NCAC 02D .1111 (40 CFR Part 63, Subpart S)

D. White Liquor Oxidation System (ID No. G04011), equipped with a chevron demister (ID No. 04-CD-021-01)

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

Pollutant	Limits/Standards	Applicable Regulation
Toxic Air Pollutants	State Enforceable Only (See Section 2.2 H)	15A NCAC 02D .1100

BLEACHING (AREA 05)

E. No. 1 Hardwood Fiberline Bleaching System (ID No. G05012):

- **D1-Stage (ClO_2):**
  - **Tower (No. 05-PU-002),**
  - **Washer (No. 05-PU-004),**
  - **Filtrate Tank (No. 05-PU-003)**
- **Eo-Stage (Extraction):**
  - **Tower (No. 05-PU-008),**
  - **Washer (No. 05-PU-007),**
  - **Filtrate Tank (No. 05-TK-009)**
- **D2-Stage (ClO_2)**
  - **Tower (No. 05-PU-010),**
  - **Washer (No. 05-PU-012),**
  - **Filtrate Tank (No. 05-TK-011)**

Exhausts to the No. 1 Fiberline Bleaching countercurrent packed tower-type wet scrubber (ID No. 05-CD-002-01).

No. 2 Pine Fiberline Bleaching System (ID No. G05013):

- **D1-Stage (ClO_2):**
  - **Tower (No. 05-PU-017),**
  - **Washer (No. 05-PU-022),**
  - **Filtrate Tank (No. 05-TK-018)**
- **Eo-Stage (Extraction):**
  - **Tower (No. 05-PU-019),**
  - **Washer (No. 05-PU-023),**
  - **Filtrate Tank (No. 05-TK-020)**
- **D2-Stage (ClO_2):**
  - **Tower (No. 05-PU-021),**
  - **Washer (No. 05-PU-024),**
  - **Filtrate Tank (No. 05-TK-027)**

Exhausts to the No. 2 Fiberline Bleaching countercurrent packed tower-type wet scrubber (ID No. 05-CD-017-01).

Minerals Removal Process (MRP, ID No. G05073)

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

Pollutant	Limits/Standards	Applicable Regulation
Hazardous Air Pollutants	**Affected Sources: G05012 and G05013** See Section 2.2 C.1[a]	15A NCAC 02D .1111 (40 CFR Part 63, Subpart S)
Toxic Air Pollutants	**Affected Sources: G05073** State Enforceable Only (See Section 2.2 H)	15A NCAC 02D .1100

[a]The Eo stages are not required to be controlled for MACT compliance.

CHLORINE DIOXIDE PREPARATION (AREA 06)

F. Chlorine dioxide generation system (ID No. G06014):

- **R-8 Chlorine Dioxide Generator (ID No. 06-PU-002)**
- **Three Chlorine Dioxide Solution Storage Tanks (Nos. 06-TK-007, 06-TK-008, and 06-TK-009) – 125,000 gallons capacity, each**

Primary Operating Scenario

Two scrubbers in series:

- **One two-section packed tower wet scrubber (ID No. 06-CD-002-01)**
- **No. 1 Hardwood Fiberline Bleaching System countercurrent packed tower-type wet scrubber (ID No. 05-CD-002-01)**

Alternate Operating Scenario

- **One two-section packed tower wet scrubber (ID No. 06-CD-002-01)**

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

Pollutant	Limits/Standards	Applicable Regulations
Hazardous Air Pollutants	112–I - Prevention of accidental releases.	15A NCAC 02Q .0508(h)
Toxic Air Pollutants	State Enforceable Only (See Section 2.2 H)	15A NCAC 02D .1100

1. 15A NCAC 02D .2100: RISK MANAGEMENT PROGRAM – SECTION 112(r) OF THE CLEAN AIR ACT

a. The Permittee is subject to Section 112(r) of the Clean Air Act and shall comply with all applicable requirements in accordance with 40 CFR Part 68 [15A NCAC 02D .2103].

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

b. Chlorine dioxide emissions from the Chlorine Dioxide System **(ID No. G06014)** shall be controlled by the wet scrubber **(ID No. 06-CD-002-01)** either in series with the No. 1 Hardwood Fiberline Bleaching System wet scrubber **(ID No. 05-CD-002-01)** or alone. To ensure compliance, the Permittee shall perform inspections and maintenance. As a minimum, the inspection and maintenance requirement must include the following:
   i. a monthly external visual inspection (for each calendar month, not to exceed 6 weeks from the previous inspection) of the system ductwork and material collection unit for leaks; and
   ii. an annual internal inspection (for each calendar year, not to exceed 14 months from the previous inspection) of the wet scrubber's structural integrity.
   iii. inspection of the wet scrubber spray nozzles to detect clogging or corrosion damage of nozzles and perform maintenance and repair when necessary to ensure proper operation of the scrubber;
   iv. inspection of packing material to ensure proper packing depth and to check for clogging; and
   v. inspection, cleaning, and calibration of all instrumentation associated with the wet scrubber.

   The Permittee shall be deemed in noncompliance with 15A NCAC 02D .2100 if the wet scrubber **(ID No. 06-CD-002-01)** is not inspected and maintained.

c. 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 wet scrubber; and
   iv. any corrections made.

   The Permittee shall be deemed in noncompliance with 15A NCAC 02D .2100 if the results of inspections and maintenance records are not maintained.

d. The Permittee submitted a Risk Management Plan (RMP) to EPA pursuant to 40 CFR Part 68.150 on June 13, 2014.

e. The Permittee shall revise and update the RMP submitted on June 13, 2014, under 40 CFR 68.150 at least once every five years after that date or most recent update required by 40 CFR 68.190(b)(2) through (b)(7), whichever is later. 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.

EVAPORATORS (AREA 07)

G. Black Liquor Evaporator System (ID No. G07016):

- **Swenson Countercurrent Evaporator, consisting of six effects and one concentrator (No. 07-PU-002);**
- **Swenson Evaporator Hotwell – collects condensates from the 4th, 5th, and 6th evaporator effects (No. 07-TK-006)**
- **West GB Countercurrent Evaporator, consisting of six bodies and five effects and steam liquor heater (No. 07-PU-003)**
- **West GB Evaporator Hotwell – collects condensates from the 2nd through 6th evaporator effects (No. 07-TK-007)**

Gases are collected via the NCG closed collection system and burned in the No. 4 Lime Kiln (ID No. G09028, primary) or No. 5 Lime Kiln (ID No. G09029, backup). Foul condensates are collected in a closed collection system and treated in the Foul Condensate System (ID No. G07018).

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

Pollutant	Limits/Standards	Applicable Regulation
Total reduced sulfur	5 ppm (as H_2S) by volume on a dry basis	15A NCAC 02D .0528
Hazardous air pollutants	See Section 2.2 C.1	15A NCAC 02D .1111 (40 CFR Part 63, Subpart S)
Particulate matter ($PM/PM_{10}/PM_{2.5}$), sulfur dioxide, nitrogen oxides, carbon monoxide, H_2SO_4, fluorides, TRS, lead, and volatile organic compounds	See Section 2.2 A.5	15A NCAC 02D .0530(u)

1. 15A NCAC 02D .0528: TOTAL REDUCED SULFUR FROM KRAFT PULP MILLS

a. The emissions of total reduced sulfur shall not exceed five parts per million from the two black liquor evaporator systems **(ID No. G07016)**, measured as hydrogen sulfide on a dry gas basis and averaged per discrete contiguous 12-hour time 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 G.1.a, above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0528

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

c. Except as allowed under Section 2.2 C.1.c, the black liquor evaporator systems **(ID No. G07016)**, shall comply with the limitation above by ensuring the gases are combusted in the No. 4 Lime Kiln **(ID No. G09028)** or the No. 5 Lime Kiln **(ID No. G09029)**. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0528 if the gases are not combusted in the Nos. 4 or 5 Lime Kilns.

d. The Permittee shall follow the closed-vent inspection procedures per Section 2.2 C.1 to ensure that the emissions are routed to either the No. 4 Lime Kiln **(ID No. G09028)** or No. 5 Lime Kiln **(ID No. G09029)** as specified above. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0528 if these procedures are not followed or if the 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.

H. Weak Black Liquor Storage (ID No. G07086)

- **Eight Storage Tanks (Nos. 07-TK-004, 07-TK-013, 07-TK-016, 07-TK-017, 07-TK-018, 07-TK-019, 07-TK-020, 07-TK-021)**

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

Pollutant	Limits/Standards	Applicable Regulations
Toxic Air Pollutants	State Enforceable Only (See Section 2.2 H)	15A NCAC 02D .1100

I. Heavy Black Liquor Storage (ID No. G07019)

- **East Storage Tank (No. 07-TK-023)**
- **West Storage Tank (No. 07-TK-024)**
- **Red Liquor Tank (No. 07-TK-022)**
- **Backup Tank (No. 07-TK-025)**

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

Pollutant	Limits/Standards	Applicable Regulations
Toxic Air Pollutants	State Enforceable Only (See Section 2.2 H)	15A NCAC 02D .1100

J. Foul Condensate System (ID No. G07018):

- **Condensate Stripper (ID No. 07-PU-015),**
- **Stripper Feed Tank (ID No. 07-TK-011),**
- **Reflux Tank (ID No. 07-TK-014).**

Gases are collected via the NCG closed collection system and burned in the No. 5 Lime Kiln (ID No. G09029, primary) or No. 4 Lime Kiln (ID No. G09028, backup). Foul condensates are collected from the Digester Area (ID No. G02004), the Evaporator System (ID No. G07016), and the Turpentine Recovery Systems (ID Nos. G20060 and G20062).

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

Pollutant	Limits/Standards	Applicable Regulations
Total Reduced Sulfur	5 ppm by volume on a dry basis, corrected to 10 percent oxygen	15A NCAC 02D .0524 (40 CFR Part 60, Subpart BB)
Hazardous Air Pollutants	See Section 2.2 C.1	15A NCAC 02D .1111 (40 CFR Part 63, Subpart S)

1. 15A NCAC 02D .0524: NEW SOURCE PERFORMANCE STANDARDS (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."

Emissions Limitations [15A NCAC 02D .0524]

b. The Permittee shall not cause to be discharged into the atmosphere any gases from the foul condensate system **(ID No. G07018)** which contain TRS in excess of 5 ppm by volume on a dry basis, corrected to 10 percent oxygen, unless the gases are burned with other waste gases in the No. 5 Lime Kiln **(ID No. G09029, primary)** or No. 4 Lime Kiln **(ID No. 09028, backup)**, and are subjected to a minimum temperature of 650^{O}C (1200^{O}F) for at least 0.5 second [40 CFR 60.283(a)(1)].

Monitoring [15A NCAC 02Q .0508(f) and 02D .0524]

c. The Permittee shall follow the closed-vent inspection procedures per Section 2.2 C.1 to ensure that the emissions from the Foul Condensate System **(ID No. G07018)** are routed to the No. 5 Lime Kiln **(ID No. G09029, primary)** or the No. 4 Lime Kiln **(ID No. G09028, backup)**, as specified in Section 2.1 J.1.b, 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.

d. The Permittee shall calibrate, maintain, and operate a monitoring device for measuring the combustion temperature at the point of incineration of effluent gases in the No. 5 Lime Kiln **(ID No. G09029)** and the No. 4 Lime Kiln **(ID No. G09028)** to ensure the minimum temperature as specified in Section 2.1 J.1.b, above, is maintained [40 CFR 60.284(b)(1)]. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0524 if these monitoring procedures are not followed.

Reporting/ Recordkeeping [15A NCAC 02Q .0508(f) and 02D .0524]

e. The Permittee shall follow 40 CFR 60.284(d) for 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.

RECOVERY (AREA 08)

K. No. 10 Recovery Furnace (ID No. G08020-08-PU-001) – equipped with one 3-chamber, 6-field wet-bottom electrostatic precipitator (ID No. 08-CD-001-01).

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

Pollutant	Limits/Standards	Applicable Regulation
Particulate Matter	3.0 lb per ton of air dried pulp	15A NCAC 02D .0508
Sulfur Dioxide	2.3 lb per million Btu heat input Monitoring Requirements	15A NCAC 02D .0516 15A NCAC 02D .0608
	see Section 2.2 J.1	15A NCAC 02D .0501
Total Reduced Sulfur	5 ppm (as H_2S) by volume on a dry basis, corrected to 8 percent oxygen	15A NCAC 02D .0528
Particulate Matter	Compliance assurance monitoring	15A NCAC 02D .0614
Carbon Monoxide and Volatile Organic Compounds	Annual recordkeeping and reporting of actual emissions (See Section 2.2 A.3)	15A NCAC 02D .0530(u)
Visible Emissions Hazardous Air Pollutants	See Section 2.2 D	15A NCAC 02D .1111 40 CFR Part 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. 10 Recovery Furnace **(ID No. G08020)** into the atmosphere shall not exceed 3.0 pounds of particulate matter per equivalent tons of air dried pulp.

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

b. Under the provisions of NCGS 143-215.108, the Permittee shall demonstrate compliance with the emission limit(s) above by testing the No. 10 Recovery Furnace **(ID No. G08020)** annually for particulate matter in accordance with a testing protocol approved by the DAQ. Details of the emissions testing and reporting requirements can be found in General Condition JJ. If the results of the testing demonstrate that emissions are less than 80 percent of the limit in Section 2.1 K.1.a, above, the testing frequency may be reduced to every two years. If the results of this or any test are above the limit given in Section 2.1 K.1.a, above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0508 and the Permittee shall resume performance testing on an annual basis, beginning no more than 12 months after the previous test.

Monitoring/ Recordkeeping/ Reporting [15A NCAC 02Q .0508(f), 40 CFR 70.6(a)(3)(A)]

c. Particulate matter emissions from the No. 10 Recovery Furnace **(ID No. G08020)** shall be controlled by an electrostatic precipitator (ESP) (ID No. 08-CD-001-01). To ensure compliance with the particulate emission limit in Section 2.1 K.1.a, above, the Permittee shall follow the 40 CFR Part 63, Subpart MM monitoring, recordkeeping, and reporting requirements as specified in Section 2.2 D. Excess emissions shall be in reported in accordance with 15A NCAC 02D .0535 as outlined in General Condition I. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0508 if either (1) the applicable MACT Subpart MM requirements above are not monitored and recorded; or (2) the MACT Subpart MM monitoring determines a violation of the applicable PM emission standard per 40 CFR 63.864(k)(2) as detailed above.

2. 15A NCAC 02D .0516: SULFUR DIOXIDE EMISSIONS FROM COMBUSTION SOURCES
15A NCAC 02D .0608: OTHER LARGE COAL OR RESIDUAL OIL BURNERS

a. Emissions of sulfur dioxide from this source 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 K.2.a, above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0516.

Monitoring/Recordkeeping [15A NCAC 02Q .0508(f), and 02D .0608]

c. No monitoring/recordkeeping is required for sulfur dioxide emissions from the firing of natural gas/No. 2 fuel oil in this Recovery Furnace **(ID No. G08020)**.

d. To ensure compliance with Section 2.1 K.2.a, the Permittee shall monitor the sulfur content and heat content of the No. 6 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) and include the following information:
   i. the name of the fuel oil supplier; and
   ii. a statement verifying that the methods used to determine the maximum sulfur content of the fuel oil was in accordance with the following:
      (A) sample collection – ASTM D4177 or D4057;
      (B) heat of combustion (Btu) – ASTM D240 or D4868; and
      (C) sulfur content – ASTM D129, D-4294, or D1552.
   iii. the maximum sulfur content of the fuel oil received during the month;
   iv. the average heat content of the fuel oil received during the month; and
   v. 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 and 02D .0608 if the results of the fuel oil supplier certifications are not monitored and recorded.

e. The Permittee shall calculate and record in a logbook (written or electronic format) the pounds of sulfur dioxide per million Btu heat content of the fuel oil per month using the above information. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0516 and 02D .0608 if the requirements above are not monitored and recorded or if the results show an exceedance of the limit given in Section 2.1 K.2.a, above.

Reporting [15A NCAC 02Q .0508(f) and 02D .0608]

f. No reporting is required for sulfur dioxide emissions from the firing of natural gas/No. 2 fuel oil in this Recovery Furnace **(ID No. G08020)**.

g. The Permittee shall submit a summary report of the fuel oil supplier certifications and calculated emission rates 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 .0528: TOTAL REDUCED SULFUR FROM KRAFT PULP MILLS

a. The emissions of total reduced sulfur from the No. 10 Recovery Furnace **(ID No. G08020)** shall not exceed 5 parts per million corrected to 8 percent oxygen, measured as hydrogen sulfide on a dry gas basis and averaged per discrete contiguous 12-hour time period. [15A 02D .0528(c)(1)]

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 K.3.a, above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0528.

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

c. To ensure compliance, the Permittee shall calibrate, maintain, and operate a continuous monitoring system for determining the total reduced sulfur (as hydrogen sulfide, dry basis, corrected to 8 percent oxygen) emissions discharged to the atmosphere and record the output of the system. The continuous monitoring system shall be operated in accordance with the applicable performance specifications in 40 CFR Part 60, Appendix B and quality assurance procedures in 40 CFR Part 60, Appendix F, Section 3, unless an alternative monitoring and quality assurance program is approved by the DAQ. The monitoring system downtime shall not exceed 5 percent. If any 12-hour block average exceeds the limit above or the records are not maintained, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0528, except that one percent of all 12-hour total reduced sulfur averages per quarter year in excess of the limitation given above, in the absence of start-ups, shutdowns, and malfunctions, shall not be considered in violation.

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

d. 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.

4. 15A NCAC 02D .0614: COMPLIANCE ASSURANCE MONITORING

a. For the electrostatic precipitator **(ID No. 08-CD-001-01)** associated with the No. 10 Recovery Furnace **(ID No. G08020)**, the Permittee shall comply with 40 CFR part 64 pursuant to 15A NCAC 02D .0614 to ensure that the recovery furnace complies with the emission limits of 15A NCAC 02D .0508.

Background

b. Emission Units: No. 10 Recovery Furnace **(ID No. G08020)**

c. Applicable Regulation, Emission Limitation, and Monitoring Requirements
   i. Regulation: 15A NCAC 02D .0508: Particulates from Pulp and Paper Mills
   ii. Emission Limits:
   PM: 3.0 pounds of particulate matter per equivalent tons of air dried pulp.
   iii. Control Technology: Electrostatic precipitator (ESP)

Monitoring Approach

d. The key elements of the monitoring approach for particulate matter, including parameters to be monitored, parameter ranges and performance criterial are presented in the following table.

Measure	Indicator
I. Indicator	Opacity of ESP exhaust
Measuring approach	Continuous opacity monitoring system (COMS) in ESP exhaust
II. Indicator Range	The opacity indicator range is a 1-hour average opacity of 20 percent. An excursion occurs when any 1-hour average opacity is greater than 20 percent. The excursion triggers corrective action and reporting requirement. The QIP threshold is when the total duration of excursions is greater than 5 percent of the source operating time during any 6-month period. The QIP shall be prepared as required under 40 CFR 64.8.
III. Performance Criteria	
Data Representativeness	The COMS was installed at a representative location in the recovery furnace ESP exhaust stack per 40 CFR 60, Appendix B, Performance Specification (PS-1)
QA/QC Practices and Criteria	The COMS was initially installed and evaluated per PS-1. Zero and span drift are checked daily and a quarterly filter audit is performed.
Monitoring Frequency	The opacity of the ESP exhaust is monitored continuously (every 10 seconds)
Data Collection Procedures	The data acquisition system shall retain all 6-minute data and 3-hour block averages pursuant to PS-1.
Averaging Period	The 10-second opacity data are used to calculate the 6-minute averages. The 6-minute averages are used to calculate the 3-hour block average.

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

e. 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 from 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 Permittee 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.

L. No. 11 Recovery Furnace (ID No. G08021-08-PU-002) – equipped with one 3-chamber, 4-field wet bottom design electrostatic precipitator (ID No. 08-CD-002-01)

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

Pollutant	Limits/Standards	Applicable Regulation
Particulate Matter	3.0 pounds per ton of air dried pulp	15A NCAC 02D .0508
Visible Emissions	35 percent opacity	15A NCAC 02D .0508
Sulfur Dioxide	2.3 pounds per million Btu heat input Monitoring Requirements	15A NCAC 02D .0516 15A NCAC 02D .0608
	see Section 2.2 J.1	15A NCAC 02D .0501
Total Reduced Sulfur	5 ppm (as H_2S) by volume on a dry basis, corrected to 8 percent oxygen	15A NCAC 02D .0528
Particulate Matter	Compliance assurance monitoring	15A NCAC 02D .0614
Carbon Monoxide and Volatile Organic Compounds	Annual recordkeeping and reporting of actual emissions (See Section 2.2 A.3)	15A NCAC 02D .0530(u)
Visible Emissions Hazardous Air Pollutants	See Section 2.2 D	15A NCAC 02D .1111 40 CFR Part 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. 11 Recovery Furnace **(ID No. G08021)** into the atmosphere shall not exceed:
   i. 3.0 pounds of particulate matter per equivalent tons of air dried pulp, and
   ii. Visible emissions shall not be more than 35 percent opacity when averaged over a six-minute period. However, six-minute averaging periods may exceed 35 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 89 percent opacity.

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

b. Under the provisions of NCGS 143-215.108, the Permittee shall demonstrate compliance with the emission limit(s) above by testing the No. 11 Recovery Furnace **(ID No. G08021)** annually for particulate matter in accordance with a testing protocol approved by the DAQ. Details of the emissions testing and reporting requirements can be found in General Condition JJ. If the results of the testing demonstrate that emissions are less than 80 percent of the limit in Section 2.1 L.1.a, above, the testing frequency may be reduced to every two years. If the results of this or any test are above the limit given in Section 2.1 L.1.a, above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0508 and the Permittee shall resume performance testing on an annual basis, beginning no more than 12 months after the previous test.

Monitoring/Recordkeeping/Reporting [15A NCAC 02Q .0508(f), 40 CFR 70.6(a)(3)(A)]

c. Particulate matter emissions from the No. 11 Recovery Furnace **(ID No. G08021)** shall be controlled by an electrostatic precipitator (ESP) **(ID No. 08-CD-001-01)**. To ensure compliance with the particulate matter emission limit in Section 2.1 L.1.a.i, above, the Permittee shall follow the 40 CFR Part 63, Subpart MM monitoring, recordkeeping, and reporting requirements as specified in Section 2.2 D. Excess emissions shall be in reported in accordance with 15A NCAC 02D .0535 as outlined in General Condition I. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0508 if either (1) the applicable MACT Subpart MM requirements above are not monitored and recorded or (2) the MACT Subpart MM monitoring determines a violation of the applicable PM emission standard per 63.864(k)(2) as detailed above.

Monitoring/Recordkeeping [15A NCAC 02Q .0508(f), 40 CFR 70.6(a)(3)(A)]

d. To determine compliance with the opacity limits in condition 2.1 L.1.a.ii, the Permittee shall follow the 40 CFR 63, Subpart MM continuous opacity monitoring system (COMS) monitoring requirements as specified in Section 2.2 D to monitor and record opacity. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0508 if the monitoring is not performed, if the monitored values exceed the limitations given above, or if the records are not maintained.

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

e. The Permittee shall submit a summary report of the monitoring data 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
15A NCAC 02D .0608: OTHER LARGE COAL OR RESIDUAL OIL BURNERS

a. Emissions of sulfur dioxide from the No. 11 Recovery Furnace **(ID No. G08021)** 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 found in Section 3. If the results of this test are above the limit given in Section 2.1 L.2.a, above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0516 and 02D .0608.

Monitoring/Recordkeeping [15A NCAC 02Q .0508(f), and 02D .0608]

c. No monitoring/recordkeeping is required for sulfur dioxide emissions from the firing of natural gas/No. 2 fuel oil in this Recovery Furnace **(ID No. G08021)**.

d. To ensure compliance with Section 2.1 L.2.a, the Permittee shall monitor the sulfur content and heat content of the No. 6 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) and include the following information:
   i. the name of the fuel oil supplier; and
   ii. a statement verifying that the methods used to determine the maximum sulfur content of the fuel oil was in accordance with the following:
      (A) sample collection – ASTM D4177 or D4057;
      (B) heat of combustion (Btu) – ASTM D240 or D4868; and
      (C) sulfur content – ASTM D129, D-4294, or D1552.
   iii. the maximum sulfur content of the fuel oil received during the month;
   iv. the average heat content of the fuel oil received during the month; and
   v. 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 and 02D .0608 if the results of the fuel oil supplier certifications are not monitored and recorded.

e. The Permittee shall calculate and record in a logbook (written or electronic format) the pounds of sulfur dioxide per million Btu heat content of the fuel oil per month using the above information. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0516 and 02D .0608 if the requirements above are not monitored and recorded or if the results show an exceedance of the limit given in Section 2.1 L.2.a, above.

Reporting [15A NCAC 02Q .0508(f) and 02D .0608]

f. No reporting is required for sulfur dioxide emissions from the firing of natural gas/No. 2 fuel oil in this Recovery Furnace **(ID No. G08021)**.

g. The Permittee shall submit a summary report of the fuel oil supplier certifications and calculated emission rates 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 .0528: TOTAL REDUCED SULFUR FROM KRAFT PULP MILLS

a. The emissions of total reduced sulfur from the No. 11 Recovery Furnace (**ID No. G08021**) shall not exceed 5 parts per million corrected to 8 percent oxygen, measured as hydrogen sulfide on a dry gas basis and averaged per discrete contiguous 12-hour time 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 L.3.a, above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0528.

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

c. To ensure compliance, the Permittee shall calibrate, maintain, and operate a continuous monitoring system for determining the total reduced sulfur (as hydrogen sulfide, dry basis, corrected to 8 percent oxygen) emissions discharged to the atmosphere and record the output of the system. The continuous monitoring system shall be operated in accordance with the applicable performance specifications in 40 CFR Part 60 Appendix B and quality assurance procedures in 40 CFR Part 60, Appendix F, Section 3, unless an alternative monitoring and quality assurance program is approved by the DAQ. The monitoring system downtime shall not exceed 5 percent. If any 12-hour block average exceeds the limit above or the records are not maintained, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0528, except that one percent of all 12-hour total reduced sulfur averages per quarter year in excess of the limitation given above, in the absence of start-ups, shutdowns, and malfunctions, shall not be considered in violation.

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

d. 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.

4. 15A NCAC 02D .0614: COMPLIANCE ASSURANCE MONITORING

a. For the electrostatic precipitator **(ID No. 08-CD-002-01)** associated with the No. 11 Recovery Furnace **(ID No. G08021)**, the Permittee shall comply with 40 CFR part 64 pursuant to 15A NCAC 02D .0614 to ensure that the recovery furnace complies with the emission limits of 15A NCAC 02D .0508.

Background

b. Emission Units: No. 11 Recovery Furnace **(ID No. G08021)**

c. Applicable Regulation, Emission Limitation, and Monitoring Requirements
   i. Regulation: 15A NCAC 02D .0508: Particulates from Pulp and Paper Mills
   ii. Emission Limits:
   PM: 3.0 pounds of particulate matter per equivalent tons of air dried pulp.
   iii. Control Technology: Electrostatic precipitator (ESP)

Monitoring Approach

d. The key elements of the monitoring approach for particulate matter, including parameters to be monitored, parameter ranges and performance criterial are presented in the following table.

Measure	Indicator
I. Indicator	Opacity of ESP exhaust
Measuring approach	Continuous opacity monitoring system (COMS) in ESP exhaust
II. Indicator Range	The opacity indicator range is a 1-hour average opacity of 20 percent. An excursion occurs when any 1-hour average opacity is greater than 20 percent. The excursion triggers corrective action and reporting requirement. The QIP threshold is when the total duration of excursions is greater than 5 percent of the source operating time during any 6-month period. The QIP shall be prepared as required under 40 CFR 64.8.

Measure	Indicator
III. Performance Criteria	
Data Representativeness	The COMS was installed at a representative location in the recovery furnace ESP exhaust stack per 40 CFR 60, Appendix B, Performance Specification (PS-1)
QA/QC Practices and Criteria	The COMS was initially installed and evaluated per PS-1. Zero and span drift are checked daily and a quarterly filter audit is performed.
Monitoring Frequency	The opacity of the ESP exhaust is monitored continuously (every 10 seconds)
Data Collection Procedures	The data acquisition system shall retain all 6-minute data and 3-hour block averages pursuant to PS-1.
Averaging Period	The 10-second opacity data are used to calculate the 6-minute averages. The 6-minute averages are used to calculate the 3-hour block average.

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

e. 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 from 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 Permittee 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.

M. Black liquor oxidation system (ID No. G08022a):

- **Collection of vent gases from black liquor oxidation (No. 08-PU-005) – equipped with three cyclones, one on each oxidizer tank (ID No. CD-BLO) followed by one natural gas-fired regenerative thermal oxidizer (4.2 million Btu per hour heat input, ID No. CD-BLOXRTO) and one caustic scrubber (ID No. CD-RTOSCR)**

NOTE: Only two of the three oxidizer tanks are required to operate if one of the recovery furnaces is down

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

Pollutant	Limits/Standards	Applicable Regulation
Sulfur Dioxide	Less than 40 tons per consecutive twelve-month period	15A NCAC 02Q .0317 (15A NCAC 02D .0530 Avoidance)
	see Section 2.2 J.1	15A NCAC 02D .0501
Sulfuric Acid	Less than 7 tons per consecutive twelve-month period	15A NCAC 02Q .0317 (15A NCAC 02D .0530 Avoidance)
Hazardous Air Pollutants	See Section 2.2 C.2	15A NCAC 02D .1111 (40 CFR Part 63, Subpart S) via Equivalency by Permit (EBP) [40 CFR 63.94]

1. 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 BLOX System **(ID No. G08022a)** shall discharge into the atmosphere:
   i. less than 40 tons per consecutive twelve-month period of sulfur dioxide; and
   ii. less than 7 tons per consecutive twelve-month period of sulfuric acid.

b. To ensure that emissions are less than the above-specified limits, the Black Liquor Oxidation System thermal oxidizer (ID No. CD-BLOXRTO) is permitted to burn only BLOX gases and natural gas as an auxiliary fuel.

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 M.1.a, above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0530.

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

d. Sulfur dioxide and sulfuric acid emissions from the BLOX system **(ID No. G08022a)** shall be controlled by the RTO scrubber **(ID No. CD-RTOSCR)**. To ensure compliance, the Permittee shall install, calibrate, operate, and maintain a continuous pH indicator and a scrubbing liquid flow meter on the RTO scrubber. These parameters shall be recorded pursuant to General Condition O. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0530 if these parameters are not monitored or the records are not maintained.

e. The Permittee shall monitor the following parameters daily for values outside the normal operating range, as specified:
   i. The pH shall be greater than or equal to 8.0 standard units; and
   ii. The scrubbing liquid flow rate shall be greater than or equal to 400 gallons per minute.
   The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0530 if these parameters are not monitored.

f. The Permittee shall calculate the sulfur dioxide emissions from the BLOX System **(ID No. G08022a)** on a monthly basis to ensure compliance with the limits given in Section 2.1 M.1.a, above. The RTO scrubber is required to be operated only as necessary to achieve compliance with the limitations above. Sulfur dioxide emissions shall be determined by the following:
   i. When the RTO Scrubber is operating within the monitoring parameter values established above, the sulfur dioxide emissions shall be calculated by multiplying the total amount of operating time by the maximum controlled emission factor of 0.5 pounds per hour;

ii. When the RTO Scrubber is not in operation or is not operating within the monitoring parameter values established above, the sulfur dioxide emissions shall be calculated by multiplying the total amount of operating time by the maximum uncontrolled emission factor of 25 pounds per hour; and
iii. When the thermal oxidizer **(ID No. CD-BLOXRTO)** is not in operation, the RTO scrubber is not required, and the sulfur dioxide emissions are zero.

The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0530 if the amounts of sulfur dioxide emissions are not calculated and recorded.

g. Calculations and the total amount of sulfur dioxide emissions from the BLOX System **(ID No. G08022a)** shall be recorded monthly in a logbook (written or electronic format), maintained on-site and made available to officials of the Division of Air Quality, upon request. The Permittee must keep each entry in the log and all required records on file for a minimum of five years. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0530 if the sulfur dioxide emissions exceed the limit in Section 2.1 M.1.a, above, or if the records are not maintained.

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

h. 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. The report shall contain the monthly sulfur dioxide emissions totaled for the previous seventeen months. The emissions shall be calculated for each of the twelve month periods over the previous seventeen months.

N. Two Smelt Dissolving Tanks:

- **No. 10 Smelt Dissolving Tank (ID No. G08023, No. 08-PU-011) – equipped with a chevron mist eliminator (ID No. 08-CD-011-01) in series with a spray tower scrubber (ID No. 08-CD-011-02); and**
- **No. 11 Smelt Dissolving Tank (ID No. G08024, No. 08-PU-012) – equipped with a chevron mist eliminator (ID No. 08-CD-012-01) in series with a spray tower scrubber (ID No. 08-CD-012-02)**

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

Pollutant	Limits/Standards	Applicable Regulation
Particulate matter	0.6 lb per ton of air dried pulp	15A NCAC 02D .0508
Visible emissions	20 percent opacity	15A NCAC 02D .0521
Total reduced sulfur	0.016 g/kg black liquor solids as H_2S (0.033 lb/ton black liquor solids as H_2S)	15A NCAC 02D .0524 NSPS Subpart BB
Particulate matter	0.1 g/kg black liquor solids (dry weight) [(0.2 lb/ton black liquor solids (dry weight)]	15A NCAC 02D .0524 NSPS Subpart BB
Particulate matter	Compliance assurance monitoring	15A NCAC 02D .0614
Hazardous air pollutants	See Section 2.2 D	15A NCAC 02D .1111 40 CFR Part 63, Subpart MM
Sulfur Dioxide	see Section 2.2 J.1	15A NCAC 02D .0501

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 Nos. 10 and 11 Smelt Dissolving Tanks **(ID Nos. G08023 and G08024)** into the atmosphere shall not exceed 0.6 pounds of particulate matter per equivalent tons of air dried pulp.

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 .0508.

Monitoring/Recordkeeping/Reporting [15A NCAC 02Q .0508(f), 40 CFR 70.6(a)(3)(A)]

c. Particulate matter emissions from the No.10 Smelt Dissolving Tank (**ID No. G08023**) shall be controlled by a chevron mist eliminator in series with a spray tower scrubber **(ID No. 08-CD-011-01)**. Particulate matter emissions from the No.11 Smelt Dissolving Tank **(ID No. G08024)** shall be controlled by a chevron mist eliminator in series with a spray tower scrubber **(ID No. 08-CD-012-01)**. To ensure compliance with the particulate emission limit in Section 2.1 N.1.a, above, the Permittee shall follow the 40 CFR Part 63, Subpart MM monitoring, recordkeeping and reporting requirements as specified in Section 2.2 D. Excess emissions shall be in reported in accordance with 15A NCAC 02D .0535 as outlined in General Condition I. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0508 if either (1) the applicable MACT Subpart MM requirements above are not monitored and recorded or (2) the MACT Subpart MM monitoring determines a violation of the applicable PM emission standard per 63.864(k)(2) as detailed above.

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

a. Visible emissions from the No. 10 Smelt Dissolving Tank **(ID No. G08023)** and the No. 11 Smelt Dissolving Tank **(ID No. G08024)** 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 limits given in Section 2.1 N.2.a, above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0521.

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

c. To ensure compliance, once a week the Permittee shall observe the emission points of the No. 10 Smelt Dissolving Tank and No. 11 Smelt Dissolving Tank **(ID Nos. G08023 and G08024)** for any visible emissions above normal. The weekly observation must be made for each week of the calendar year period to ensure compliance with the requirement. If visible emissions from these sources are observed to be above normal, the Permittee shall either:
   i. take appropriate action to correct the above-normal emissions as soon as practicable and within the 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 N.2.a, above.

   If the above-normal emissions are not corrected per (i) above or if the demonstration in (ii) above cannot be made, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0521.

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.

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

a. For the Nos. 10 and 11 Smelt Dissolving Tanks **(ID Nos. G08023 and G08024)**, 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."

Emissions Limitations [15A NCAC 02D .0524]

b. The Permittee shall not discharge into the atmosphere from the Nos. 10 and 11 Smelt Dissolving Tanks **(ID Nos. G08023 and G08024)** any gases which contain:
   i. particulate matter in excess of 0.1 g/kg black liquor solids (dry weight) [(0.2 lb/ton black liquor solids (dry weight)][40 CFR Part 60, Subpart 60.282(a)(2)]; or
   ii. TRS in excess of 0.016 g/kg black liquor solids TRS as H2S (0.033 lb/ton black liquor solids TRS as H2S) [40 CFR Part 60, Subpart 60.283(a)(4)].

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

c. The Permittee shall demonstrate compliance with the emission limit(s) above by testing the Nos. 10 and 11 Smelt Dissolving Tanks **(ID Nos. G08023 and G08024)** in accordance with a testing protocol approved by the DAQ. Details of the emissions testing and reporting requirements can be found in General Condition JJ. Testing shall be completed once per calendar year and the results submitted to the DAQ. If the results of the testing demonstrate results at less than 80 percent of the limit above, the testing frequency may be reduced to every five years. If the results of this or any test is above the limit given in Section 2.1 N.3.b, above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0524.

Monitoring/Recordkeeping [15A NCAC 02D .0524]

d. Particulate matter emissions from the reconstructed Nos. 10 and 11 Smelt Dissolving Tanks **(ID Nos. G08023 and G08024)** shall be controlled by the spray tower/chevron mist eliminator control system installed on each smelt dissolving tank **(ID Nos. 08-CD-011-01 and CD-012-01)** as described above. To ensure compliance, the Permittee shall install, calibrate, maintain, and operate the following continuous monitoring systems: [40 CFR 60.284(b)(2)]
   i. A monitoring device for the continuous measurement of the pressure loss of the gas stream through the control equipment. The monitoring device shall be certified by the manufacturer to be accurate to within a gauge pressure of ±500 Pascals (ca. ±2 inches water gauge pressure), and
   ii. A monitoring device for the continuous measurement of the scrubbing liquid supply pressure to the control equipment. The monitoring device shall be certified by the manufacturer to be accurate within ±15 percent of design scrubbing liquid supply pressure. The pressure sensor or tap is to be located close to the scrubber liquid discharge point. The Administrator may be consulted for approval of alternative locations.

   The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0524 if the particulate matter emissions are not controlled as required above.
e. The Permittee shall record the results of these measurements at least once per shift. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0524 if these parameters are not monitored or these records are not maintained.
f. The Permittee shall establish operating ranges and otherwise operate and control the emissions from the Nos. 10 and 11 Smelt Dissolving Tanks **(ID Nos. G08023 and G08024)** in accordance with the procedures in Section 2.2 D.1.g through D.1.h. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0524 if any of these operating parameters are outside the parameter values in Table 2.2 D-2 of Section 2.2 D.1.

Reporting [15A NCAC 02D .0524]

g. 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.

4. 15A NCAC 02D .0614: COMPLIANCE ASSURANCE MONITORING

a. For the chevron mist eliminators **(ID Nos. 08-CD-011-01 and 08-CD-012-01)** and spray tower scrubbers **(ID Nos. 08-CD-011-02 and 08-CD-012-02)** associated with the Nos. 10 and 11 Smelt Dissolving Tanks **(ID No. G08023 and G08024)**, respectively, the Permittee shall comply with 40 CFR part 64 pursuant to 15A NCAC 02D .0614 to ensure that the smelt dissolving tanks comply with the emission limits of 15A NCAC 02D .0508.

Background

b. Emission Units: No. 10 Smelt Dissolving Tank **(ID No. G08023)**
   No. 11 Smelt Dissolving Tank **(ID No. G08024)**

c. Applicable Regulation, Emission Limitation, and Monitoring Requirements:
   i. Regulation: 15A NCAC 02D .0508: Particulates from Pulp and Paper Mills
   ii. Emission Limits:
   PM: 0.6 pounds of particulate matter per equivalent tons of air dried pulp.
   iii. Control Technology: chevron mist eliminator
   spray tower scrubber

Monitoring Approach

d. The key elements of the monitoring approach for particulate matter, including parameters to be monitored, parameter ranges and performance criterial are presented in the following table.

Measure	Indicator	
	No. 10 Smelt Dissolving Tank	**No. 11 Smelt Dissolving Tank**
I. Indicator	Scrubber pressure drop and total liquid injection rate (firing floor plus demister)	Scrubber pressure drop and total liquid injection rate (firing floor plus demister)
Measuring approach	Install pressure drop and flow rate continuous monitors	Install pressure drop and flow rate continuous monitors

Measure	Indicator	
II. Indicator Range[a]	Pressure drop indicator range: minimum 3-hour average of 0.12 inches of H_2O Liquid injection rate indicator range: minimum 3-hour average 30 gallons per minute An excursion occurs when the 3-hour average measurement is less than the indicator range. The excursion triggers corrective action and reporting requirement. No more than one excursion will be attributed in any given 24-hour period. The QIP threshold is a total of 6 excursions during any 6-month period. The QIP shall be prepared as required under 40 CFR 64.8.	Pressure drop indicator range: minimum 3-hour average of 1.50 inches of H_2O Liquid injection rate indicator range: minimum 3-hour average 74 gallons per minute An excursion occurs when the 3-hour average measurement is less than the indicator range. The excursion triggers corrective action and reporting requirement. No more than one excursion will be attributed in any given 24-hour period. The QIP threshold is a total of 6 excursions during any 6-month period. The QIP shall be prepared as required under 40 CFR 64.8.
III. Performance Criteria		
Data Representativeness	Pressure drop tabs installed before and after the scrubber. Flow measurement devices located prior to liquid injection point.	Pressure drop tabs installed before and after the scrubber. Flow measurement devices located prior to liquid injection point.
QA/QC Practices and Criteria	Annual calibration of pressure drop and flow monitoring devices.	Annual calibration of pressure drop and flow monitoring devices.
Monitoring Frequency	Continuous pressure drop and flow measurements; minimum of one value every 15 minutes of operating time, excluding periods of monitoring downtime and required QA/QC.	Continuous pressure drop and flow measurements; minimum of one value every 15 minutes of operating time, excluding periods of monitoring downtime and required QA/QC.
Data Collection Procedures	The data acquisition system shall retain all 15-minute data and 3-hour block averages.	The data acquisition system shall retain all 15-minute data and 3-hour block averages.
Averaging Period	The 15-minute pressure drop and liquid injection rate data are used to calculate the 3-hour block average.	The 15-minute pressure drop and liquid injection rate data are used to calculate the 3-hour block average.

[a]During performance testing, the established continuous compliance monitoring parameters shall not apply. Performance tests will serve to provide the monitoring during these periods.

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

e. 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 from 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 Permittee 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.

LIME PRODUCTION (AREA 09)

O. Two Lime Kilns:

- **No. 4 Lime Kiln (ID No. G09028, No. 09-PU-009) – equipped with propane igniters equipped with a cyclonic mist eliminator in series with a flooded-disc type wet scrubber (ID No. 09-CD-009-01).**
- **No. 5 Lime Kiln (ID No. G09029, No. 09-PU-010) – equipped with propane igniters equipped with one 4-stage MicroMist^{TM} venturi scrubber (ID No. 09-CD-010-01).**

No. 4 Lime Kiln is the primary burner and No. 5 Lime Kiln is backup burner for collected NCG gases from the Digester Area (ID No. G02004), Black Liquor Evaporation System (ID No. G07016), No. 1 Hardwood Turpentine Recovery System (ID No. G20060), and No. 2 Pine Turpentine Recovery System (ID No. G20062); No. 5 Lime Kiln is the primary burner and No. 4 Lime Kiln is backup burner for Stripper Off Gases (SOG) from the Condensate Stripper System (ID No. G07018).

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

Pollutant	Limits / Standards	Applicable Regulation
Particulate Matter	0.5 pounds per ton of air dried pulp	15A NCAC 02D .0508
Sulfur Dioxide	2.3 pounds per million Btu heat input	15A NCAC 02D .0516
	see Section 2.2 J.1	15A NCAC 02D .0501
Visible Emissions	40 percent opacity	15A NCAC 02D .0521
Total Reduced Sulfur	20 ppm by volume on a dry basis, corrected to 10 percent oxygen	15A NCAC 02D .0528
Particulate Matter	Compliance assurance monitoring	15A NCAC 02D .0614
Carbon Monoxide and Volatile Organic Compounds	Annual recordkeeping and reporting of actual emission (See Section 2.2 A.3)	15A NCAC 02D .0530(u)
Hazardous Air Pollutants	See Section 2.2 D	15A NCAC 02D .1111 40 CFR Part 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 Nos. 4 and No. 5 Lime Kilns (**ID Nos. G09028 and G09029)** into the atmosphere shall not exceed 0.5 pounds of particulate matter per equivalent tons of air dried pulp.

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

b. The Permittee shall demonstrate compliance with the particulate matter emission limit specified in Section 2.1 O.1.a, above, by testing the Nos. 4 and No. 5 Lime Kilns **(ID Nos. G09028 and G09029)** in accordance with a testing protocol approved by the DAQ and the following schedule. Testing shall be performed in accordance with General Condition JJ.
   i. The Permittee shall conduct performance tests on the Nos. 4 and 5 Lime Kilns no later than 180 days after the scrubbers become operational following the upgrades specified in Permit Application No. 4400159.20B.
   ii. The Permittee shall conduct periodic performance tests on an annual basis. If the results of the testing demonstrate that emissions are less than 80 percent of the limit in Section 2.1 O.1.a, above, the testing frequency may be reduced to once every two years.
   iii. If the results of any test are 80 percent or greater than the limit specified in Section 2.1 O.1.a, above, the Permittee shall resume performance testing on an annual basis, beginning no more than 12 months after the previous test.

The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0508 if the results of any test are above the limit specified in Section 2.1 O.1.a, above, or if testing is not performed as specified.

Monitoring/Recordkeeping/Reporting [15A NCAC 02Q .0508(f), 40 CFR 70.6(a)(3)(A)]

c. Particulate matter emissions from the No. 5 Lime Kiln **(ID No. G09029)** shall be controlled by the 4-stage MicroMist™ venturi scrubber **(ID No. 09-CD-010-01)**. To ensure compliance with the particulate emission limit in Section 2.1 O.1.a, above, the Permittee shall follow the 40 CFR Part 63, Subpart MM monitoring, recordkeeping, and reporting requirements as specified in Section 2.2 D.1. Excess emissions shall be reported in accordance with 15A NCAC 02D .0535 as outlined in General Condition I. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0508 if either (1) the applicable MACT Subpart MM requirements above are not monitored and recorded or (2) the MACT Subpart MM monitoring determines a violation of the applicable PM emission standard per 63.864(k)(2) as detailed above.

d. Particulate matter emissions from the No. 4 Lime Kiln **(ID No. G09028)** shall be controlled by the flooded disc-type wet scrubber **(ID No. 09-CD-009-01)**. To ensure compliance with the particulate emission limit in Section 2.1 O.1.a, above, the Permittee shall meet the following:
   i. When the combustion of No. 6 fuel oil provides greater than 50 percent of the heat input to the No. 4 Lime Kiln **(ID No. G09028)**, the Permittee shall follow the 40 CFR Part 63, Subpart MM monitoring, recordkeeping, and reporting requirements as specified in Section 2.2 D.1. Excess emissions shall be reported in accordance with 15A NCAC 02D .0535 as outlined in General Condition I.
   ii. When the combustion of No. 6 fuel oil provides 50 percent or less of the heat input to the No. 4 Lime Kiln **(ID No. G09028)**, the Permittee shall perform inspections and maintenance as recommended by the manufacturer.

   The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0508 if the scrubber is not inspected and maintained.

e. To demonstrate compliance with the particulate matter emission limit in Section 2.1 O.1.a, above, the Permittee shall install, operate, and maintain a pressure drop indicator and a liquid flowmeter on each scrubber.
   i. The Permittee shall operate the No. 5 Lime Kiln scrubber **(ID No. 09-CD-010-01)** pursuant to the Subpart MM requirements in Section 2.2 D.1, below.
   ii. The Permittee shall operate the No. 4 Lime Kiln scrubber **(ID No. 09-CD-009-01)** pursuant to the Subpart MM requirements in Section 2.2 D.1, below, when No. 6 fuel oil combustion provides greater than 50 percent of the heat input to the kiln.
   iii. When No. 6 fuel oil combustion provides 50 percent or less of the heat input to the kiln, the Permittee shall operate the No. 4 Lime Kiln scrubber **(ID No. 09-CD-009-01)** as follows.
      (A) The Permittee shall continuously monitor and record scrubbing liquid flow rate and pressure drop on a 3-hour average. The scrubber parameter monitoring system downtime shall not exceed two (2) percent of the monitoring time in any semi-annual reporting period. If the emission source is not operating, a record of this fact along with the corresponding date and time shall substitute for the observation. The monitoring systems shall be calibrated annually.
      (B) Prior to the upgrades to the No. 4 Lime Kiln scrubber **(ID No. 09-CD-009-01)**, as specified in Permit Application No. 4400159.20B, the Permittee shall maintain the pressure drop across the scrubber above a minimum of 28.6 inches of H_2O and the Permittee shall maintain the scrubber liquid injection rate above a minimum of 302 gallons per minute.
      (C) After normal operation begins following the upgrades to No. 4 Lime Kiln scrubber **(ID No. 09-CD-009-01)** specified in Permit Application No. 4400159.20B, the Permittee shall maintain the pressure drop across the scrubber in inches of H_2O and the scrubber liquid injection rate in gallons per minute above minimum operating parameters recommended by the manufacturer. The Permittee shall establish the site-specific operating parameters during the initial performance test specified in Section 2.1 O.1.b.i, above.

   The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0508 if the pressure drop and liquid flow rate are not established and maintained as required above.

f. 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 actions recorded;
   ii. the results of each respective monthly inspection;
   iii. the results of any maintenance performed on the control devices; and
   iv. any variance from manufacturer's recommendations, if any, and corrections made.

   The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0508 if these records are not maintained.

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

a. Emissions of sulfur dioxide from this source 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 O. 2. a. above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0508.

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

c. No monitoring/recordkeeping is required for sulfur dioxide emissions from the firing of natural gas in the lime kilns **(ID Nos. G09028 and G09029)**.

d. To ensure compliance with 2.1 O.2.a, the Permittee shall monitor the sulfur content and heat content of the No. 6 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 month;
   iii. the average heat content of the fuel received during the month;
   iv. the method used to determine the maximum sulfur and heat content of the fuel oil;
   v. the calculation of lb SO_2 per million Btu; and
   vi 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 and heat content of the oil are not monitored and recorded.

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

e. No reporting is required for sulfur dioxide emissions from the firing of natural gas in the lime kilns **(ID Nos. G09028 and G09029)**.

f. The Permittee shall submit a summary report of the fuel oil supplier certifications and calculated emission rates 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. 4 Lime Kiln **(ID No. G09028)** and the No. 5 Lime Kiln **(ID No. G09029)** shall not be more than 40 percent opacity when averaged over a six-minute period. However, six-minute averaging periods may exceed 40 percent of 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.

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

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

c. To ensure compliance, once a day while in operation the Permittee shall observe the emission points of the Nos. 4 and 5 Lime Kilns **(ID Nos. G09028 and G09029)** for any visible emissions above normal. The daily observation must be made for each day of the calendar year period to ensure compliance with this requirement. The Permittee shall be allowed three (3) days of absent observations per semi-annual period. If the weather conditions (i.e. fog) are such that the source emission points of this source cannot be observed, the Permittee shall make a minimum of two (2) attempts to make the required observation, a record of this fact along with the corresponding date and time(s) shall substitute for the daily observation. The Permittee shall establish "normal" for the Nos. 4 and 5 Lime Kilns in the first 30 days of the resumption of normal operations following the scrubber upgrades specified in Permit Application No. 4400159.20B. If visible emissions from these sources are observed to be above normal, the Permittee shall either:
   i. take appropriate action to correct the above-normal emissions as soon as practicable and within the monitoring period and record the action taken as provided in the recordkeeping requirements below, or

ii. demonstrate that the percent opacity from the emission points of the emission source in accordance with 15A NCAC 02D .2610 (Method 9) for 12 minutes is below the limit given in Section 2.1 O.3.a, above.

The Permittee shall be deemed to be in noncompliance with 15A NCAC 02D .0521 if the required daily observations are not conducted as required; if the above-normal emissions are not corrected within the monitoring period or the percent opacity demonstration cannot be made; or if "normal" is not established for this/these source(s) in the first 30 days of the resumption of normal operations following the scrubber upgrades specified in Permit Application No. 4400159.20B.

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.

4. 15A NCAC 02D .0528: TOTAL REDUCED SULFUR FROM KRAFT PULP MILLS

a. The emissions of total reduced sulfur shall not exceed 20 ppm by volume on a dry basis, corrected to 10 percent oxygen, measured as hydrogen sulfide and averaged per discrete contiguous 12-hour time period, from the No. 4 Lime Kiln **(ID No. G09028)** or the No. 5 Lime Kiln **(ID No. G09029)**.

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.4.a, above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0528

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

c. To ensure compliance, the Permittee shall calibrate, maintain, and operate a continuous monitoring system for determining the total reduced sulfur (as hydrogen sulfide, dry basis, corrected to 10 percent oxygen) emissions discharged to the atmosphere and record the output of the system. The continuous monitoring system shall be operated in accordance with the applicable performance specifications in 40 CFR Part 60 Appendix B and quality assurance procedures in 40 CFR Part 60, Appendix F, Section 3, unless an alternative monitoring and quality assurance program is approved by the DAQ. The monitoring system downtime shall not exceed 5 percent. If any 12-hour block average exceeds the limit above or the records are not maintained, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0528, except that two percent of all 12-hour total reduced sulfur averages per quarter year in excess of the limitation in Section 2.1 O.4.a, above, in the absence of start-ups, shutdowns, and malfunctions, shall not be considered in violation.

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

d. 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.

5. 15A NCAC 02D .0614: COMPLIANCE ASSURANCE MONITORING

a. For the cyclone mist eliminators in series with wet scrubbers **(ID Nos. 09-CD-009-01 and 09-CD-010-01)** associated with the No. 4 Lime Kiln **(ID Nos. G09028 and G09029)**, the Permittee shall comply with 40 CFR part 64 pursuant to 15A NCAC 02D .0614 to ensure that the lime kilns comply with the emission limits of 15A NCAC 02D .0508.

Background

b. Emission Units: No. 4 Lime Kiln **(ID No. G09028)**
No. 5 Lime Kiln **(ID No. G09029)**

c. Applicable Regulation, Emission Limitation, and Monitoring Requirements
i. Regulation: 15A NCAC 02D .0508: Particulates from Pulp and Paper Mills
ii. Emission Limits:
PM: 0.5 pounds of particulate matter per equivalent tons of air dried pulp.
iii. Control Technology: cyclone mist eliminator in series with a flooded disc-type wet scrubber

Monitoring Approach

d. The key elements of the monitoring approach for particulate matter, including parameters to be monitored, parameter ranges and performance criterial are presented in the following table.

	Indicator		
Measure	**No. 4 Lime Kiln (≤ 50 percent of heat input from No. 6 fuel oil)**	**No. 4 Lime Kiln (> 50 percent of heat input from No. 6 fuel oil)**	**No. 5 Lime Kiln**
I. Indicator	Scrubber differential pressure and scrubber recirculation liquid flow rate	Scrubber differential pressure and total liquid injection rate	Scrubber differential pressure and total liquid injection rate (venturi liquid flow plus quench liquid flow)
Measuring approach	Install pressure drop and flow rate continuous monitors	Install pressure drop and flow rate continuous monitors	Install pressure drop and flow rate continuous monitors
II. Indicator Range[a,b]	Scrubber differential pressure indicator range: minimum 3-hour average of 28.6 inches of H_2O. Scrubber recirculation liquid flow rate indicator range: minimum 3-hour average of 302 gallons per minute. An excursion occurs when the 3-hour average measurement is less than the indicator range. The excursion triggers corrective action and reporting requirement. No more than one excursion will be attributed in any given 24-hour period. The QIP threshold is a total of 6 excursions during any 6-month period. The QIP shall be prepared as required under 40 CFR 64.8.	Scrubber differential pressure indicator range: minimum 3-hour average of 20 inches of H_2O Scrubber recirculation liquid flow rate indicator range: minimum 3-hour average of 289 gallons per minute. An excursion occurs when the 3-hour average measurement is less than the indicator range. The excursion triggers corrective action and reporting requirement. No more than one excursion will be attributed in any given 24-hour period. The QIP threshold is a total of 6 excursions during any 6-month period. The QIP shall be prepared as required under 40 CFR 64.8.	Pressure drop indicator range: minimum 3-hour average of 19.2 inches of H_2O Scrubber liquid injection rate indicator range: minimum 3-hour average 376 gallons per minute (venturi plus quench liquid flow rate) An excursion occurs when the 3-hour average measurement is less than the indicator range. The excursion triggers corrective action and reporting requirement. No more than one excursion will be attributed in any given 24-hour period. The QIP threshold is a total of 6 excursions during any 6-month period. The QIP shall be prepared as required under 40 CFR 64.8.
III. Performance Criteria Data Representativeness	Pressure drop tabs installed before and after the scrubber. Flow measurement devices located prior to liquid injection point.	Pressure drop tabs installed before and after the scrubber. Flow measurement devices located prior to liquid injection point.	Pressure drop tabs installed before and after the scrubber. Flow measurement devices located prior to liquid injection point.
QA/QC Practices and Criteria	Annual calibration of pressure drop and flow monitoring devices.	Annual calibration of pressure drop and flow monitoring devices.	Annual calibration of pressure drop and flow monitoring devices.

Measure	Indicator		
Monitoring Frequency	Continuous pressure drop and flow measurements; minimum of one value every 15 minutes of operating time, excluding periods of monitoring downtime and required QA/QC.	Continuous pressure drop and flow measurements; minimum of one value every 15 minutes of operating time, excluding periods of monitoring downtime and required QA/QC.	Continuous pressure drop and flow measurements; minimum of one value every 15 minutes of operating time, excluding periods of monitoring downtime and required QA/QC.
Data Collection Procedures	The data acquisition system shall retain all 15-minute data and 3-hour block averages.	The data acquisition system shall retain all 15-minute data and 3-hour block averages.	The data acquisition system shall retain all 15-minute data and 3-hour block averages.
Averaging Period	The 15-minute pressure drop and liquid injection rate data are used to calculate the 3-hour block average.	The 15-minute pressure drop and liquid injection rate data are used to calculate the 3-hour block average.	The 15-minute pressure drop and liquid injection rate data are used to calculate the 3-hour block average.

[a]During performance testing, the established continuous compliance monitoring parameters shall not apply. Performance tests will serve to provide the monitoring during these periods.
[b]Following the upgrades to the scrubbers the Permittee shall establish the new minimum scrubbing liquid injection rate and pressure drop during the initial performance test required in Section 2.1 O.1.b, above.

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

e. 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 from 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 Permittee 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.

P. No. 5 Lime Silo Dust Collection System (ID No. G09032):

- **No. 5 lime storage silo (No. 09-TK-013)**
- **Hot Lime Conveyor (No. 09-PU-014)**
- **Lime Crusher (No. 09-PU-015)**
- **Bucket Elevator (No. 09-PU-016)**

Equipped with a cartridge-type bagfilter (ID No. 09-CD-013-01)

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

Pollutant	Limits/Standards	Applicable Regulation
Particulate Matter	$E = 4.10\ P^{0.67}$ where: E = allowable particulate emission rate in pounds per hour P = process weight rate in tons per hour	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 No. 5 lime silo dust collection system **(ID No. G09032)** 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

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 P.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 No. 5 lime silo dust collection system **(ID No. G09032)** shall be controlled by the cartridge bagfilter **(ID No. 09-CD-013-01)**. To ensure compliance, the Permittee shall perform inspections and maintenance. As a minimum, the inspection and maintenance requirement shall include the following:
   i. a monthly visual inspection (for each calendar month, not to exceed 6 weeks from the previous inspection) of the system ductwork and material collection unit for leaks; and
   ii. an annual internal inspection (for each calendar year, not to exceed 14 months from the previous inspection) of the cartridge filter structural integrity.

   The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0515 if the ductwork and cartridge filter 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 cartridge filter; and
   iv. any 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 any control device within 30 days of a written request by the DAQ.

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.

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

a. Visible emissions from the No. 5 lime silo dust collection system (**ID No. G09032**) 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 P.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 No. 5 lime silo dust collection system **(ID No. G09032)** 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 this source are observed to be above normal, the Permittee shall either:
   i. take appropriate action to correct the above-normal emissions as soon as practicable and within the monitoring period and record the action taken as provided in the recordkeeping requirements below, or
   ii. demonstrate that the percent opacity from the emission points of the emission source in accordance with 15A NCAC 02D .2610 (Method 9) for 12 minutes is below the limit given in Section 2.1 P. 2.a. above.

   If the above-normal emissions are not corrected per (i) above or if the demonstration per (ii) above cannot be made, the Permittee shall be deemed in noncompliance with 15A NCAC 02D.0521.

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 above normal 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 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.

Q. No. 6 lime silo dust collection system (ID No. G09031):

- **Lime Storage Silo (No. 09-TK-018),**
- **Fresh lime Storage Silo (No. 09-TK-019)**
- **No. 6 Hot Lime Conveyor (No. 09-PU-011)**
- **Lime Crusher (No. 09-PU-012)**
- **Bucket Elevator (No. 09-PU-013)**
  Equipped with a cartridge-type bagfilter (ID No. 09-CD-018-01)

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

Pollutant	Limits/Standards	Applicable Regulation
Particulate Matter	$E = 4.10\ P^{0.67}$ where: E = allowable particulate emission rate in pounds per hour P = process weight rate in tons per hour	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 No. 6 lime silo dust collection system **(ID No. G09031)** 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

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 Q.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 No. 6 lime silo dust collection system **(ID No. G09031)** shall be controlled by the cartridge bagfilter **(ID No. 09-CD-018-01)**. To ensure compliance, the Permittee shall perform inspections and maintenance. As a minimum, the inspection and maintenance requirement shall include the following:
   i. a monthly visual inspection (for each calendar month, not to exceed 6 weeks from the previous inspection) of the system ductwork and material collection unit for leaks; and
   ii. an annual internal inspection (for each calendar year, not to exceed 14 months from the previous inspection) of the cartridge filter structural integrity.

   The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0515 if the ductwork and cartridge filter 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 cartridge filter; and
   iv. any 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 any control device within 30 days of a written request by the DAQ.

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.

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

a. Visible emissions from the No. 6 lime silo dust collection system **(ID No. G09031)** 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 2.1 Q.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 sources for any visible emissions above normal. The monthly observation must be made for each month of the calendar year period to ensure compliance with this requirement. If visible emissions from this source are observed to be above normal, the Permittee shall either:
   i. take appropriate action to correct the above-normal emissions as soon as practicable and within the monitoring period and record the action taken as provided in the recordkeeping requirements below, or
   ii. demonstrate that the percent opacity from the emission points of the emission source in accordance with 15A NCAC 02D .2610 (Method 9) for 12 minutes is below the limit given in Section 2.1 Q.2.a, above.

   If the above-normal emissions are not corrected per (i) above or if the demonstration per (ii) above cannot be made, the Permittee shall be deemed in noncompliance with 15A NCAC 02D.0521.

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 above normal 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 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.

R. Lime Production - Other Units (ID No. G09027):

- **No. 4 Lime Pre-Coat Filter (No. 09-PU-001)**
- **No. 4 Lime Pre-Coat Filter Vacuum Pump (No. 09-PU-001a)**
- **No. 5 Lime Pre-Coat Filter (No. 09-PU-002)**
- **No. 5 Lime Pre-Coat Filter Vacuum Pump (No. 09-PU-002a)**
- **No. 6 Lime Pre-Coat Filter (No.09-PU-004)**
- **No. 6 Lime Pre-Coat Filter Vacuum Pump (No. 09-PU-004a),**

Dregs Filter (ID No. G09027-3)

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

Pollutant	Limits/Standards	Applicable Regulation
Toxic Air Pollutants	State Enforceable Only (See Section 2.2 H)	15A NCAC 02D .1100

CAUSTICIZING (AREA 10)

S. Slakers:

- **No. 5 Lime Slaker (ID No. G10035, No. 10-PU-027) – serves No. 5 Lime Kiln and controlled by a natural draft condensing scrubber (ID No. 10-CD-027-01)**
- **No. 6 Lime Slaker (ID No. G10034, No. 10-PU-036) – serves No. 4 Lime Kiln and controlled by a natural draft condensing scrubber (ID No. 10-CD-036-01)**

Green Liquor Clarification and Storage (ID No. G10089)

- **West Green Liquor Storage (No. 10-TK-002);**
- **North Green Liquor Storage (No. 10-TK-013);**
- **South Green Liquor Clarifier (No. 10-TK-005);**
- **North Green Liquor Clarifier (No. 10-TK-006)**

Green Liquor Stabilization (ID No. G10090, No. 10-TK-008)

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

Pollutant	Limits/Standards	Applicable Regulation
Particulate Matter	**Affected Sources: G10035 and G10034** $E = 4.10\ P^{0.67}$ where: E = allowable particulate emission rate in pounds per hour P = process weight rate in tons per hour	15A NCAC 02D .0515
Visible Emissions	**Affected Sources: G10035 and G10034** 20 percent opacity	15A NCAC 02D .0521
Toxic Air Pollutants	State Enforceable Only (See Section 2.2 H)	15A NCAC 02D .1100

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

a. Emissions of particulate matter from the Nos. 5 and 6 Lime Slakers **(ID Nos. G10035 and G10034)** 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

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)]

b. Particulate matter emissions from the No. 5 Lime Slaker **(ID No. G10035)** shall be controlled by the natural draft scrubber **(ID No. 10-CD-027-01)**. Particulate matter emissions from the No. 6 Lime Slaker **(ID No. G10034)** shall be controlled by the natural draft wet scrubber **(ID No. 10-CD-036-01)**. The Permittee shall install, operate, and maintain a wet scrubbing liquid flowmeter on each scrubber. To ensure compliance and the effective operation of the scrubbers, the Permittee shall monitor and record, once per day, scrubbing liquid flow rate. The Permittee shall be allowed three (3) days of absent observations per semi-annual period. If the emission source(s) is not operating, a record of this fact along with the corresponding date and time shall substitute for the daily observation. To ensure quality, the flow rate gauges shall be calibrated annually. The scrubber shall be operated to ensure the scrubbing liquid flow rate is greater than 30 gallons per minute. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0515 if the scrubber liquid flow rate is not maintained above the above prescribed limit or if these records are not maintained.

c.

d. If the scrubber liquid flow rate readings recorded as required in Section 2.1 S.1.c, above, are observed to be outside the prescribed range, the Permittee shall inspect the scrubber(s) 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 scrubber inspection and maintenance activities in Section 2.1 S.1.c and S.1.d, above, 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 prescribed operating range for the scrubber(s); and
   iv. 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 any control device within 30 days of a written request by the DAQ.
g. 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.

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

a. Visible emissions from the Nos. 5 and 6 Lime Slakers **(ID Nos. G10035 and G10034)** 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 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. To ensure compliance, once a month the Permittee shall observe the emission points of the Nos. 5 and 6 Lime Slakers **(ID Nos. G10035 and G10034)** 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 this source are observed to be above normal, the Permittee shall either:
   i. take appropriate action to correct the above-normal emissions as soon as practicable and within the monitoring period and record the action taken as provided in the recordkeeping requirements below, or
   ii. demonstrate that the percent opacity from the emission points of the emission source in accordance with 15A NCAC 02D .2610 (Method 9) for 12 minutes is below the limit given in Section 2.1 S.2.a, above.

   If the above-normal emissions are not corrected per (i) above or if the demonstration in (ii) above cannot be made, the Permittee shall be deemed in noncompliance with 15A NCAC 02D.0521.

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 above normal 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 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.

POWER (AREA 11)

T. Utility Boilers:

- **Riley Coal (ID No. G11039, No. 11-CU-005) – equipped with low-NO_X burners and natural gas/kerosene igniters; a 2-chamber, 3-field electrostatic precipitator (ID No. 11-CD-005-01); and a wet scrubber (ID No. 11-CD-005-02)**

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

Pollutant	Limits/Standards	Applicable Regulation
Particulate Matter	0.16 pounds per million Btu heat input	15A NCAC 02D .0503
Sulfur Dioxide	2.3 pounds per million Btu heat input Monitoring Requirements	15A NCAC 02D .0516 15A NCAC 02D .0608
	see Section 2.2 J.1	15A NCAC 02D .0501
Nitrogen Oxides	1.8 pounds per million Btu heat input	15A NCAC 02D .0519
Visible Emissions	40 percent opacity	15A NCAC 02D .0521
Visible Emissions	Excess Emissions Monitoring Requirements (40 CFR 51, Appendix P)	15A NCAC 02D .0606
Particulate Matter	Compliance assurance monitoring	15A NCAC 02D .0614
Particulate Matter	0.15 pounds per million Btu heat input (See Section 2.2 A.1)	15A NCAC 02D .0530
Nitrogen Oxides	Nitrogen oxides emissions from the Riley Coal and No. 4 Power Boilers shall be limited to 4,368 tons per rolling consecutive 12 months (See Section 2.2 A.1)	15A NCAC 02D .0530
Carbon Monoxide	Carbon monoxide emissions from the Riley Coal and No. 4 Power Boilers shall be limited to 898.2 tons per consecutive 12 months (See Section 2.2 A.1)	15A NCAC 02D.0530
Sulfur Dioxide	Sulfur dioxide emissions from the Riley Coal and No. 4 Power Boilers shall be limited to 8,277 tons per rolling consecutive 12 months (See Section 2.2 A.2)	15A NCAC 02Q .0317 Avoidance of 15A NCAC 02D .0530
Particulate Matter ($PM/PM_{10}/PM_{2.5}$), Sulfur Dioxide, Nitrogen Oxides, Carbon Monoxide, H_2SO_4, Fluorides, TRS, Lead, and Volatile Organic Compounds	See Section 2.2 A.4	15A NCAC 02D .0530(u)
Hazardous Air Pollutants	See Section 2.2 E	15A NCAC 02D .1111 40 CFR Part 63, Subpart DDDDD

1. 15A NCAC 02Q .0508(j): 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 Riley Coal Boiler **(ID No. G11039)** equipped with an ESP and monitoring opacity using a COMS.
b. The Alternate Operating Scenario (AOS) and is defined as the Riley Coal Boiler **(ID No. G11039)** equipped with an ESP, wet scrubber, and monitoring PM emissions using a PM CEMS.

2. 15A NCAC 02D .0503: PARTICULATES FROM FUEL BURNING INDIRECT HEAT EXCHANGERS
a. Emissions of particulate matter from the combustion of coal that are discharged from each of this boiler **(ID No. G11039)** into the atmosphere shall not exceed 0.16 pounds per million Btu heat input.

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

b. Under the provisions of NCGS 143-215.108, the Permittee shall demonstrate compliance with the emission limit(s) above by testing each of this boiler **(ID No. G11039)** as follows:
   i. **POS:** The Permittee shall test annually for particulate matter in accordance with a testing protocol approved by the DAQ. Details of the emissions testing and reporting requirements can be found in General Condition JJ. If the results of the testing demonstrate that emissions are less than 80 percent of the limit in Section 2.1 T.2.a, above, the testing frequency may be reduced to once every five years (and not longer than 61 months between compliance tests). If the results of this or any test are above the limit given in Section 2.1 T.2.a, above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0503 and the Permittee shall resume performance testing on an annual basis, beginning no more than 12 months after the previous test.
   ii. **AOS:** If emissions testing is required, the Riley Coal Boiler **(ID No. G11039)** 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 T.2.a, above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0503.

c. **POS:** The Permittee shall conduct a performance test on the Riley Coal Boiler **(ID No. G11039)** within 180 days of startup of the rebuilt ESP **(ID No. 11-CD-005-01)**. The performance test shall be conducted in accordance with the requirements in General Condition JJ. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0503 if this performance test is not conducted.

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

d. Particulate matter emissions from this boiler **(ID No. G11039)** shall be controlled by the electrostatic precipitator (ESP) **(ID No. 11-CD-005-001)**.
   i. **POS:** To ensure compliance with the emission limits in Section 2.1 T.2.a, the Permittee shall install, operate, and maintain an opacity monitor at the exhaust of this boiler **(ID No. G11039)**. The Permittee shall maintain the opacity at or below the opacity limit specified in Section 2.1 T.5.a, below, following the procedure in Section 2.1 T.5.b, below.
   ii. **POS:** The Permittee shall determine compliance with the emission limit in Section 2.1 T.2.a, above, pursuant to the ongoing compliance determinations in the monitoring, recordkeeping, and reporting requirements of Section 2.1 T.5 and T.6, below. However, excess emissions shall be reported in accordance with 15A NCAC 02D .0535 as outlined in General Condition I.
   iii. **AOS:** To ensure compliance with the emission limits in Section 2.1 T.2.a, the Permittee shall install, operate, and maintain a PM CEMS on the Riley Coal Boiler **(ID No. G11039)** pursuant to the Section 2.2 E.2.e, below.

   The Permittee shall be deemed in noncompliance with 15A NCAC .0503 if the emissions are not monitored and recorded as required above.

3. 15A NCAC 02D .0516: SULFUR DIOXIDE EMISSIONS FROM COMBUSTION SOURCES
15A NCAC 02D .0608: OTHER LARGE COAL OR RESIDUAL OIL BURNERS

a. Emissions of sulfur dioxide from this boiler **(ID No. G11039)** 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 T.3.a, above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0516 and 02D .0608.

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

c. To ensure compliance with Section 2.1 T.3.a, the Permittee shall monitor the sulfur content and heat content of all the coal burned during the period by using coal supplier certification per total shipment received. The coal supplier certifications shall be recorded in a logbook (written or electronic format) per total shipment and include the following information:
   i. the name of the coal supplier;
   ii. a statement verifying that the methods used to determine the maximum sulfur content and heat content of the coal were in accordance with the following:
      (A) sampling - ASTM Method D 2234;
      (B) preparation - ASTM Method D 2013;
      (C) gross calorific value (Btu) - ASTM Method D-2015, D-3286, D-1989, or D-5865;
      (D) moisture content - ASTM Method D 3173 or D-2961; and

(E) sulfur content - ASTM Method D 3177 or ASTM Method D 4239.

The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0516 and 02D .0608 if the sulfur and heat content of the coal are not monitored and recorded.

d. The Permittee is required to calculate and record in a logbook (written or electronic format) the equivalent emission rate in pounds of sulfur dioxide per million Btu heat content of the coal per total shipment. The equivalent sulfur dioxide emission rate (pounds per million Btu heat input) shall be calculated in accordance with Method 19 of 40 CFR 60, Appendix A, Section 12.6 – Sulfur Retention Credit for Compliance Fuel. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0516 and 02D .0608 if these records are not kept or if the results show an exceedance of the limit given in Section 2.1 T.3.a, above.

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

e The Permittee shall submit a summary report of the coal supplier certifications and calculated emission rates 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 .0519: CONTROL OF NITROGEN DIOXIDE AND NITROGEN OXIDES

a. Emissions of nitrogen oxides shall not exceed 1.8 pounds per million Btu of heat input from any coal-fired boiler with a capacity of 250 million Btu per hour or more.

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 T.4.a, above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0519.

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

c. No monitoring/recordkeeping/reporting is required from the firing of coal in these sources for this regulation.

5. 15A NCAC 02D .0521: CONTROL OF VISIBLE EMISSIONS

a. Visible emissions from this boiler **(ID No. G11039)** shall not be more than 40 percent opacity (except during startups) when averaged over a six-minute period. However, six-minute periods 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.

b. **POS:** The Permittee shall install, operate, and maintain continuous opacity monitoring systems (COMS). Compliance with the 40 percent opacity limit shall be determined as follows:

i. No more than four six-minute periods shall exceed the opacity standard in any one day; and

ii. The percent of excess emissions (defined as the percentage of monitored operating time in a calendar quarter above the opacity limit) shall not exceed 0.8 percent of the total operating hours. If a boiler operates less than 500 hours during a calendar quarter, the percent of excess emissions shall be calculated by including hours operated immediately previous to this quarter until 500 operational hours are obtained.

Excess emissions shall be reported in accordance with 15A NCAC 02D .0535 as outlined in General Conditions I.A and I.B. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0521 if the Permittee does not monitor visible emissions as required above.

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 T.5.a, above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0521.

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

d. **POS:** The Permittee shall use a continuous opacity monitoring system (COMS) to monitor and record opacity. Continuous emissions monitoring and recordkeeping of opacity shall be performed as described in Paragraphs 2 and 3.1.1 through 3.1.5 of Appendix P of 40 CFR Part 51. The monitoring systems shall meet the minimum specifications described in Paragraphs 3.3 through 3.8 of Appendix P of 40 CFR Part 51. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0521 if the monitoring is not performed, if the monitored values exceed the limitations given above, or if the records are not maintained.

e. **AOS:** To ensure compliance, once a month the Permittee shall observe the emission points of the Riley Coal Boiler **(ID No. G11039)** for any visible emissions above normal. The monthly observation must be made for each

month of the calendar year period to ensure compliance with this requirement. The Permittee shall establish "normal" for this boiler in the first 30 days following the beginning of operation of the wet scrubber. If visible emissions from this boiler are observed to be above normal, the Permittee shall either:

i. take appropriate action to correct the above-normal emissions as soon as practicable and within the monitoring period and record the action taken as provided in the recordkeeping requirements below, or
ii. demonstrate that the percent opacity from the emission points of the emission source in accordance with 15A NCAC 02D .2610 (Method 9) for 12 minutes is below the limit given in Section 2.1 T.5.a, above.

The Permittee shall be deemed to be in noncompliance with 15A NCAC 02D .0521 if the above-normal emissions are not corrected per (i) above or the demonstration in (ii) above cannot be made.

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

f. **AOS:** 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 2D .0521 if these records are not maintained.

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

g. The Permittee shall submit a summary report of the monitoring data 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.

6. 15A NCAC 02D .0606: SOURCES COVERED BY APPENDIX P OF 40 CFR PART 51 (CONTINUOUS OPACITY MONITORING AND EXCESS EMISSIONS)

POS: Riley Coal Boiler **(ID No. G11039)**, the provisions of 15A NCAC 02D .0606 apply as follows:

Monitoring/Recordkeeping [15A NCAC 02Q .0508(f) and 02D .0606]

a. **POS:** The Permittee shall use a continuous opacity monitoring system (COMS) installed on the exhaust of the boiler **(ID No. G11039)** to monitor and record opacity. Continuous emissions monitoring and recordkeeping of opacity shall be performed as described in Paragraphs 2 and 3.1.1 through 3.1.5 of Appendix P of 40 CFR Part 51. The monitoring systems shall meet the minimum specifications described in Paragraphs 3.3 through 3.8 of Appendix P of 40 CFR Part 51.
b. **POS:** The quarterly excess emissions (EE) reports required under Appendix P of 40 CFR Part 51 shall be used as an indication of good operation and maintenance of the electrostatic precipitators. These sources shall be deemed to be properly operated and maintained if the percentage of time the opacity emissions, calculated on a 6-minute average, in excess of 40 percent (including startups, shutdowns, and malfunctions) does not exceed 3.0 percent of the total operating time for any given calendar quarter, adjusted for monitor downtime (MD) as calculated below. In addition, these sources shall be deemed to be properly operated and maintained if the percent monitor downtime does not exceed 2.0 percent.

Calculations for %EE and %MD

Percent Excess Opacity Emission (%EE) Calculation:

$$\%EE = \left\{ \frac{\text{Total Excess Emission Time*}}{[(\text{Total Source Operating Time***}) - (\text{Monitor Downtime})]} \right\} \times 100$$

Percent Monitor Downtime (%MD) Calculation for COMS:

$$\%MD = \left\{ \frac{\text{Total Monitor Downtime**}}{\text{Total Source Operating Time***}} \right\} \times 100$$

* Total Excess Emission Time contains any 6-minute period greater than 40% opacity including startup, shutdown, and malfunction.

** Total Monitor Downtime includes Quality Assurance (QA) activities unless exempted by regulation or defined in an agency approved QA Manual. The amount of exempt QA Time will be reported in the quarterly report as such.

*** If a source operates less than 2200 hours during any quarter, the source may calculate the %EE and/or %MD using all operating data for the current quarter and the preceding quarters until 2200 hours of data are obtained. [N.C.G.S. 143-215.110]

Reporting [15A NCAC 02Q .0508(f) and 02D .0606]

c. **POS:** The Permittee shall submit the excess emissions and monitor downtime reports as required under Appendix P of 40 CFR Part 51 no later than 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 of each calendar year for the preceding three-month period between July and September. For periods of excess emissions, defined as each six-minute period average greater than 40 percent opacity, the opacity measurements recorded by the COMS shall be reported as described in Paragraphs 4 and 5.1 of Appendix P of 40 CFR Part 51 except that a six-minute time period shall be deemed as an appropriate alternative opacity averaging period as described in Paragraph 4.2 of Appendix P of 40 CFR Part 51. A minimum of 36 data points, equally spaced, is required to determine a valid six-minute value. All periods of noncompliance from the requirements of this permit must be clearly identified.

7. 15A NCAC 02D .0614: COMPLIANCE ASSURANCE MONITORING

a. **POS:** For the electrostatic precipitator **(ID No. 11-CD-005-01)** associated with the Utility Boiler **(ID No. G11039)**, the Permittee shall comply with 40 CFR part 64 pursuant to 15A NCAC 02D .0614 to ensure that the boilers comply with the emission limits of 15A NCAC 02D .0503. As required under 40 CFR 64.7(e), if the performance testing conducted under Section 2.1 T.2.c, above, documents a need to modify the existing indicator ranges or designated conditions, the Permittee shall promptly notify DAQ and, if necessary, submit a permit application to address the necessary monitoring changes. Such a modification may include, but is not limited to, reestablishing indicator ranges or designated conditions, modifying the frequency of conducting monitoring and collecting data, or the monitoring of additional parameters.

Background

b. Emission Units:

Riley Coal Utility Boiler **(ID No. G11039)**

c. Applicable Regulation, Emission Limitation, and Monitoring Requirements

i. Regulation: 15A NCAC 02D .0503: Particulates from Fuel Burning Indirect Heat Exchangers

ii. Emission Limits:

PM: 0.15 lb/million Btu

iii. Control Technology: electrostatic precipitator

Monitoring Approach

d. The key elements of the monitoring approach for particulate matter, including parameters to be monitored, parameter ranges and performance criterial are presented in the following table.

Measure	Indicator Riley Coal Boiler (POS Only)
I. Indicator	Opacity of ESP exhaust
Measuring approach	COMS in ESP exhaust
II. Indicator Range	The opacity indicator range is a 3-hour block average opacity of 7.0 percent. An excursion occurs when the 3-hour block average measurement is greater than the indicator range. The excursion triggers corrective action and reporting requirement. The QIP threshold is when the total duration of excursions is greater than 5 percent of the source operating time during any 6-month period. The QIP shall be prepared as required under 40 CFR 64.8.

Measure	Indicator
III. Performance Criteria	
Data Representativeness	The COMS was installed at a representative location in the utility boiler stack per PS-1.
QA/QC Practices and Criteria	The COMS was initially installed and evaluated per PS-1. Zero and span drift are checked daily and a quarterly filter audit is performed.
Monitoring Frequency	The opacity of the ESP exhaust is monitored continuously (every 10 seconds)
Data Collection Procedures	The data acquisition system shall retain all 6-minute data and 3-hour block averages pursuant to PS-1.
Averaging Period	The 10-second opacity data are used to calculate the 6-minute averages. The 6-minute averages are used to calculate the 3-hour block average.

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

e. 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 from 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 Permittee 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.

U. No. 4 Power Boiler (ID No. G11040) – equipped with low-NOX burner components and a Separated Overfire Air (SOFA) system, and a 2-Chamber, 4-Field electrostatic precipitator (ID No. 11-CD-006-01); a urea-based Selective Non-Catalytic Reduction (SNCR) NOX emission reduction system (ID No. 11-CD-006-02); and a wet scrubber (ID No. 11-CD-006-03)

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

Pollutant	Limits/Standards	Applicable Regulation
Particulate Matter	0.151 pounds per million Btu heat input	15A NCAC 02D .0503
Sulfur Dioxide	***Natural gas combustion only:*** 2.3 pounds per million Btu heat input	15A NCAC 02D .0516
Visible Emissions	***Natural gas combustion only:*** 20 percent opacity	15A NCAC 02D .0521
Particulate Matter	0.10 pounds per million Btu heat input (coal)	15A NCAC 02D .0524 40 CFR 60, Subpart D
Visible Emissions	20 percent opacity (coal)	15A NCAC 02D .0524 40 CFR 60, Subpart D
Sulfur Dioxide	1.2 pounds per million Btu heat input (coal) *See table in Section 2.1 U.1.b, below*	15A NCAC 02D .0524 40 CFR 60, Subpart D
	see Section 2.2 J.1	15A NCAC 02D .0501
Nitrogen Oxides	0.2 pounds per million Btu heat input (natural gas) 0.7 pounds per million Btu heat input (coal) *See table in Section 2.1 U.1.b, below*	15A NCAC 02D .0524 40 CFR 60, Subpart D
Particulate Matter	Compliance assurance monitoring (**POS only)**	15A NCAC 02D .0614
Nitrogen Oxides	Nitrogen oxides emissions from the Riley Coal and No. 4 Power Boilers shall be limited to 4,368 tons per rolling consecutive 12 months (See Section 2.2 A.1)	15A NCAC 02D .0530
Carbon Monoxide	Carbon monoxide emissions from the Riley Coal and No. 4 Power Boilers shall be limited to 898.2 tons per rolling consecutive 12 months (See Section 2.2 A.1)	15A NCAC 02D .0530
Particulate Matter	0.085 pounds per million Btu heat input (See Section 2.2 A.1)	15A NCAC 02D .0530
Sulfur Dioxide	Sulfur dioxide emissions from the Riley Coal and No. 4 Power Boilers shall be limited to 8,277 tons per rolling consecutive 12 months (See Section 2.2 A.2)	15A NCAC 02Q .0317 Avoidance of 15A NCAC 02D .0530
Particulate Matter ($PM/PM_{10}/PM_{2.5}$), Sulfur Dioxide, Nitrogen Oxides, Carbon Monoxide, H_2SO_4, Fluorides, TRS, Lead, and Volatile Organic Compounds	See Section 2.2 A.4	15A NCAC 02D .0530(u)
Hazardous Air Pollutants	See Section 2.2 E.2	15A NCAC 02D .1111 40 CFR Part 63, Subpart DDDDD

1. 15A NCAC 02Q .0508(j): 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(j)]

a. The Primary Operating Scenario (POS) is defined as the No. 4 Power Boiler **(ID No. G11040)** equipped with an ESP and monitoring opacity using a COMS.

b. The Alternate Operating Scenario (AOS) is defined as the No. 4 Power Boiler **(ID No. G11040)** equipped with an ESP, wet scrubber, and monitoring PM emissions using a PM CEMS.

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

a. Emissions of particulate matter from the combustion of coal and/or natural gas that are discharged from the No. 4 Power Boiler **(ID Nos. G11040)** into the atmosphere shall not exceed 0.151 pounds per million Btu heat input.

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

b. If emissions testing is required, the No. 4 Power Boiler **(ID No. G11040)** 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 U.2.a, above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0503.

c. The Permittee shall conduct a performance test on the No. 4 Boiler **(ID No. G11040)** within 180 days of startup of the rebuilt ESP **(ID No. 11-CD-006-01)**. The performance test shall be conducted in accordance with the requirements in General Condition JJ. The permittee shall be deemed in noncompliance with 15A NCAC 02D .0503 if this performance test is not conducted.

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

d. Particulate matter emissions from the combustion of coal in the No. 4 Power Boiler **(ID No. G11040)** shall be controlled by an electrostatic precipitator (ESP) **(ID No. 11-CD-006-02)**.

i. **POS:** To ensure compliance with the emission limits in Section 2.1 U.2.a, the Permittee shall install, operate, and maintain an opacity monitor at the exhaust of this boiler **(ID No. G11040)**. The Permittee shall maintain the opacity at or below the opacity limit specified in Section 2.1 U.5.b, below, following the procedure in Section 2.1 U.5.h through U.5.j, below.

ii. **POS:** The Permittee shall determine compliance with the emission limit in Section 2.1 U.2.a, above, pursuant to the ongoing compliance determinations in the monitoring, recordkeeping, and reporting requirements of Section 2.1 U.5 and U.6, below. However, excess emissions shall be reported in accordance with 15A NCAC 02D .0535 as outlined in General Condition I.

iii. **AOS:** To ensure compliance with the emission limits in Section 2.1 U.2.a, the Permittee shall install, operate, and maintain a PM CEMS on the No. 4 Power Boiler **(ID No. G11040)** and comply with the PM monitoring/recordkeeping/reporting requirements of Section 2.1 U.5.g, below.

The Permittee shall be deemed in noncompliance with 15A NCAC .0503 if the emissions are not monitored and recorded as required in this paragraph.

e. No monitoring/recordkeeping/reporting is required for particulate emissions from the combustion of natural gas in the No. 4 Power Boiler.

3. 15A NCAC 02D .0516: SULFUR DIOXIDE EMISSIONS FROM COMBUSTION SOURCES

a. Emissions of sulfur dioxide from this boiler **(ID No. G11040)** shall not exceed 2.3 pounds per million Btu heat input while firing natural gas. 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 U.3.a, above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0516 and 02D .0608.

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

c. No monitoring/recordkeeping/reporting is required for sulfur dioxide emissions from natural gas combustion in the No. 4 Power Boiler **(ID No. G11040).**

4. 15A NCAC 02D .0521: CONTROL OF VISIBLE EMISSIONS

a. When firing natural gas in the No. 4 Power Boiler **(ID No. G11040)**, visible emissions shall not be more than 20 percent opacity (except during startups) when averaged over a six-minute period. However, six-minute periods 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 U.4.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/reporting is required for visible emissions from the combustion of natural gas in the No. 4 Power Boiler **(ID No. G11040)**.

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."

b. For the No. 4 Power Boiler **(ID No. G1140)** the following emission limits shall not be exceeded [40 CFR 60.42, 60.43, and 60.44]:

Pollutant	Limits/Standards	Fuel
Particulate Matter	0.10 pounds per million Btu heat input	Coal combustion only
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	Coal combustion only
Sulfur Dioxide	1.2 pounds (coal only) per million Btu heat input	Coal combustion only
Nitrogen Oxides	0.2 pounds (natural gas only) per million Btu heat input 0.7 pounds (coal only) per million Btu heat input or $S = [y (0.2) + z (0.7)] / (y + z)$ Where: y = % total heat input from natural gas z = % total heat input from coal	Natural Gas Coal

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

c. **POS:** The Permittee shall demonstrate compliance with the emission limit(s) in Section 2.1 U.5.b, above, by testing the No. 4 Power Boiler **(ID No. G1140)** annually for particulate matter in accordance with a testing protocol approved by the DAQ. Details of the emissions testing and reporting requirements can be found in General Condition JJ. If the results of the testing demonstrate that emissions are less than 80 percent of the limit in Section 2.1 U.5.b, above, the testing frequency may be reduced to once every five years (and not longer than 61 months between compliance tests). If the results of this or any test are above the limit given in Section 2.1 U.5.b, above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0524 and the Permittee shall resume performance testing on an annual basis, beginning no more than 12 months after the previous test.

d. **AOS:** If emissions testing is required, the No. 4 Power Boiler **(ID No. G11040)** 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 U.5.b, above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0524.

e. **POS:** The Permittee shall conduct a performance test on the No. 4 Power Boiler **(ID No. G11040)** for particulate matter within 180 days of startup of the rebuilt ESP **(ID No. 11-CD-006-01)**. The performance test shall be conducted 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 .0503 if this performance test is not conducted.

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

f. **POS:** Particulate matter emissions from this boiler **(ID No. G11040)** shall be controlled by the ESP **(ID No. 11-CD-006-01)**. To ensure compliance with the particulate emission limits in Section 2.1 U.2.b, the Permittee shall follow the visible emissions requirements as specified in Section 2.1 U.5.i through U.5.j, below. The Permittee shall be deemed in noncompliance with 15A NCAC .0524 if the monitoring and recordkeeping requirements above are not met.

g. **AOS:** The Permittee shall install, certify, operate, and maintain a PM CEMS on the No. 4 Power Boiler **(ID No. G11040)** as follows [40 CFR 60.48Da(p) and 60.49Da(v)]:

i. The Permittee shall conduct performance evaluations of the PM CEMS pursuant to the applicable requirements of 40 CFR 60.13, Performance Specification 11 in Appendix B of this 40 CFR Part 60, and

Procedure 2 in Appendix F of 40 CFR Part 60. The initial performance evaluation shall be completed no later than 180 days after the date of initial startup of the wet scrubber **(ID No. 11CD-006-03)**, as specified under 40 CFR 60.8 or within 180 days of the date of notification required under Section 2.1 U.5.s, below, whichever is later.

ii. During each PM correlation testing run of the CEMS required by Performance Specification 11 in Appendix B of this part, PM and O_2 (or CO_2) data shall be collected concurrently (or within a 30- to 60-minute period) by both the CEMS and performance tests conducted using the following test methods:
   (A) For PM, Method 5 or 5B of appendix A-3 of this part or Method 17 of appendix A-6 of this part shall be used; and
   (B) For O_2 (or CO_2), Method 3A or 3B of appendix A-2 of this part, as applicable shall be used.

iii. Quarterly accuracy determinations and daily calibration drift tests shall be performed in accordance with Procedure 2 in Appendix F of this 40 CFR Part 60. Relative Response Audit's must be performed annually and Response Correlation Audits must be performed every 3 years.

iv. The Permittee shall determine compliance with the emissions limit in Section 2.1 U.5.b, above, based on the 24-hour daily (block) average of the hourly arithmetic average emissions concentrations using the continuous monitoring system outlet data. The 24-hour block arithmetic average emission concentration shall be calculated using EPA Reference Method 19 of Appendix A of 40 CFR Part 60, Section 4.1.

v. The Permittee shall obtain non-out-of-control CEMS hourly averages, at a minimum, for 75 percent of all operating hours on a 30-boiler operating day rolling average basis. Non-out-of-control CEMS hourly averages shall be obtained for 90 percent of all operating hours on a 30-boiler operating day rolling average basis. At least two data points per hour shall be used to calculate each 1-hour arithmetic average.

vi. The Permittee shall calculate the boiler operating day daily arithmetic average emission concentrations using the 1-hour arithmetic averages required expressed in nanograms per joule, pounds per million Btu, or pounds per megawatt-hour. The 1-hour arithmetic averages shall be calculated using the data points required under 40 CFR 60.13(e)(2).

vii. The Permittee shall use all non-out-of-control CEMS data in calculating average emission concentrations even if the minimum CEMS data requirements of paragraph U.5.g.v, above, are not met.

viii. When PM emissions data are not obtained because of CEMS breakdowns, repairs, calibration checks, and zero and span adjustments, emissions data shall be obtained by using other monitoring systems as approved by DAQ or EPA Reference Method 19 of Appendix A of 40 CFR Part 60, to provide, as necessary, non-out-of-control emissions data for a minimum of 90 percent of all operating hours per 30-boiler operating day rolling average.

Monitoring/Recordkeeping (opacity) [15A NCAC 02D .0524]

h. **POS:** The Permittee shall install, maintain, and operate a continuous opacity monitoring system (COMS) for measuring the opacity of emissions meeting the requirements of 40 CFR Part 60. [40 CFR 60.45] The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0524 if the monitoring is not conducted as required above.

i. **POS:** Compliance with visible emissions limit of Section 2.1 U.2.b, above, shall be determined 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 60.45(g)(1)]

j. **POS:** The COMS and the facility shall be assessed for good operation and maintenance (O&M) practices in accordance with 40 CFR Part 60, Subpart A, Section 60.11(d); Subpart D, Section 60.45; and the EPA Region IV Continuous Emission Monitor Enforcement Plan (CEP).

k. **AOS:** The Permittee shall conduct a performance test using Method 9 of Appendix A-4 of 40 CFR Part 60 and the procedures in 40 CFR 60.11 to demonstrate compliance with the opacity limit in Section 2.1 U.5.b, above, within 45 days after stopping use of the existing COMS, and shall comply with either paragraph U.5.k.i, U.5.k.ii, or U.5.k.iii. The observation period for Method 9 performance tests may be reduced from 3 hours to 60 minutes if all 6-minute averages are less than 10 percent and all individual 15-second observations are less than or equal to 20 percent during the initial 60 minutes of observation. [40 CFR 60.45(b)(7)]

   i. Except as provided in paragraph U.5.k.ii or U.5.k.iii, the Permittee shall conduct subsequent Method 9 performance tests pursuant to the applicable schedule in the paragraphs below, as determined by the most recent Method 9 performance test results.
      (A) If no visible emissions are observed, a subsequent Method 9 performance test must be completed within 12 calendar months from the date that the most recent performance test was conducted or within 45 days of the next day that fuel with an opacity standard is combusted, whichever is later;

(B) If visible emissions are observed but the maximum 6-minute average opacity is less than or equal to 5 percent, a subsequent Method 9 performance test must be completed within 6 calendar months from the date that the most recent performance test was conducted or within 45 days of the next day that fuel with an opacity standard is combusted, whichever is later;

(C) If the maximum 6-minute average opacity is greater than 5 percent but less than or equal to 10 percent, a subsequent Method 9 performance test must be completed within 3 calendar months from the date that the most recent performance test was conducted or within 45 days of the next day that fuel with an opacity standard is combusted, whichever is later; or

(D) If the maximum 6-minute average opacity is greater than 10 percent, a subsequent Method 9 performance test must be completed within 45 calendar days from the date that the most recent performance test was conducted.

ii. If the maximum 6-minute opacity is less than 10 percent during the most recent Method 9 performance test, Permittee may, as an alternative to performing subsequent Method 9 performance test, elect to perform subsequent monitoring using Method 22 of Appendix A-7 of 40 CFR Part 60 pursuant to the procedures specified in the following paragraphs.

(A) The Permittee shall conduct 10 minute observations (during normal operation) each operating day the No. 4 Power Boiler **(ID No. G11040)** fires coal for which an opacity standard is applicable using Method 22 and demonstrate that the sum of the occurrences of any visible emissions is not in excess of 5 percent of the observation period (*i.e.*, 30 seconds per 10-minute period). If the sum of the occurrence of any visible emissions is greater than 30 seconds during the initial 10-minute observation, immediately conduct a 30-minute observation. If the sum of the occurrence of visible emissions is greater than 5 percent of the observation period (i.e., 90 seconds per 30-minute period), the Permittee shall either document and adjust the operation of the boiler and demonstrate within 24 hours that the sum of the occurrence of visible emissions is equal to or less than 5 percent during a 30-minute observation (i.e., 90 seconds) or conduct a new Method 9 performance test using the procedures in this paragraph within 45 calendar days.

(B) If no visible emissions are observed for 10 operating days during which an opacity standard is applicable, observations can be reduced to once every 7 operating days during which an opacity standard is applicable. If any visible emissions are observed, daily observations shall be resumed.

iii. If the maximum 6-minute opacity is less than 10 percent during the most recent Method 9 performance test, the Permittee may, as an alternative to performing subsequent Method 9 performance tests, elect to perform subsequent monitoring using a digital opacity compliance system pursuant to a site-specific monitoring plan approved by DAQ. The observations shall be similar, but not necessarily identical, to the requirements in paragraph U.5.k.ii, above. For reference purposes in preparing the monitoring plan, see OAQPS "Determination of Visible Emission Opacity from Stationary Sources Using Computer-Based Photographic Analysis Systems." This document is available from the U.S. Environmental Protection Agency (U.S. EPA); Office of Air Quality and Planning Standards; Sector Policies and Programs Division; Measurement Policy Group (D243-02), Research Triangle Park, NC 27711. This document is also available on the Technology Transfer Network (TTN) under Emission Measurement Center Preliminary Methods.

l. **AOS:** The Permittee shall maintain records pursuant to the requirements specified in the following paragraphs, as applicable to the visible emissions monitoring method used. [40 CFR 60.45(h)]

i. For each performance test conducted using Method 9 of appendix A-4 of this part, the Permittee shall keep the records including the following information:

(A) Dates and time intervals of all opacity observation periods;

(B) Name, affiliation, and copy of current visible emission reading certification for each visible emission observer participating in the performance test; and

(C) Copies of all visible emission observer opacity field data sheets;

ii. For each performance test conducted using Method 22 of appendix A-4 of this part, the Permittee shall keep the following records.

(A) Dates and time intervals of all visible emissions observation periods;

(B) Name and affiliation for each visible emission observer participating in the performance test;

(C) Copies of all visible emission observer opacity field data sheets; and

(D) Documentation of any adjustments made and the time the adjustments were completed to the affected facility operation by the owner or operator to demonstrate compliance with the applicable monitoring requirements.

iii. For each digital opacity compliance system, the Permittee shall maintain records and submit reports pursuant to the requirements specified in the site-specific monitoring plan approved by DAQ.

Monitoring / Recordkeeping (SO_2) [15A NCAC 02D .0524, 02Q .0508(f)]

m. The Permittee shall monitor sulfur dioxide emissions by fuel sampling and analysis. [40 CFR 60.45(b)(2)]

n. The Permittee shall monitor the sulfur and heat content of all the coal burned during the period by using coal supplier certification per total shipment received. The coal supplier certification shall be recorded in a logbook (written or electronic format) per total shipment and include the following information:
   i. the name of the coal supplier;
   ii. a statement verifying that the methods used to determine the maximum sulfur content of the coal was determined in accordance with the following:
      (A) sampling - ASTM Method D 2234;
      (B) preparation - ASTM Method D 2013;
      (C) gross calorific value (Btu) - ASTM Method D-2015, D-3286, D-1989, or D-5865;
      (D) moisture content - ASTM Method D 3173 or D-2961; and
      (E) sulfur content - ASTM Method D 3177 or ASTM Method D 4239.

   The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0524 if the sulfur and heat content of the coal is not monitored and recorded.

o. The maximum equivalent sulfur dioxide emission rate (as SO_2) of any coal received and burned in the boiler shall not exceed 1.2 pounds per million Btu.
   i. The Permittee is required to calculate and record in a logbook (written or electronic format) the pounds of sulfur dioxide per million Btu heat content of the coal per total shipment.
   ii. The equivalent sulfur dioxide emission rate (pounds per million Btu heat input) shall be calculated in accordance with Method 19 of 40 CFR 60, Appendix A, Section 12.6 – Sulfur Retention Credit for Compliance Fuel.

   The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0524 if the results show an exceedance of the limit given above if the requirements above are not monitored and recorded.

Monitoring / Recordkeeping (NO_X) [15A NCAC 02D .0524, 02Q .0508(f)]

p. As allowed per 40 CFR 60.45(b)(3) the Permittee has demonstrated that emissions of nitrogen oxides are less than 70 percent of the applicable standards in 40 CFR 60.44, and a continuous monitoring system for measuring nitrogen oxides emissions is not required pursuant to NSPS Subpart D.

Reporting [15A NCAC 02D .0524, 02Q .0508(f)]

q. The Permittee shall submit a summary report of the information listed below 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. Periods of excess emissions and monitoring system downtime that shall be reported are defined as follows:
   i. **POS:** *Particulate matter.* The monitoring and recordkeeping in Section 2.1 U.5.i through U.5.j, above;
   ii. **AOS:** *Particulate matter.* Excess emissions for the No. 4 Power Boiler **(ID No. G11040)** are defined as any boiler operating day period during which the average emissions (arithmetic average of all operating one-hour periods) exceed the PM emission limit in Section 2.1 U.5.b, above. [40 CFR 60.45(g)(4)]
   iii. **POS:** *Opacity.* The excess emissions and monitoring systems performance reports for the COMS in Section 2.1 U.5.h through U.5.j, above.
   iv. **AOS:** *Opacity.* 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. [40 CFR 60.45(g)(1)]
   v. The fuel suppliers' certifications and calculations of the pounds of sulfur dioxide per million Btu heat content of each fuel per month in Section 2.1 U.2.i through U.2.l, above.

r. Within 90 days after the date of completing each performance test, as defined in 40 CFR 60.8, conducted to demonstrate compliance with this subpart, the Permittee shall submit relative accuracy test audit (*i.e.*, reference method) data and performance test (*i.e.*, compliance test) data, except opacity data, electronically to EPA's Central Data Exchange (CDX) by using the Electronic Reporting Tool (ERT) (see *http://www.epa.gov/ttn/chief/ert/ert tool.html/*) or other compatible electronic spreadsheet. Only data collected using test methods compatible with ERT are subject to this requirement to be submitted electronically into EPA's WebFire database.

s. The Permittee shall submit a written notification to DAQ of intent to demonstrate compliance with Section 2.1 U.5 by using a CEMS measuring PM. This notification shall be sent at least 30 calendar days before the initial startup of the monitor for compliance determination purposes. [40 CFR 60.48Da(p)]

6. 15A NCAC 02D .0614: COMPLIANCE ASSURANCE MONITORING

a. **POS:** For the electrostatic precipitator **(ID No. 11-CD-006-01)** associated with the No. 4 Power Boiler **(ID No. G11040)**, the Permittee shall comply with 40 CFR part 64 pursuant to 15A NCAC 02D .0614 to ensure that the power boiler complies with the emission limits of 15A NCAC 02D .0530. As required under 40 CFR 64.7(e), if the performance testing conducted under Section 2.1 U.2.d, above, documents a need to modify the existing indicator ranges or designated conditions, the Permittee shall promptly notify DAQ and, if necessary, submit a permit application to address the necessary monitoring changes. Such a modification may include, but is not limited to, reestablishing indicator ranges or designated conditions, modifying the frequency of conducting monitoring and collecting data, or the monitoring of additional parameters.

Background

b. Emission Units: No. 4 Power Boiler **(ID No. G11040) – POS Only**

c. Applicable Regulation, Emission Limitation, and Monitoring Requirements

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

ii. Emission Limits:
PM: 0.085 lb/million Btu

iii. Control Technology: Electrostatic precipitator (ESP)

Monitoring Approach (POS Only)

d. The key elements of the monitoring approach for particulate matter, including parameters to be monitored, parameter ranges and performance criterial are presented in the following table.

Measure	Indicator
I. Indicator	Opacity of ESP exhaust
Measuring approach	Continuous opacity monitoring system (COMS) in ESP exhaust
Indicator Range	The opacity indicator range is a 3-hour block average opacity of 9.6 percent. An excursion occurs when the 3-hour block average measurement is greater than the indicator range. The excursion triggers corrective action and reporting requirement. The QIP threshold is when the total duration of excursions is greater than 5 percent of the source operating time during any 6-month period. The QIP shall be prepared as required under 40 CFR 64.8.
III. Performance Criteria	
Data Representativeness	The COMS was installed at a representative location in the boiler ESP exhaust stack per 40 CFR 60, Appendix B, Performance Specification (PS-1)
QA/QC Practices and Criteria	The COMS was initially installed and evaluated per PS-1. Zero and span drift are checked daily and a quarterly filter audit is performed.
Monitoring Frequency	The opacity of the ESP exhaust is monitored continuously (every 10 seconds)
Data Collection Procedures	The data acquisition system shall retain all 6-minute data and 3-hour block averages pursuant to PS-1.
Averaging Period	The 10-second opacity data are used to calculate the 6-minute averages. The 6-minute averages are used to calculate the 3-hour block average.

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

e. **POS:** 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 from 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 Permittee 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.

V. Riley Bark Boiler (ID No. G11042) – with partial flyash reinjection and grate fire ignition (kerosene and rags), equipped with a multicyclone (ID No. 11-CD- 016-01) in series with a venturi-type wet scrubber (ID No. 11-CD-016-02)

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

Pollutant	Limits/Standards	Applicable Regulation
Particulate Matter	0.16 pounds per million Btu heat input (when firing coal/ fuel oil only); 0.31 pounds per million Btu heat input (when firing woodwaste only); or Ec = [(0.31)(Qw) + (0.16)(Qo)]/Qt Where; Ec = emission limit for combined firing (pound per mmBtu); Qw=actual wood heat input including woodwaste; Qo=actual heat input other than wood heat input; and Qt = Qw + Qo	15A NCAC 02D .0503 15A NCAC 02D .0504
Sulfur Dioxide	2.3 pounds per million Btu heat input Monitoring Requirements	15A NCAC 02D .0516 15A NCAC 02D .0608
	see Section 2.2 J.1	15A NCAC 02D .0501
Nitrogen Oxides	1.8 pounds per million Btu heat input (when firing coal only); 0.8 pounds per million Btu heat input (when firing oil only); or E=[(Ec)(Qc) + (Eo)(Qo)]/Qt Where: E = emission limit for combined burning of coal and oil in pounds per million Btu heat input Ec = 1.8 pounds per million Btu heat input for coal only Eo = 0.8 pounds per million Btu heat input for oil only Qc = coal heat input in Btu per hour Qo = oil heat input in Btu per hour; and Qt = Qc + Qo	15A NCAC 02D .0519
Visible Emissions	40 percent opacity	15A NCAC 02D .0521
Visible Emissions	Excess Emissions Monitoring Requirements (40 CFR 51, Appendix P)	15A NCAC 02D .0606
Particulate Matter	Compliance assurance monitoring	15A NCAC 02D .0614
Hazardous Air Pollutants	See Section 2.2 E	15A NCAC 02D .1111 40 CFR Part 63, Subpart DDDDD

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

a. Emissions of particulate matter from the combustion of coal and fuel oil that are discharged from this boiler **(ID No. G11042)** into the atmosphere shall not exceed 0.16 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 V.1.a, above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0503.

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

c. To ensure compliance, the Permittee shall follow the monitoring, recordkeeping, and reporting requirements per Section 2.1 V.2.c through V.2.g, below. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0503 if the monitoring and recordkeeping is not maintained.

2. 15A NCAC 02D .0504: PARTICULATES FROM WOOD BURNING INDIRECT HEAT EXCHANGERS

a. Emissions of particulate matter from this boiler **(ID No. G11042)** shall not exceed an allowable emission rate as calculated by the following equation:

$$Ec = [(0.31)(Qw) + (0.16)(Qo)]/Qt$$

Where; Ec = emission limit for combined firing (pound per million Btu);
Qw = actual wood heat input including woodwaste;
Qo = actual heat input other than wood heat input; and
Qt = Qw + Qo

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

b. Under the provisions of NCGS 143-215.108, the Permittee shall demonstrate compliance with the emission limit(s) above by testing the boiler **(ID No. G11042)** annually for particulate matter with a testing protocol approved by the DAQ. Details of the emissions testing and reporting requirements can be found in General Condition JJ. If the results of the testing demonstrate that emissions are less than 80 percent of the limit in Section 2.1 V.2.a, above, the testing frequency may be reduced to every five years. If the results of this or any test are above the limit given in Section 2.1 V.2.a, above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0504 and the Permittee shall resume performance testing on an annual basis, beginning no more than 12 months after the previous test.

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

c. Particulate matter emissions from the boiler shall be controlled by the multicyclone and venturi-type wet scrubber. The Permittee shall install, operate, and maintain a wet scrubbing liquid flowmeter and pressure drop indicator on the scrubber. To ensure compliance and the effective operation of the scrubber, the Permittee shall continuously monitor and record scrubbing liquid flow rate and pressure drop on a 3-hour block average. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0504 if the scrubber is not installed, operated and maintained as required.

d. The scrubber parameter monitoring system downtime shall not exceed two (2) percent of the monitoring time in any semi-annual reporting period. If the emission source(s) is not operating, a record of this fact along with the corresponding date and time shall substitute for the 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 calibrated annually. The scrubber shall be operated to ensure the following operational parameters are maintained:
   i. The pressure drop across the scrubber shall be greater than 4 inches water column, and
   ii. The scrubbing liquid flow rate shall be greater than 450 gallons per minute.

   The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0504 if the scrubbing liquid flow rate or pressure drop is not maintained above the above prescribed value(s) or if these records are not maintained.

e. If the scrubber liquid flow rate or pressure drop readings recorded as required in Section 2.1 V.2.d, above, are observed to be outside the prescribed range, the Permittee shall inspect the scrubber(s) for malfunctions and clean or repair, as necessary. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0504 if the inspections, cleaning, and repairs are not performed.

f. The results of inspection and maintenance activities, discussed above for the scrubbers, 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 prescribed operating range for the scrubbers(s); and
iii. corrective actions taken.
The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0504 if these records are not maintained.

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

g. 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 noncompliance from the requirements of this permit must be clearly identified.

3. 15A NCAC .0516: SULFUR DIOXIDE EMISSIONS FROM COMBUSTION SOURCES

a. Emissions of sulfur dioxide from this boiler **(ID No. G11042)** 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) and 02D .0608]

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 V.3.a, above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0516.

Monitoring/Recordkeeping [15A NCAC 02Q .0508(f), and 02D .0608]

c. To ensure compliance with Section 2.1 V.3.a, the Permittee shall monitor the sulfur content and heat content of the coal by using coal supplier certification per total shipment received. The results of the coal supplier certifications shall be recorded in a logbook (written or electronic format) and include the following information:
   i. the name of the coal supplier;
   ii. a statement verifying that the methods used to determine the maximum sulfur content of the coal was in accordance with the following:
      (A) sampling - ASTM Method D 2234;
      (B) preparation - ASTM Method D 2013;
      (C) gross calorific value (Btu) - ASTM Method D-2015, D-3286, D-1989, or D-5865;
      (D) moisture content - ASTM Method D 3173 or D-2961; and
      (E) sulfur content - ASTM Method D 3177 or ASTM Method D 4239.

   The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0516 if the coal supplier certification is not recorded.

d. Additionally, the Permittee is required to calculate and record in a logbook (written or electronic format) the equivalent emission rate in pounds of sulfur dioxide per million Btu heat content of the coal per total shipment. This equivalent sulfur dioxide emission rate (pounds per million Btu heat input) shall be calculated in accordance with Method 19 of 40 CFR 60, Appendix A, Section 12.6 – Sulfur Retention Credit for Compliance Fuel. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0516 and 02D .0608 if the requirements above are not monitored and recorded or if the results show an exceedance of the limit given in Section 2.1 V.3.a, above.

Reporting [15A NCAC 02Q .0508(f) and 02D .0608]

e. The Permittee shall submit a summary report of the coal supplier certifications and calculated emission rates 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 .0519: CONTROL OF NITROGEN OXIDES EMISSIONS

a. Emissions of nitrogen oxides from this boiler **(ID No. G11042)** when burning coal and oil shall be calculated by the following equation:

$$E = [(Ec)(Qc) + (Eo)(Qo)]/Qt$$

where: E = emission limit for combined burning of coal and oil in pounds per million Btu heat input
Ec = 1.8 pounds per million Btu heat input for coal only
Eo = 0.8 pounds per million Btu heat input for oil only
Qc = coal heat input in Btu per hour
Qo = oil heat input in Btu per hour; and
Qt = Qc + Qo

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 V.4.a, above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0519.

c. **Monitoring/Recordkeeping** [15A NCAC 02Q .0508(f)]
No monitoring recordkeeping or reporting is required for the burning of coal or oil in this source.

5. 15A NCAC 02D .0521: CONTROL OF VISIBLE EMISSIONS

a. Visible emissions from this boiler **(ID No. G11042)** shall not be more than 40 percent opacity (except during startups) when averaged over a six-minute period except that six-minute periods averaging not more than 90 percent opacity may occur not more than once in any hour nor more than four times in any 24-hour period.

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

b. Under the provisions of NCGS 143-215.108, in order to demonstrate continuous compliance with the opacity limit above, the Permittee shall test the boiler **(ID No. G11042)** for particulate matter and opacity with a testing protocol approved by the DAQ. Details of the emissions testing and reporting requirements can be found in General Condition JJ. Testing shall be completed and the results submitted January 26, 2016, unless an alternate date is approved by the DAQ. The testing shall be conducted as follows:
   i. The Permittee shall conduct a minimum of three one-hour performance test runs on the boiler **(ID No. G11042)** to demonstrate compliance with PM and opacity limits simultaneously using EPA Reference Method 5/202 and EPA Reference Method 9, respectively.
   ii. The Permittee shall collect pressure drop and liquid flow rate data every 15 minutes during the entire period of the performance test.
   iii. The Permittee shall determine the average pressure drop and liquid flow rate for each individual test run in the 3-run performance test by computing the average of all the 15-minute readings taken during each test run.
   iv. The three-hour block average during any performance test that shows compliance with the emission limit in Section 2.1 V.5.a, above, shall be used to establish minimum scrubber liquid flow rate (gallons per minute) and minimum scrubber pressure drop (inches of water). These parametric values shall be reviewed and approved by the DAQ.
   v. In no case shall the minimum scrubber liquid flow rate or minimum pressure drop operating limits be less than the scrubber parameters established under Section 2.1 V.2.c, above.

   The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0521 if the testing is not performed pursuant to these requirements.

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

c. The Permittee shall install, operate, and maintain a wet scrubbing liquid flow meter and pressure drop indicator on the scrubber. To ensure compliance and the effective operation of the scrubber, the Permittee shall continuously monitor and record scrubbing liquid flow rate and pressure drop on a 3-hour block average. The scrubber parameter monitoring system downtime shall not exceed two (2) percent of the monitoring time in any semi-annual reporting period. If the emission source(s) is not operating, a record of this fact along with the corresponding date and time shall substitute for the 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 calibrated annually.

d. The Permittee shall operate the scrubber such that the following operating limits are met:
   i. The pressure drop across the scrubber shall be greater than 12.4 inches of water column (3-hour average), and
   ii. The scrubbing liquid flow rate shall be greater than 621 gallons per minute (3-hour average).

   The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0521 if the scrubbing liquid flow rate or pressure drop is not maintained above the above prescribed value(s) or if these records are not maintained. The established continuous compliance monitoring parameters shall not apply during any required subsequent testing.

e. If the scrubber liquid flow rate or pressure drop readings recorded as required in Section 2.1 V.5.d, above, are observed to be outside the prescribed range, the Permittee shall inspect the scrubber(s) for malfunctions and clean or repair, as necessary. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0521 if the inspections, cleaning, and repairs are not performed.

f. 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 prescribed operating range for the scrubbers(s); and
iv. corrective actions taken.

The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0504 if these records are not maintained.

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

g. The Permittee shall submit a summary report of the monitoring and recordkeeping activity 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.

6. 15A NCAC 02D .0606: SOURCES COVERED BY APPENDIX P OF 40 CFR PART 51 (CONTINUOUS OPACITY MONITORING AND EXCESS EMISSIONS)

For the Riley Bark boiler **(ID No. G11042)** the provisions of 15A NCAC 02D .0606 apply as follows:

Monitoring/Recordkeeping [15A NCAC 02Q .0508(f) and 02D .0606]

a. The Permittee shall comply with the continuous opacity monitoring and excess emissions requirements by monitoring scrubber liquid flow rate and scrubber pressure drop as specified in Section 2.1 V.5, above. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0606 if the scrubber liquid flow rate and pressure drop are not monitored as required.
b. The quarterly excess emissions (EE) reports required under Appendix P of 40 CFR Part 51 shall be used as an indication of good operation and maintenance of the multicyclone and scrubber. Any periods of noncompliance with the scrubber operating limits established in Section 2.1 V.5.d, above, shall be considered an exceedance of the opacity standard.

Reporting [15A NCAC 02Q .0508(f) and 02D .0606]

c. The Permittee shall submit the excess emissions and monitor downtime reports as required under Appendix P of 40 CFR Part 51 no later than 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 of each calendar year for the preceding three-month period between July and September. For periods of excess emissions, defined as periods of noncompliance with from the scrubber operating limits, shall be reported as described in Paragraphs 4 and 5.1 of Appendix P of 40 CFR Part 51. All periods of noncompliance with the requirements of this permit must be clearly identified.

7. 15A NCAC 02D .0614: COMPLIANCE ASSURANCE MONITORING

a. For the venturi-type wet scrubber **(ID No. 11-CD-016-02)** associated with the Riley Bark Boiler **(ID No. G11042)**, respectively, the Permittee shall comply with 40 CFR part 64 pursuant to 15A NCAC 02D .0614 to ensure that boiler complies with the emission limits of 15A NCAC 02D .0503 and 2D .0504.

Background

b. Emission Units: Riley Bark Boiler **(ID No. G11042)**
c. Applicable Regulation, Emission Limitation, and Monitoring Requirements:
   i. Regulation: 15A NCAC 02D .0503: Particulates from Fuel Burning Indirect Heat Exchangers
      15A NCAC 02D .0504: Particulates from Wood Burning Indirect Heat Exchangers
   ii. Emission Limits:
      PM: 0.16 pounds per million Btu heat input (when firing coal/ fuel oil only);
      0.31 pounds per million Btu heat input (when firing woodwaste only); or

      $Ec = [(0.31)(Qw) + (0.16)(Qo)]/Qt$

      Where;
      Ec = emission limit for combined firing (pound per mmBtu);
      Qw = actual wood heat input including woodwaste;
      Qo = actual heat input other than wood heat input; and
      Qt = Qw + Qo
   iii. Control Technology: venturi-type wet scrubber

Monitoring Approach

d. The key elements of the monitoring approach for particulate matter, including parameters to be monitored, parameter ranges and performance criterial are presented in the following table.

Measure	Indicator
I. Indicator	Scrubber pressure drop and total liquid flow rate
Measuring approach	Install pressure drop and liquid flow rate continuous monitors
II. Indicator Range[a]	Pressure drop indicator range: minimum 3-hour average of 12.4 inches of H_2O Scrubbing liquid flow rate indicator range: minimum 3-hour average 621 gallons per minute An excursion occurs when the 3-hour average measurement is less than the indicator range. The excursion triggers corrective action and reporting requirement. No more than one excursion will be attributed in any given 24-hour period. The QIP threshold is when the total duration of excursions is greater than 5 percent of the source operating time during any 6-month period. The QIP shall be prepared as required under 40 CFR 64.8.
III. Performance Criteria	
Data Representativeness	Pressure drop tabs installed before and after the scrubber. Flow measurement devices located prior to liquid injection point.
QA/QC Practices and Criteria	Conform to EPA PS-1
Monitoring Frequency	Continuous pressure drop and flow measurements; minimum of one value every 15 minutes of operating time, excluding periods of monitoring downtime and required QA/QC.
Data Collection Procedures	The data acquisition system shall retain all 15-minute data and 3-hour block averages.
Averaging Period	The 15-minute pressure drop and liquid injection rate data are used to calculate the 3-hour block average.

[a] During performance testing, the established continuous compliance monitoring parameters shall not apply. Performance tests will serve to provide the monitoring during these periods.

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

e. 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 from 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 Permittee 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.

W. Boiler Fuel Feed and Flyash Handling Systems:

- **Riley Bark Boiler Fuel Feed System and Associated Transfer Cyclone (ID No. G11044);**
- **Utility Boiler Flyash Handling System Main Flyash Silo and Pneumatic Flyash Collection System with associated cyclone separator (ID No. G11045), equipped with one bin vent bagfilter (ID No. 11-CD-021-01) and one bagfilter (ID No. 11-CD-021-02):**
- **No. 4 Power Boiler Flyash Transfer Silo (ID No. G11025), equipped with one bin vent bagfilter (ID No. 11-CD-021-03)**

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

Pollutant	Limits/Standards	Applicable Regulation
Particulate matter	$E = 4.10\ P^{0.67}$ where: E = allowable particulate emission rate in pounds per hour P = process weight rate in tons per hour	15A NCAC 02D .0515
Visible emissions	20 percent opacity	15A NCAC 02D .0521
Particulate matter	Compliance assurance monitoring	15A NCAC 02D .0614

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

a. Emissions of particulate matter from each of these systems **(ID Nos. G11044, G11045, and G11025)** 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

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 W.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 Utility boiler flyash handling system and No. 4 power boiler flyash handling system **(ID Nos. G11045 and G11025)** shall be controlled by their respective bin vent bagfilters and the pneumatic system dust separator cyclone with bagfilters **(ID Nos. 11-CD-021-01, 11-CD-021-02, and 11-CD-021-03)** as described above. To ensure compliance, the Permittee shall perform inspections and maintenance. As a minimum, the inspection and maintenance requirement shall include the following:
   i. a monthly visual inspection (for each calendar month, not to exceed 6 weeks from the previous inspection) of the system ductwork and material collection unit for leaks; and
   ii. an annual internal inspection (for each calendar year, not to exceed 14 months from the previous inspection) of the bagfilters' and cyclones' structural integrity.

   The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0515 if the ductwork, bagfilters, and cyclones 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 bagfilters or cyclones; and
   iv. any 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 bagfilters or cyclones 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 these systems (**ID Nos. G11044, G11045 and G11025)** 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 2.1 W.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 these systems (**ID Nos. G11044, G11045, and G11025)** for any visible emissions above normal. The observation must be made each month of the calendar year period to ensure compliance with this requirement. 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 as soon as practicable and within the monitoring period and record the action taken as provided in the recordkeeping requirements below, or
   ii. demonstrate that the percent opacity from the emission points of the emission source in accordance with 15A NCAC 02D .2610 (Method 9) for 12 minutes is below the limit given in Section 2.1 W.2.a, above.

   If the above-normal emissions are not corrected per (i) above or if the demonstration per (ii) above cannot be made, the Permittee shall be deemed in noncompliance with 15A NCAC 02D.0521.

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 above normal 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.

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

a. For the fabric filters **(ID Nos. 11-CD-021-01, 11-CD-021-02, and 22-CD-021-03)** associated with the Utility Boiler Flyash Handling System and No. 4 Power Boiler Flyash Handing Systems **(ID Nos. G11045 and G11025)**, the Permittee shall comply with 40 CFR part 64 pursuant to 15A NCAC 02D .0614 to ensure that the flyash handling system complies with the emission limits of 15A NCAC 02D .0515.

Background

b. Emission Units:
   i. Utility Boiler Flyash Handling System **(ID No. G11045)**.
   ii. No. 4 Power Boiler Flyash Handling Systems **(ID Nos. G11025)**.

c. Applicable Regulation, Emission Limitation, and Monitoring Requirements
   i. Regulations: 15A NCAC 02D .0515: Particulates from Miscellaneous Industrial Processes
   ii. Emission Limits: Particulate matter emissions shall not exceed the limits calculated using the following equations.

$$E = 4.10 \times P^{0.67}$$

Where:
E = allowable emission rate in pounds per hour
P = process weight in tons per hour ($P \leq 30$ tons per hour)

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

iii. Control Technology: Bagfilters

Monitoring Approach

d. The key elements of the monitoring approach for particulate matter, including parameters to be monitored, parameter ranges and performance criterial are presented in the following table.

Measure	Indicator
I. Indicator	Visible emissions (VE)
Measuring approach	Visible emissions 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 percent 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 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 percent 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 emission point (baghouse exhaust)
QA/QC Practices and Criteria	The observer shall be familiar with EPA Reference Method 22 and follow Method 22-like procedures when VE is observed. Method 9 observations shall be conducted by a certified Reference Method 9 observer.
Monitoring Frequency	A VE observation shall be performed daily, when operating.
Data Collection Procedures	The VE observation recorded by the observer.
Averaging Period	N/A

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

e. 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 from 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 Permittee 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.

PAPER MACHINES (AREA 12)

X. Four Paper Machines:

- **No. 20 Paper Machine (ID No. G12048);**
- **No. 19 Paper Machine (ID No. G12049);**
- **No. 12 Paper Machine (ID No. G12050); and**
- **No. 11 Paper Machine (ID No. G12051)**

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

Pollutant	Limits/Standards	Applicable Regulations
Toxic Air Pollutants	State Enforceable Only (See Section 2.2 H)	15A NCAC 02D .1100

CHEMICAL PREPARATION (AREA 13)

Y. Three starch storage silos:

- **East starch storage silo (ID No. G13054) – 30 tons per hour maximum throughput, controlled by a bagfilter (ID No. 13-CD-014-01);**
- **West starch storage silo (ID No. G13055) – 30 tons per hour maximum throughput, controlled by a bin vent filter (ID No. 13-CD-016-01); and**
- **Center starch storage silo (ID No. G13056) – 30 tons per hour maximum throughput, controlled by a 255 square feet of filter area bagfilter (ID No. 13-CD-020-01).**

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

Pollutant	Limits/Standards	Applicable Regulation
Particulate Matter	$E = 4.10\ P^{0.67}$ where: E = allowable particulate emission rate in pounds per hour P = process weight rate in tons per hour	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 each of the starch silos **(ID Nos. G13054, G13055, and G13056)** 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

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 Y.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 starch silos (**ID Nos. G13054, G13055, and G13056**) shall be controlled by the bagfilters and bin vent filter as described above. To ensure compliance, the Permittee shall perform inspections and maintenance. As a minimum, the inspection and maintenance requirement shall include the following:
   i. a monthly visual inspection of the system ductwork and material collection unit for leaks; and
   ii. an annual (for each 12-month period following the initial inspection) internal inspection of the bagfilters' and bin vent filter's structural integrity.

   The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0515 if the ductwork, bagfilters, and bin vent filter 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 bagfilters and bin vent filter; and
   iv. any 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 bagfilters within 30 days of a written request by DAQ.

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.

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

a. Visible emissions from the starch silos **(ID Nos. G13054, G13055, and G13056)** 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 2.1 Y.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 starch silos **(ID Nos. G13064, G13055, and G13056)** 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 any source are observed to be above normal, the Permittee shall either:
   i. take appropriate action to correct the above-normal emissions as soon as practicable and within the monitoring period and record the action taken as provided in the recordkeeping requirements below, or
   ii. demonstrate that the percent opacity from the emission points of the emission source in accordance with 15A NCAC 02D .2610 (Method 9) for 12 minutes is below the limit given in Section 2.1 Y.2.a, above.

   If the above-normal emissions are not corrected per (i) above or if the demonstration per (ii) above cannot be made, the Permittee shall be deemed in noncompliance with 15A NCAC 02D.0521.

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 above normal 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.

WASTEWATER TREATMENT PLANT (AREA 16)

Z. WTP Primary Clarifiers (ID No. G16081) and WTP Aeration and Digestion Basins (ID No. G16082)

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

Pollutant	Limits / Standards	Applicable Regulations
Toxic Air Pollutants	State Enforceable Only (See Section 2.2 H)	15A NCAC 02D .1100

PAPER CONVERTING (AREA 19)

AA. Rewinders on Trim System No. 1 (ID No. G19058)
Rewinders on Trim System No. 2 (ID No. G19059)

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

Pollutant	Limits/Standards	Applicable Regulation
Particulate Matter	$E = 4.10\ P^{0.67}$ where: E = allowable particulate emission rate in pounds per hour P = process weight rate in tons per hour	15A NCAC 02D .0515
Visible Emissions	40 percent opacity	15A NCAC 02D .0521

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

a. Emissions of particulate matter from each of the rewinders **(ID Nos. G19058 and G19059)** 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

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

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

c. The Permittee shall maintain production records such that the process rates "P" in tons per hour, as specified by the formula contained above can be derived, and shall make these records available to a DAQ authorized representative upon request. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0515 if the production records are not maintained or the types of materials are not monitored.

d. No reporting is required for particulate matter emissions from the rewinders on trim systems Nos. 1 and 2 **(ID Nos. G19058 and G19059)**.

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

a. Visible emissions from the rewinders **(ID Nos. G19058 and G19059)** 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.

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 2.1 AA.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 rewinders **(ID Nos. G19058 and G19059)** for any visible emissions above normal. The monthly observations must be made for each month of the calendar year period to ensure compliance with this requirement. 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 as soon as practicable and within the monitoring period and record the action taken as provided in the recordkeeping requirements below, or

ii. demonstrate that the percent opacity from the emission points of the emission source in accordance with 15A NCAC 02D .2610 (Method 9) for 12 minutes is below the limit given in Section 2.1 AA.2.a, above.

If the above-normal emissions are not corrected per (i) above or if the demonstration per (ii) above cannot be made, the Permittee shall be deemed in noncompliance with 15A NCAC 02D.0521.

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 above normal 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.

TURPENTINE RECOVERY (AREA 20)

BB. No. 1 Hardwood Turpentine Recovery System (ID No. G20060) and No. 2 Pine Turpentine Recovery System (ID No. G20062)

Gases are collected via the NCG closed collection system and burned in the No. 4 Lime Kiln (ID No. G09028, primary) or No. 5 Lime Kiln (ID No. G09029, backup).

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

Pollutant	Limits/Standards	Applicable Regulation
Hazardous Air Pollutants	See Section 2.2 C.1	15A NCAC 02D .1111 (40 CFR Part 63, Subpart S)

TALL OIL PRODUCTION (AREA 21)

CC. Tall Oil Reactor (ID No. G21072) controlled by a packed tower-type wet scrubber (ID No. 21-ST-008-01)

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

Pollutant	Limits/Standards	Applicable Regulation
Toxic Air Pollutants	State Enforceable Only (See Section 2.2 H)	15A NCAC 02D .1100

NCG COLLECTION (AREA 23)

DD. No. 1 Fiberline Building Ventilation – Fugitives (ID No. G23066.k)
No. 2 Fiberline Building Ventilation – Fugitives (ID No. G23066.l)

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

Pollutant	Limits/Standards	Applicable Regulation
Toxic Air Pollutants	State Enforceable Only (See Section 2.2 H)	15A NCAC 02D .1100

MISCELLANEOUS FIBERLINE (AREA 24)

EE. No. 1 Hardwood Fiberline Deckers (ID No. G24087) and No. 2 Pine Fiberline Deckers (ID No. G24088)
Hardwood Brownstock High Density Storage (ID No. G24092)
Pine Brownstock High Density Storage (ID No. G24094)

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

Pollutant	Limits/Standards	Applicable Regulation
Hazardous Air Pollutants	**Affected Sources: G24087 and G24088** See Section 2.2 C.1	15A NCAC 02D .1111 (40 CFR Part 63, Subpart S)
Toxic Air Pollutants	**Affected Sources: G24092 and G24094** State Enforceable Only (See Section 2.2 H)	15A NCAC 02D .1100

FF.One 1850 horsepower, diesel-fired emergency generator (ID No. 16-CU-001)

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

Pollutant	Limits/Standards	Applicable Regulation
Sulfur Dioxide	2.3 pounds per million Btu heat input	15A NCAC 02D .0516
	see Section 2.2 J.1	15A NCAC 02D .0501
Visible Emissions	20 percent opacity	15A NCAC 02D .0521
Hazardous Air Pollutants	Notification Requirements	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 generator **(ID No. 16-CU-001)** 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 FF.1.a, above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0516.

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

c. No monitoring/recordkeeping is required for sulfur dioxide emissions from diesel fuel firing in the emergency generator **(ID No. 16-CU-001)**.

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

a. Visible emissions from the emergency generator **(ID No. 16-CU-001)** 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 FF.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/reporting is required from the firing of diesel fuel oil in this source for this regulation.

3. 15A NCAC 02D .1111: MAXIMUM ACHIEVABLE CONTROL TECHNOLOGY

Applicability [40 CFR 63.6585 and 63.6590(a)(2)(i)]

a. For the emergency generator **(ID No. 16-CU-001)** (a new stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions), the Permittee shall comply with all applicable provisions, 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 63, Subpart ZZZZ, “National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines” and Subpart A “General Provisions.”

Stationary RICE subject to limited requirements

b. The emergency generator **(ID No. 16-CU-001)** does not have to meet the requirements of 40 CFR 63 Subpart ZZZZ and Subpart A except for the initial notification requirements of Section 2.1 FF.4.c, below. [40 CFR 63.6590(b)(1)(i)]

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

c. The Permittee shall submit an initial notification for the emergency generator **(ID No. 16-CU-001)** later than 120 calendar days after construction and include the information in 40 CFR 63.9(b)(2)(i) through (iv) and a statement that the stationary RICE has no additional requirements and explain the basis of the exclusion. [40 CFR 63.6590(b) and 63.6645(c) and (f)]

d. The notification requirements in Section 2.1 FF.3.c, above, were met with the submittal of Permit Application No. 4400159.06B.

GG. Coal Processing and Conveying consisting of the following:

- **Crusher (No. G11052)**
- **Coal Conveying and Storage System Equipment:**
  - **Conveyor System (ID No. G11053) consisting of the following:**
    - **Collecting Conveyor No. 1 (No. 13A-001)**
    - **Receiving Conveyor No. 2 (No. 13A-002)**
    - **Stockpile Conveyor No. 3 (No. 13A-003)**
    - **Overland Conveyor No. 4 (No. 13A-004)**
    - **Overland Conveyor No. 5 (No. 13A-005)**
    - **Transfer Conveyor No. 6 (No. 13A-006)**
    - **Transfer Conveyor No. 7 (No. 13A-007)**
    - **Transfer Conveyor No. 8 (No. 13A-008)**
  - **No. 4 Boiler Bunker (ID No. G11041) equipped with three fabric filters (ID Nos. CD-013-011, CD-013-012 and CD-013-015)**

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

Pollutant	Limits/Standards	Applicable Regulation
Particulate Matter	$E = 4.10\ P^{0.67}$ where: E = allowable particulate emission rate in pounds per hour P = process weight rate in tons per hour	15A NCAC 02D .0515
Visible Emissions	*Coal Processing (ID No. G11052):* 10 percent opacity *Coal Conveying and Storage (ID Nos. G11053 and G11041):* 20 percent opacity	15A NCAC 02D .0524 (40 CFR Part 60, Subpart Y)
Particulate Matter	See Section 2.2 A.1	15A NCAC 02D .0530

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

a. Emissions of particulate matter from the coal processing and conveying equipment **(ID Nos. G11052, G11053, and G11041)** 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

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 GG.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 No. 4 Boiler Coal Bunker **(ID No. G11041**) shall be controlled by the bagfilters **(ID Nos. CD-013-011, CD-013-013, and CD-013-015)**. To ensure compliance, the Permittee shall perform inspections and maintenance as recommended by the manufacturer. In addition to the manufacturer's inspection and maintenance recommendations, or if there are no manufacturer's inspection and maintenance recommendations, as a minimum, the inspection and maintenance requirement shall include the following:
   i. a monthly visual inspection of the system ductwork and material collection unit for leaks; and
   ii. an annual (for each 12-month period following the initial inspection) internal inspection of the 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. The results of inspection and maintenance in Section 2.1 GG.1.c, above, for the No. 4 Boiler Coal Bunker **(ID No. G11041)** 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 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.

e. For the uncontrolled coal processing, conveying, and storage equipment **(ID Nos. G11052 and G11053)**, the Permittee shall maintain production records such that the process rates "P" in tons per hour, as specified by the formulas above can be derived, and shall make these records available to a DAQ authorized representative upon request. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0515 if the production records are not maintained or the types of materials are not monitored.

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

f. The Permittee shall submit the results of any maintenance performed on the bagfilters 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 .0524: NEW SOURCE PERFORMANCE STANDARDS (40 CFR PART 60, SUBPART Y)

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 Y, including Subpart A "General Provisions." [15A NCAC 02D .0524]

b. Visible emissions from Coal Processing and Conveying shall be less than the following:
   i. 10 percent opacity from the Crusher **(ID No. G11052);** and
   ii. 20 percent opacity from the Coal Conveying and Storage System Equipment **(ID Nos. G11053 and G11041)** shall be less than. [40 CFR 60.254(b)(1) and 60.254(a)]

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

c. If emissions testing is required, the testing shall be performed in accordance with General Condition JJ and 40 CFR 60.257. The Permittee shall conduct performance tests on the Crusher **(ID No. G11052)** for opacity as follows [40 CFR 60.255(b)(2)]:
   i. If all 6-minute average opacity readings in the most recent performance test are equal to or less than half the applicable opacity limit, a new performance test must be conducted within 12 calendar months of the date that the previous performance test was required to be completed.
   ii. If any 6-minute average opacity reading in the most recent performance test exceeds half the applicable opacity limit, a new performance test must be conducted within 90 operating days of the date that the previous performance test was required to be completed.

   The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0524 if the results of this test are above the limit given in Section 2.1 GG.2.b, above, or if the performance tests are not conducted as required.
d. To ensure compliance, once a month, the Permittee shall observe the emission points of the Coal Conveying and Storage System Equipment **(ID Nos. G11052 and G11041)** for any visible emissions above normal. The monthly observations must be made each month of the calendar year period to ensure compliance with this requirement. The Permittee shall establish normal for the first 30 days following the effective date of the permit. If visible emissions from the Coal Conveying and Storage System Equipment **(ID Nos. G11052 and G11041)** are observed to be above normal, the Permittee shall either:
   i. take appropriate action to correct the above-normal emissions as soon as practicable and within the monitoring period and record the action taken as provided in the recordkeeping requirements below, or
   ii. demonstrate that the percent opacity from the Coal Conveying and Storage System Equipment **(ID Nos. G11052 and G11041)** in accordance with 15A NCAC 02D .2610 (Method 9) for 12 minutes is below the limit given in Section 2.1 GG.2.b, above.

   If the above normal emissions are not corrected per (i), above, or if the demonstration in (ii), above, cannot be made, the Permittee shall be deemed to be in noncompliance with 15A NCAC .0524.

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

e. The Permittee shall maintain a logbook (written or electronic) on-site and make it available upon request. The logbook shall record the following [40 CFR 60.258(a)(1) through (a)(3)]:

i. The manufacturer's recommended maintenance procedures and the date and time of any maintenance and inspection activities and the results of those activities. Any variance from manufacturer recommendation, if any, shall be noted.
ii. The date and time of any periodic coal preparation and processing plant visual observations, noting those sources with visible emissions along with corrective actions taken to reduce visible emissions. Results from the actions shall be noted.
iii. The amount and type of coal processed each calendar month.

The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0524 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. The Permittee shall include following information in each summary report [40 CFR 60.258(b)(3) and (c)]:
   i. All 6-minute average opacity readings that exceed the applicable standards in Section 2.1 GG.2.b, above; and
   ii. The results of initial performance tests consistent with 40 CFR 60.8.

f. Within 60 days after the date of completing each performance evaluation conducted to demonstrate compliance with Section 2.1 GG.2, the Permittee must submit the test data to EPA by successfully entering the data electronically into EPA's WebFIRE data base available at *http://cfpub.epa.gov/oarweb/index.cfm?action=fire.main.* For performance tests that cannot be entered into WebFIRE (i.e., Method 9 of appendix A-4 of this part opacity performance tests) the Permittee shall mail a summary copy to United States Environmental Protection Agency; Energy Strategies Group; 109 TW Alexander DR; mail code: D243-01; RTP, NC 27711. [40 CFR 60.258(d)]

HH. Nos. 1 and 2 Natural Gas Package Boilers (ID Nos. G11050 and G11051) – equipped with low NOX burners and oxygen trim systems.

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

Pollutant	Limits/Standards	Applicable Regulation
Particulate Matter	0.156 pounds per million Btu heat input	15A NCAC 02D .0503
Sulfur Dioxide	2.3 pounds per million Btu heat input	15A NCAC 02D .0516
	see Section 2.2 J.1	15A NCAC 02D .0501
Visible Emissions	20 percent opacity	15A NCAC 02D .0521
Nitrogen Oxides	0.10 pounds per million Btu heat input	15A NCAC 02D .0524 40 CFR Part 60, Subpart Db
Hazardous Air Pollutants	Work Practices	15A NCAC 02D .1111 40 CFR Part 63, Subpart DDDDD
Particulate Matter ($PM/PM_{10}/PM_{2.5}$), Sulfur Dioxide, Nitrogen Oxides, Carbon Monoxide, H2SO4, Fluorides, TRS, Lead, and Volatile Organic Compounds	See Section 2.2 A.4	15A NCAC 02D .0530(u)

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

a. Emissions of particulate matter from the combustion of natural gas that are discharged from each of these boilers **(ID Nos. G11050 and G11051)** into the atmosphere shall not exceed 0.156 pounds per million Btu heat input.

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

b. If emission testing is required, the testing shall be performed in accordance General Condition JJ. If the results of the test are above the limit given in Section 2.1 HH.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 for particulate emissions from the firing of natural gas in these boilers **(ID Nos. G11050 and G11051).**

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

a. Emissions of sulfur dioxide from these boilers **(ID Nos. G11050 and G11051)** 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 HH.2.a, above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0516.

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

c. No monitoring/recordkeeping/reporting is required for sulfur dioxide emissions from the firing of natural gas in these boilers **(ID Nos. G11050 and G11051).**

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

a. Visible emissions from these boilers **(ID Nos. G11050 and G11051)** 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 HH.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/reporting is required for visible emissions from the firing of natural gas in these boilers **(ID Nos. G11050 and G11051)**.

4. 15A NCAC 02D .0524: NEW SOURCE PERFORMANCE STANDARDS (40 CFR Part 60, Subpart Db)

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 Db, including Subpart A "General Provisions."[15A NCAC 02D .0524]

Emission Limitations [15A NCAC 02D .0524]

b. Nitrogen oxide emissions shall not exceed 0.10 pounds per million Btu heat input pursuant to the following: [40 CFR 60.44b(a)(1)(i)]
   i. Compliance with the nitrogen oxide emission limits are determined on a 30-day rolling average basis [40 CFR 60.44b(i)].
   ii. The nitrogen oxide emission standards apply at all times [40 CFR 60.46b(a)]

Notifications [40 CFR 60.7 and 60.49b(a)]

c. The Permittee shall submit a notification of the date of initial startup each boiler **(ID Nos. G11050 and G11051)**, postmarked no later than 15 days after initial startup. In the notification of initial startup, the Permittee shall include the design heat capacity of the boiler and identification of the fuels to be combusted in the boiler.

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

d. 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 HH.4.b, above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0524.

e. The Permittee shall conduct an initial performance test for nitrogen oxides on each of the Nos. 1 and 2 Package Boilers **(ID Nos. G11050 and G11051)** as follows:
   i. The Permittee shall conduct the initial performance test within 60 days after achieving the maximum production rate at which each affected boiler will be operated, but not later than 180 days after initial startup of each boiler. [40 CFR 60.8(a) and 60.46b(e)]
   ii. During the initial performance test, the Permittee shall monitor nitrogen oxides emissions for 30 successive boiler operating days and the 30-day average emission rate shall be used to demonstrate compliance with the nitrogen oxides emission standards in Section 2.1 HH.4.b, above. [40 CFR 60.46b(e)(1)]
   iii. The Permittee shall calculate the 30-day average emission rate as the average of all hourly emissions data recorded by the monitoring system during the 30-day test period. [40 CFR 60.46b(e)(1)]

   The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0524 if the initial performance test is not conducted as required above.

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

f. The Permittee shall install, calibrate, maintain, and operate a CEM system for measuring nitrogen oxides and oxygen (or carbon dioxide) emissions discharged to the atmosphere from the Nos. 1 and 2 Natural Gas Package Boilers **(ID Nos. G11050 and G11051)**, and shall record the output of the system. [40 CFR 60.48b(b)]
   i. The CEMS shall be operated and data recorded during all periods of operation of the boilers **(ID Nos. G11050 and G11051)** except for CEMS breakdowns and repairs. [40 CFR 60.48b(c)]
   ii. Data shall be recorded during calibration checks, and zero and span adjustments. [40 CFR 60.48b(c)]
   iii. The 1-hour nitrogen oxides emission rates measured by the CEM installed on the Nos. 1 and 2 Package Boilers **(ID Nos. G11050 and G11051)** shall be expressed in pounds per million Btu heat input and shall be used to calculate the average emission rates for compliance with Section 2.1 HH.4.b, above. The 1-hour averages shall be calculated using the procedures in 40 CFR 60.13(h)(2). [40 CFR 60.48b(d)]
   iv. The Permittee shall follow the procedures under 40 CFR 60.13 for installation, evaluation, and operating of the CEM systems. [40 CFR 60.48b(e)]

v. When nitrogen oxides emissions data are not obtained because of CEMS breakdowns, repairs, calibration checks, and zero and span adjustments, emissions data shall be obtained by using standby monitoring systems, Method 7 and 3A of 40 CFR Part 60, or other approved reference method to provide emissions data for a minimum of 75 percent of the operating hours in each boiler **(ID Nos. G11050 and G11051)** operating day, in at least 22 out of 30 successive boiler operating days. [40 CFR 60.48b(f)]

The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0524 if the monitoring is not conducted as required above.

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

g. The Permittee shall maintain records for a period of two years of the following information for each boiler **(ID Nos. G11050 and G11051)** operating day: [40 CFR 60.49b(g) and (o)]
   i. Calendar date;
   ii. The average hourly nitrogen oxides emission rates (expressed as NO_2), in pounds per million Btu heat input, measured or predicted;
   iii. The 30-day average nitrogen oxides emission rates, in pounds per million Btu heat input, calculated at the end of each boiler operating day from the measured or predicted hourly nitrogen oxide emission rates for the preceding 30 steam generating unit operating days;
   iv. Identification of the boiler operating days when the calculated 30-day average nitrogen oxides emission rates are in excess of the nitrogen oxides emissions standards under Section 2.1 HH.4.2, above, with the reasons for such excess emissions as well as a description of corrective actions taken;
   v. Identification of the boiler operating days for which pollutant data have not been obtained, including reasons for not obtaining sufficient data and a description of corrective actions taken;
   vi. Identification of the times when emission data have been excluded from the calculation of average emission rates and the reasons for excluding data;
   vii. Identification of "F" factor used for calculations, method of determination, and type of fuel combusted;
   viii. Identification of the times when the pollutant concentration exceeded full span of the CEMS;
   ix. Description of any modifications to the CEMS that could affect the ability of the CEMS to comply with 40 CFR Part 60, Appendix B, Performance Specification 2 or 3; and
   x. Results of daily CEMS drift tests and quarterly accuracy assessments as required under 40 CFR Part 60, Appendix F, Procedure 1.

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

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

h. The Permittee shall submit the performance test data from the initial performance test and the results of the performance evaluation of the CEMS pursuant to the requirements of 40 CFR Part 60, Appendix B. [40 CFR 60.49b(b)]

i. 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.
   i. The summary report shall include the information recorded under Section 2.1HH.4.g, above. [40 CFR 49b(i)]
   ii. The Permittee shall include in the summary report any excess emissions that have occurred during the reporting period. Excess emissions are defined as any calculated 30-day rolling average nitrogen oxides emissions rate, calculated under Section 2.1 HH.4.e, above, that exceeds the emission limit in Section 2.1 HH.4.b, above. [40 CFR 49b(h)]

5. 15A NCAC 02D .1111: MAXIMUM ACHIEVABLE CONTROL TECHNOLOGY

Applicability

a. For the Nos. 1 and 2 Package Boilers **(ID Nos. G11050 and G11051)**, the Permittee shall comply with all applicable provisions for the "unit designed to burn gas 1 subcategory," 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 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."
[40 CFR 63.7485, 63.7490(d), 63.7499(l)]

b. In order for the boilers **(ID Nos. G11050 and G11051)** to be considered in the "unit designed to burn gas 1 subcategory," the Permittee shall only burn liquid fuel for periodic testing of liquid fuel, maintenance, or operator training, not to exceed a combined total of 48 hours during any calendar year, and during periods of gas curtailment or gas supply interruptions of any duration. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111 if the No. 2 fuel oil is burned in the boilers **(ID Nos. G11050 and G11051)** for periodic testing of liquid fuel, maintenance or operator training for more than 48 hours during any calendar year or if No. 2 fuel oil is burned in the boilers **(ID Nos. G11050 and G11051)** during any periods other than gas curtailment or gas supply interruption. [40 CFR 63.7575]

Definitions and Nomenclature [40 CFR 63.7575]

c. For the purpose of Section 2.1 HH.5, the definitions and nomenclature contained in 40 CFR 63.7575 shall apply.

40 CFR Part 63, Subpart A - General Provisions [40 CFR 63.7565]

d. The Permittee shall comply with the requirements of 40 CFR 63 Subpart A, General Provisions, pursuant to the applicability of Subpart A to such sources as identified in Table 10 to 40 CFR Part 63, Subpart DDDDD.

Compliance Date [40 CFR 63.7495]

e. The Permittee shall comply with the requirements of this section for the boilers **(ID Nos. G11050 and G11051)** upon startup. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111 if the compliance date is not met.

Notifications [40 CFR 63.7545(c)]

f. As specified in 40 CFR 63.9(b)(4) and (5), the Permittee shall submit an Initial Notification not later than 15 days after the actual date of startup of the boilers **(ID Nos. G11050 and G11051)**.
The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111 if the Initial Notification is not submitted.

g. The Permittee shall submit a Notification of Compliance Status for the boilers **(ID Nos. G11050 and G11051)**. The notification must be signed by a responsible official and postmarked before the close of business within 60 days of the compliance date specified in Section 2.1 HH.5.e, above. The notification shall contain the following:
   i. A description of the boilers **(ID Nos. G11050 and G11051)**, including a statement that the boilers are in "the unit designed to burn gas 1 subcategory," the design heat input capacity of the boilers, and description of the fuel(s) burned.
   ii. A signed certification that the facility completed the required initial tune-up for all of the boilers covered by 40 CFR Part 63, Subpart DDDDD and at this site pursuant to the procedures Section 2.1 HH.5.j, below. [40 CFR 63.7545(e)(8) and 63.7530(e), and (f)]

   The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111 if the Notification of Compliance Status is not submitted.

h. The Permittee shall submit a notification of intent to fire an alternative fuel within 48 hours of the declaration of each period of natural gas curtailment or supply interruption. The notification must include the following information:
   i. Company name and address;
   ii. Identification of the affected boiler;
   iii. Reason the Permittee is unable to use natural gas or equivalent fuel, including the date when the natural gas curtailment was declared or the natural gas supply interruption began;
   iv. The type of alternative fuel the Permittee intends to use; and
   v. Dates when the alternative fuel use is expected to begin and end.

   [40 CFR 63.7545(f)]
   The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111 if the notification of intent to fire an alternative fuel is not submitted.

General Compliance Requirements

i. The Permittee shall comply with the work practice standards in Section 2.1 HH.5.j, below at all times the boilers **(ID Nos. G11050 and G11051)** are operating. [40 CFR 63.7500(f) and 63.7505(a)]

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

j. The Permittee shall conduct a tune-up of the boilers **(ID Nos. G11050 and G11051)** as specified below. The Permittee shall conduct the tune-up while burning the type of fuel that provided the majority of the heat input to the boiler of the 12 months prior to the tune-up.

i As applicable, the Permittee shall inspect the burner, and clean or replace any components of the burner as necessary. The Permittee may perform the burner inspection at any time prior to the tune-up or delay the burner inspection until the next scheduled or unscheduled shutdown, but each burner must be inspected at least once every 72 months.

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 Permittee may delay the inspection 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.

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. The oxygen level shall be set no lower than the oxygen concentration measured during the most recent tune-up.
[40 CFR 63.7500(a) and 63.7540(a)(10)]

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

k. The tune-ups for the Nos. 1 and 2 Package Boilers **(ID Nos. G11050 and G11051)** shall be conducted pursuant to the following schedule. [Table 3 of Subpart DDDDD]

i. The initial tune-up for the boilers **(ID Nos. G11050 and G11051)** shall be no later than 61 months after initial startup of the unit. [40 CFR 63.7510(g) and 63.7515(d)]

ii. Subsequent tune-ups for each boiler **(ID Nos. G11050 and G11051)** shall be conducted every five years and no more than 61 months after the previous tune-up. [40 CFR 63.7540(a)(12), 63.7515(d)]

iii. The tune-up for each boiler **(ID Nos. G11050 and G11051)** may be delayed until the next scheduled or unscheduled unit shutdown, but the Permittee shall inspect each burner at least once every 72 months. [40 CFR 63.7540(a)(12)]

The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111 if the initial and subsequent tune-ups are not conducted as specified.

l. If the boilers **(ID Nos. G11050 and G11051)** are not operating on the required date for a tune-up, the tune-up must be conducted within 30 calendar days of startup. [40 CFR 63.7515(g) and 63.7540(a)(13)]
The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111 if the delayed tune-up is not conducted within 30 calendar days of startup.

m. At all times, the Permittee shall operate and maintain the boilers, 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 DAQ 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)]
The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111 if the boiler is not operated in a manner consistent with safety and good air pollution control practices for minimizing emissions.

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

n. The Permittee shall keep the following records:

i. A copy of each notification and report submitted to comply with Section 2.1 HH.5, including all documentation supporting any Initial Notification or Notification of Compliance Status, or compliance report that has been submitted, pursuant to the requirements in 40 CFR 63.10(b)(2)(xiv). [40 CFR 63.7555(a)(1)]

ii. A report, maintained on-site and submitted to DAQ if requested, 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 of each boiler **(ID Nos. G11050 and G11051)** in parts per million by volume, and oxygen in volume percent, measured before and after the tune-ups of the boilers **(ID Nos. G11050 and G11051)**;

(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 tune-ups, but only if the boilers were 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.

iii. The associated records for compliance with the work practice standards in Section 2.1 HH.5.i through GG.5.m, above, including the occurrence and duration of each malfunction of operation (i.e., process equipment) or the required air pollution control and monitoring equipment. [40 CFR 63.10(b)(2)]
iv. Records of the total hours per calendar year that alternative fuel is burned in the boilers **(ID Nos. G11050 and G11051)** and the total hours per calendar year that the boilers operated during periods of gas curtailment or gas supply emergencies. [40 CFR 63.7555(h)]

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

p. The Permittee shall:
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 records are not maintained as specified above. [40 CFR 63.7560 and 63.10(b)(1)]

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

q. The Permittee shall submit compliance reports to the DAQ every five years. The first report shall cover the period beginning on the compliance date specified in Section 2.1 HH.5.e, above, and ending on December 31 within five years after the compliance date in Section 2.1 HH.5.e, above. Subsequent reports shall cover the five-year periods from January 1 to December 31. The compliance reports shall be postmarked on or before January 31. [40 CFR 63.7550(a), (b) and 63.10(a)(4), (5)]

r. The Permittee shall submit the 5-year compliance report via the Compliance and Emissions Data Reporting Interface (CEDRI). (CEDRI can be accessed through the EPA's Central Data Exchange, CDX.) The Permittee shall use the appropriate electronic report in CEDRI 40 CFR Part 63, Subpart DDDDD. Instead of using the electronic report in CEDRI for this 40 CFR Part 63, Subpart DDDDD, the Permittee may submit an alternate electronic file consistent with the XML schema listed on the CEDRI Web site (http://www.epa.gov/ttn/chief/cedri/index.html), once the XML schema is available. If the reporting form specific to 40 CFR Part 63, Subpart DDDDD is not available in CEDRI at the time that the report is due, the Permittee shall submit the report to DAQ. The Permittee shall begin submitting reports via CEDRI no later than 90 days after the form becomes available in CEDRI. [40 CFR 63.7550(h)(3)]

s. The Permittee shall include the following information in the 5-year compliance report:
i. Company and facility name and address;
ii. Process unit information, emissions limitations, and operating parameter limitations;
iii. Date of report and beginning and ending dates of the reporting period;
iv. The date of the most recent tune-up for each boiler **(ID Nos. G11050 and G11051)** required pursuant to Section 2.1 HH.5.j. Include the date of the most recent burner inspection if it was not done as scheduled and was delayed until the next scheduled or unscheduled unit shutdown; and
v. If there are no periods of noncompliance from the requirements of the work practice requirements in Section 2.1 HH.5.j, above, a statement that there were no deviations from the work practice standards during the reporting period.

[40 CFR 63.7550(a) and (c)(1), (c)(5)(i) through (iii), (c)(5)(xiv), (c)(5)(xvii), and Table 9]

t. If the Permittee has a period of noncompliance with a work practice standard for periods of startup and shutdown during the reporting period, the compliance report must also contain the following information:
i. A description of the period of noncompliance and which work practice standard from which the Permittee was in noncompliance; and
ii. Information on the number, duration, and cause of periods of noncompliance (including unknown cause), as applicable, and the corrective action taken.

[40 CFR 63.7540(b), 63.7550(a) and (d) and Table 9]

2.2 Multiple Emission Source(s) Specific Limitations and Conditions

A. Prevention of Significant Deterioration (PSD):

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

a. The Permittee shall comply with all applicable provisions, including the notification, testing, reporting, recordkeeping, and monitoring requirements in accordance with 15A NCAC 02D .0530, "Prevention of Significant Deterioration of Air Quality" as promulgated in 40 CFR 51.166.

Operations Restrictions [15A NCAC 02D .0530]

b. The Permittee shall meet the following requirements on the No. 4 Power Boiler **(ID No. G11040)**:
   i. a dust suppression system and enclosed conveyor system for feeding coal to the No. 4 Power Boiler **(ID No. G11040)** shall be installed and maintained;
   ii. the No. 4 Power Boiler **(ID No. G11040)** design shall incorporate low excess air in the primary combustion zone and staged combustion, and tangential firing to control NO_X emissions;
   iii. the coal fuel shall be low sulfur coal (as required in Section 2.1 U.2.k, above), and the NSPS limits in Section 2.1 U.2.b, above, for sulfur dioxide and nitrogen oxides shall apply;
   iv. the particulate matter emissions from the No. 4 Power Boiler **(ID No. G11040)** shall be limited to 0.085 pounds per million Btu;
   v. the steam production from the Riley Coal boiler (**ID No. G11039)** shall be limited to no more than 300,000 lb steam/hr (399 million Btu per hour heat input).
   vi. Riley Coal boiler (**ID No. G11039**) shall be limited to particulate matter emissions of no more than 0.15 pounds per million Btu, each;
   vii. nitrogen oxide emissions from boilers Riley Coal and No. 4 Power Boiler **(ID Nos. G11039 and G11040)** shall be limited to 4,368 tons per 12-month rolling total; and
   viii. carbon monoxide emissions from boilers Riley Coal and No. 4 Power Boiler **(ID Nos. G11039 and G11040)** shall be limited to 898.2 tons per 12-month rolling total.

   The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0530 if any of these operational restrictions are exceeded.

Emissions Limitations [15A NCAC 02D .0530]

c. The Permittee shall meet the following emissions limitations:
   i. particulate matter emissions from the No. 4 Power Boiler **(ID No. G11040)** shall be limited to no more than 0.085 pounds per million Btu;
   ii. particulate matter emissions from the Riley Coal boiler (**ID No. G11039**) shall be limited to no more than 0.15 pounds per million Btu, each;
   iii. nitrogen oxide emissions from boilers Riley Coal and No. 4 Power Boiler **(ID Nos. G11039 and G11040)** shall be limited to 4,368 tons per 12-month rolling total; and
   iv. carbon monoxide emissions from boilers Riley Coal, and No. 4 Power Boiler **(ID Nos. G11039 and G11040)** shall be limited to 898.2 tons per 12-month rolling total.

   The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0530 if any of these emissions limitations are exceeded.

Testing [15A NCAC 02D2Q .0508(f)]

d. If emissions testing is required, the testing shall be performed in accordance with General Condition JJ. If the results of the testing are above the limits given in Section 2.2 A.1.c, above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0530.

e. Under the provisions of NCGS 143-215.108, the Permittee shall demonstrate compliance with the particulate matter emission limits above by utilizing the test results of the particulate matter testing required per Section 2.1 T.2 and U.1. If the results of the testing are above the particulate matter limits given in Section 2.2 A.1.c, above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0530.

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

e. For compliance purposes, the following shall be monitored and recorded (in written or electronic format):
   i. the monthly usage of all fuels burned at the facility, categorized by source, for the previous fourteen months. The usage must be calculated for each of the three twelve month periods over the previous fourteen months;

ii. the total monthly nitrogen oxide, and carbon monoxide emissions from Riley Coal and No. 4 Power Boiler **(ID Nos. G11039 and G11040)** for the previous fourteen months. The emissions shall be provided for each of the three twelve month periods over the previous fourteen months; and
iii. The Permittee shall keep each monthly record on file for a minimum of three years.
iv. The Permittee shall follow the monitoring and recordkeeping per Section 2.1 T.2.d and Section 2.1 U.2.c through U.2.h.

The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0530 if these requirements are not monitored or if the records are not maintained.

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

f. The Permittee shall submit a summary report, acceptable to the Regional Air Quality Supervisor, of monitoring and recordkeeping activities within 30 days after each calendar year quarter, 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 of each calendar year for the preceding three-month period between July and September.

2. 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 for major sources and major modifications, boilers Riley Coal and No. 4 Power Boiler **(ID Nos. G11039 and G11040)** shall discharge into the atmosphere less than 8,277 tons of sulfur dioxide per consecutive 12-months.

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 the testing is above the limit given in Section 2.2 A.2.a, above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0530.

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

c. For compliance purposes, the following shall be monitored and recorded (in written or electronic format):
i. the monthly usage of all fuels burned at the facility, categorized by source, for the previous fourteen months. The usage must be calculated for each of the three twelve month periods over the previous fourteen months;
ii. the total monthly sulfur dioxide emissions from Riley Coal and No. 4 Power Boiler **(ID Nos. G11039 and G11040)** for the previous fourteen months. The sulfur dioxide data shall utilize fuel sulfur sampling results for coal and fuel oil. The emissions shall be provided for each of the three twelve month periods over the previous fourteen months; and
iii. The Permittee shall keep each monthly record on file for a minimum of three years.

The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0530 if these requirements are not monitored or if the records are not maintained.

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

d. The Permittee shall submit a summary report, acceptable to the Regional Air Quality Supervisor, of monitoring and recordkeeping activities within 30 days after each calendar year quarter, 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 of each calendar year for the preceding three-month period between July and September.

3. 15A NCAC 02D. 0530(u): USE OF PROJECTED ACTUAL EMISSIONS TO AVOID APPLICABILITY OF PREVENTION OF SIGNIFICANT DETERIORATION REQUIREMENTS

Use of Projected Actual Emissions [15A NCAC 02D .0530(u)]

a. Pursuant to 15A NCAC 02D .0530(u), the applicant relied on the use of projected actual emissions to demonstrate that the burning of natural gas in the Nos. 4 and 5 Lime Kilns and the Nos. 10 and 11 Recovery Furnaces **(ID Nos. G09028, G09029, G08020, and G08021)** and the associated new burners, as requested in permit application 4400159.10A, would not result in a significant emissions increase. In order to verify the assumptions used in the projected actual emissions calculations, the Permittee shall comply with the testing, recordkeeping and reporting requirements in Section 2.2 A.3.b through A.3.d, below.

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

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

Recordkeeping [15A NCAC 02D .0530(u)]

c. The Permittee shall calculate and maintain records of actual emissions of carbon monoxide and volatile organic compounds from the Nos. 4 and 5 Lime Kilns and the Nos. 10 and 11 Recovery Furnaces **(ID Nos. G09028, G09029, G08020, and G08021)** in tons per year on a calendar year basis for each of the five years following the resumption of regular operations upon commencement of the modifications described in application 4400159.10A.

Reporting [15A NCAC 02D .0530(u)]

d. The Permittee shall submit a report for carbon monoxide and volatile organic compound emissions to the Director within 60 days after the end of each calendar year during which the records in Section 2.2 A.3.c, above, must be generated. The report shall contain the following items [CFR 51.166(r)(6)(v)(a) through (c)]:
   i. The name, address and telephone number of the major stationary source;
   ii. The annual emissions as calculated pursuant to Section 2.2 A.3.c, above; and
   iii. Any other information that the owner or operator wishes to include in the report (e.g., an explanation as to why the emissions differ from the preconstruction projection).

4. 15A NCAC 02D .0530(u): USE OF PROJECTED ACTUAL EMISSIONS TO AVOID APPLICABILITY OF REQUIREMENTS OF PSD

a. The Permittee has used projected actual emissions to avoid applicability of prevention of significant deterioration requirements pursuant to application 4400159.16A for the Repowering Project Modification consisting of the addition of the Nos. 1 and 2 Package Boilers **(ID Nos. G11050 and G11051)**; the rebuild of the ESP **(ID No. 11-CD-005-01)** and installation a wet scrubber **(ID No. 11-CD-005-02)** on the Riley Coal Boiler **(ID No. G11039);** and replacement of the oil burners with natural gas burners, the rebuild of the ESP **(ID No. 11-CD-006-01)** and installation of a wet scrubber **(ID No. 11-CD-006-03)** on the No. 4 Power Boiler **(ID No. G11040)**. In order to verify the assumptions used in the projected actual emissions calculations, the Permittee shall comply with the requirements in Section 2.2 A.4.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 Nos. 1 and 2 Package Boilers **(ID Nos. G11050 and G11051)**, the Permittee shall maintain records of annual SO_2, PM, PM_{10}, $PM_{2.5}$, NO_X, CO, H_2SO_4, Fluorides, TRS, Lead, and VOC emissions from the Riley Coal Boiler **(ID No. G11039)**, No. 4 Power Boiler **(ID No. G11040)**, and the Nos. 1 and 2 Package Boilers **(ID Nos. G11050 and G11051)** in tons per year, on a calendar year basis related to the Repowering Project. The Permittee shall calculate these annual emissions for five years following startup of regular operations of the Nos. 1 and 2 Package Boilers.
   ii. The Permittee shall submit a report to the director 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).
   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)
SO_2	6076
PM (filterable only)	270
PM_{10}	314
$PM_{2.5}$	203
NO_X	2621
CO	751
H_2SO_4	71.8
F	27.1
TRS	9.9
Pb	0.64
VOC	42.6

* 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.

5. 15A NCAC 02D. 0530(u): USE OF PROJECTED ACTUAL EMISSIONS TO AVOID APPLICABILITY OF PREVENTION OF SIGNIFICANT DETERIORATION REQUIREMENTS

Use of Projected Actual Emissions [15A NCAC 02D .0530(u)]

a. The Permittee has used projected actual emissions to avoid applicability of prevention of significant deterioration requirements for a project consisting of modifications to the West GB Evaporator (ID No. 07-PU-003) and appurtenant equipment including but not limited to converting the evaporator to a six body, five effect evaporator. This project will increase the evaporation capacity and allow processing of more liquor contaminated water concurrently with the weak black liquor from the pulp mill. This project is fully described in Permit Application No. 4400159.18H. In order to verify the assumptions used in the projected actual emissions calculations, the Permittee shall comply with the testing, record keeping and reporting requirements in Sections 2.2 A.5.b through A.5.e, below.

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

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

Recordkeeping [15A NCAC 02D .0530(u)]

c. The Permittee shall maintain records of the actual emissions the pollutants listed in Table 2.2 A.5.1 below from the sources indicated in Table 2.2 A.5.2 below. Records shall start following the resumption of regular operations after the modifications described in Permit Application No. 4400159.18H and shall continue for ten years after the resumption of regular operations after the modifications described in Permit Application no. 4400159.18H. The first year shall start on the first day of the first full calendar month after commencing regular operations after the modification described in Permit Application No. 4400159.18H. Each subsequent year shall include the same 12-month period.

d. The reported actual emissions (post-construction emissions) of the sources in Table 2.2 A.5.2 for each of the years will be compared to the projected actual emissions (pre-construction projection) for the same sources included below:

Table 2.2 A.5.1

Pollutant	Projected Actual Emissions* (tons per year)
SO_2	3795
PM (filterable only)	518
PM_{10}	624
$PM_{2.5}$	526
NO_X	4353
CO	1938
H_2SO_4	73
F	30
TRS (as H2S)	175
Pb	0.8
VOC	1380

* 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.

The Permittee shall make the information, documented and maintained in this condition available to the Director or the general public pursuant to the requirements in 40 CFR 70.4(b)(3)(viii).

Table 2.2 A.5.2

ID No.	Emission Source Description	ID No.	Emission Source Description
G02004	Digester Area (Batch Digesters and Blow Heat Systems)		
G03005	No. 1 Hardwood Fiberline Brownstock Washing System (Brownstock Washers and Foam Tanks)	G11039	Riley Coal Boiler
G03006	No. 2 Pine Fiberline Brownstock Washing System (Washers, Filtrate tanks, and Brownstock Washer Mix Tanks)	G11040	No. 4 Power Boiler
G03007	Reject Knots	G11042	Riley Bark Boiler
G04009	No. 1 Hardwood Fiberline Oxygen Delignification System (Reactor, Blow Tank, Washer, and Filtrate Chest)	G11050	No. 1 Natural Gas Package Boiler
G04010	No. 2 Pine Fiberline Oxygen Delignification System (Reactor, Blow Tank, and Washer)	G11051	No. 2 Natural Gas Package Boiler
G04011	White Liquor Oxidation System	G12048	No. 20 Paper Machine
G04025	No. 1 Hardwood Fiberline Pulp Screening System	G12049	No. 19 Paper Machine
G04026	No. 2 Pine Fiberline Pulp Screening System	G12050	No. 12 Paper Machine
G05012	No. 1 Hardwood Fiberline Bleaching System (D1, Eo, and D2 Towers, Washers, Filtrate Tanks)	G12051	No. 11 Paper Machine
G05013	No. 2 Pine Fiberline Bleaching System (D1, Eo, D2 Towers, Washers, & Filtrate Tanks)	I-G12077	Hot Oil Heaters on No. 19 Paper Machine
G05073	Minerals Removal Process (MRP)	G16081	WTP Primary Clarifiers
G06014	Chlorine Dioxide Generation System (ClO2 Generator and ClO2 Solution Storage Tanks)	G21072	Tall Oil Reactor
I-G06015	Methanol Storage	G16082	WTP Aeration and Digestion Basins
G07019	Heavy Black Liquor Storage	I-G23066.c	Coal Handling Fugitives
G07086	Weak Black Liquor Storage	G23066.k	No. 1 Fiberline Building Ventilation
G08020	No. 10 Recovery Furnace	G23066.l	No. 2 Fiberline Building Ventilation
G08021	No. 11 Recovery Furnace	I-G23066.a	Sewer Lines
I-G08020-1	Saltcake Mix Tank #10 RF	I-G23066.d	Water Treatment
I-G08021-1	Saltcake Mix Tank #11 RF	I-G23066.b	Truck Traffic Fugitives
G08022a	Black Liquor Oxidation System	G24087	No. 1 Hardwood Fiberline Deckers (Deckers and Filtrate Tank)
G08023	No. 10 Smelt Dissolving Tank	G24088	No. 2 Hardwood Fiberline Deckers (Deckers and Filtrate Tank)
G08024	No. 11 Smelt Dissolving Tank	G24092	Hardwood Brownstock High Density Storage
I-G08074	Chloride Removal Process (CRP)	G24094	Pine Brownstock High Density Storage
G09027	Lime Production - Other Units (Pre-coat Filters)	I-G10036.10-TK-015	White Liquor Clarifier (West)
G09028	No. 4 Lime Kiln	I-G10036.10-TK-018	White Liquor Clarifier (EIMCO)
G09029	No. 5 Lime Kiln	I-G10036.10-TK-012	White Liquor Clarifier (South)
G10034	No. 6 Lime Slaker	I-G23065	Bleached Stock Storage
G10035	No. 5 Lime Slaker	G11045	Utility Boiler Flyash Handling System (Main Flyash Silo and Pneumatic Collection System)
I-G10036.10-TK-010	Causticizer (Center)	G11025	No. 4 Power Boiler Flyash Transfer Silo
I-G10036.10-TK-009	Causticizer (East)	G11044	Riley Bark Boiler Fuel Feed System
I-G10036.10-TK-025	Causticizer (South)	G13054	East Starch Storage Silo
I-G10036.10-TK-011	Causticizer (West)	G13055	West Starch Storage Silo
G10089	Green Liquor Clarification and Storage	G13056	Center Starch Storage Silo
G10090	Green Liquor Stabilization	G09031	No. 6 Lime Silo Dust Collection System (Storage Silos, Conveyor, Crusher, and Elevator)
I-G10091	Lime Mud Washers and Storage	G09032	No. 5 Lime Silo Dust Collection System (Storage Silos, Conveyor, Crusher, and Elevator)

Reporting [15A NCAC 02D .0530(u)]

e. The Permittee shall submit a report of the actual emissions of the pollutants identified in Table 2.2 A.5.1 from the sources in Table 2.2 A.5.2 to the Director within 60 days after the end of each year (as defined in Section 2.2 A.5.c) during which the records in Section 2.2 A.5.c must be generated. The report shall contain the items listed in 40 CFR 51.166(r)(6)(v)(a) through (c).

6. 15A NCAC 02D. 0530(u): USE OF PROJECTED ACTUAL EMISSIONS TO AVOID APPLICABILITY OF PREVENTION OF SIGNIFICANT DETERIORATION REQUIREMENTS

Use of Projected Actual Emissions [15A NCAC 02D .0530(u)]

a. The Permittee has used projected actual emissions to avoid applicability of Prevention of Significant Deterioration requirements for the Recausticizing Optimization Project consisting of: (1) upgrades to the Green Liquor Clarifiers **(ID Nos. G10089.10-TK-005 and 10-TK-006)**, West Green Liquor Storage Tank **(ID No. G10089.10-TK-002)**, Dregs Filter **(ID No. G09027-3)**, and Lime Pre-Coat Filters **(ID Nos. G09027.09-PU-001, 09-PU, and 09-PU-004)**; (2) new Causticizer **(ID No. I-G10036-TK-026)** and new White Liquor Pressure Disc Filter **(ID No. G10036.10a)**; (3) upgrades to Nos. 4 and 5 Lime Kiln Scrubbers **(ID Nos. 09-CD-009-01 and 09-CD-010-01)**; and (4) piping changes to the cyclone ring headers associated with the Nos. 10 and 11 Recovery Furnace **(ID Nos. G08020 and G08021)**. This project will reduce the amount of purchased make-up lime, reduce the amount of lime mud currently disposed in the mill landfill, enhance compliance with PM emission limits applicable to the Nos. 4 and 5 Lime Kilns, and reduce plugging in the direct contact cyclone evaporators associated with the Nos. 10 and 11 Recovery Furnaces. This project is fully described in Permit Application No. 4400159.20B. In order to verify the assumptions used in the projected actual emissions calculations, the Permittee shall comply with the testing, record keeping and reporting requirements in Sections 2.2 A.6.b through A.6.e, below.

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

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

Recordkeeping [15A NCAC 02D .0530(u)]

c. The Permittee shall maintain records of the actual emissions the pollutants listed in Table 2.2 A.6.1, below, from the sources indicated in Table 2.2 A.6.2, below. Records shall start following the resumption of regular operations after the modifications described in Permit Application No. 4400159.20B and shall continue for five years after the resumption of regular operations after the modifications described in Permit Application No. 4400159.20B. The first year shall start on the first day of the first full calendar month after commencing regular operations after the modification described in Permit Application No. 4400159.20B. Each subsequent year shall include the same 12-month period.

d. The Permittee shall make the information, documented and maintained in this condition available to the Director or the general public pursuant to the requirements in 40 CFR 70.4(b)(3)(viii). The reported actual emissions (post-construction emissions) of the sources in Table 2.2 A.6.2 for each of the years will be compared to the projected actual emissions (pre-construction projection) for the same sources included below:

Table 2.2 A.6.1

Pollutant	Projected Actual Emissions* (tons per year)
SO_2	41
PM (filterable only)	330
PM_{10}	282
$PM_{2.5}$	225
NO_X	1,480
CO	1,093
H_2SO_4	2.8
F	0.6
TRS (sum of compounds)	218
H_2S	76
Pb	0.02
VOC	1,453

*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.

Table 2.2 A.6.2

ID No.	Emission Source Description	ID No.	Emission Source Description
G02004	Digester Area (Batch Digesters and Blow Heat Systems)	G09027-3	Dregs Filter
G03005	No. 1 Hardwood Fiberline Brownstock Washing System (Brownstock Washers and Foam Tanks)	G09028	No. 4 Lime Kiln
G03006	No. 2 Pine Fiberline Brownstock Washing System (Washers, Filtrate tanks, and Brownstock Washer Mix Tanks)	G09029	No. 5 Lime Kiln
G03007	Reject Knots	G10034	No. 6 Lime Slaker
G04009	No. 1 Hardwood Fiberline Oxygen Delignification System (Reactor, Blow Tank, Washer, and Filtrate Chest)	G10035	No. 5 Lime Slaker
G04010	No. 2 Pine Fiberline Oxygen Delignification System (Reactor, Blow Tank, and Washer)	I-G10036	Causticizers
G04011	White Liquor Oxidation System	G10089	Green Liquor Clarification and Storage
G04025	No. 1 Hardwood Fiberline Pulp Screening System	G10090	Green Liquor Stabilization
G04026	No. 2 Pine Fiberline Pulp Screening System	I-G10091	Lime Mud Washers and Storage
G05012	No. 1 Hardwood Fiberline Bleaching System (D1, Eo, and D2 Towers, Washers, Filtrate Tanks)	G16081	WTP Primary Clarifiers
G05013	No. 2 Pine Fiberline Bleaching System (D1, Eo, and D2 Towers, Washers, and Filtrate Tanks)	G21072	Tall Oil Reactor
G05073	Minerals Removal Process (MRP)	G16082	WTP Aeration and Digestion Basins
G06014	Chlorine Dioxide Generation System (ClO2 Generator and ClO2 Solution Storage Tanks)	G23066.k	No. 1 Fiberline Building Ventilation
I-G06015	Methanol Storage	G23066.l	No. 2 Fiberline Building Ventilation
G07019	Heavy Black Liquor Storage	I-G23066.a	Sewer Lines
G07086	Weak Black Liquor Storage	I-G23066.d	Water Treatment
G08020	No. 10 Recovery Furnace	I-G23066.b	Truck Traffic Fugitives
G08021	No. 11 Recovery Furnace	G24087	No. 1 Hardwood Fiberline Deckers (Deckers and Filtrate Tank)
I-G08020-1	Saltcake Mix Tank #10 RF	G24088	No. 2 Hardwood Fiberline Deckers (Deckers and Filtrate Tank)
I-G08021-1	Saltcake Mix Tank #11 RF	G24092	Hardwood Brownstock High Density Storage
G08022a	Black Liquor Oxidation System	G24094	Pine Brownstock High Density Storage
G08023	No. 10 Smelt Dissolving Tank	I-G10036	White Liquor Clarifiers
G08024	No. 11 Smelt Dissolving Tank	I-G23065	Bleached Stock Storage
I-G08074	Chloride Removal Process (CRP)	G09031	No. 6 Lime Silo Dust Collection System (Storage Silos, Conveyor, Crusher, and Elevator)
G09027	Lime Production - Other Units	G09032	No. 5 Lime Silo Dust Collection System (Storage Silos, Conveyor, Crusher, and Elevator)

Reporting [15A NCAC 02D .0530(u)]

e. The Permittee shall submit a report of the actual emissions of the pollutants identified in Table 2.2 A.6.1 from the sources in Table 2.2 A.6.2 to the Director within 60 days after the end of each year (as defined in Section 2.2 A.6.c) during which the records in Section 2.2 A.6.c must be generated. The report shall contain the items listed in 40 CFR 51.166(r)(6)(v)(a) through (c).
   i. The name, address and telephone number of the major stationary source;
   ii. The annual emissions as calculated pursuant to Section 2.2 A.6.c, above; and
   iii. Any other information that the owner or operator wishes to include in the report (e.g., an explanation as to why the emissions differ from the preconstruction projection).

B. Permit Application Submittal Requirement

1. [RESERVED]

2. 15A NCAC 02Q .0504: OPTION FOR OBTAINING CONSTRUCTION AND OPERATION PERMIT

Permitting [15A NCAC 02Q .0504(d)]

a. As required under 15A NCAC 02Q .0501(c)(2), the Permittee shall have one year from the date of beginning operation rebuilt ESPs **(ID Nos. 11-CD-005-01 and 11-CD-006-01),** installed on the Riley Coal Boiler and the No. 4 Power Boiler **(ID Nos. G11039 and G11040)**, to file an amended application following the procedures of Section 15A NCAC 02Q .0504.

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

b. The Permittee shall notify the Regional Office, in writing, of the date of beginning operation of the rebuilt ESPs **(ID Nos. 11-CD-005-01 and 11-CD-006-01)** installed on the Riley Coal Boiler and the No. 4 Power Boiler **(ID Nos. G11039 and G11040)** postmarked no later than 30 days after such date.

3. [RESERVED]

4. [RESERVED]

5. 15A NCAC 02Q .0504: OPTION FOR OBTAINING CONSTRUCTION AND OPERATION PERMIT

Permitting [15A NCAC 02Q .0504(d)]

a. Pursuant to 15A NCAC 02Q .0501(b)(2), for completion of the two-step significant modification process initiated by Application No. 4400159.19A, the Permittee shall file an amended application following the procedures of Section 15A NCAC 02Q .0500 within one year from the date the condensates from the black liquor oxidation system condensate collection tank **(ID No. 08-TK-001)** are hard-piped to the WTP and aeration and digestion basin are reconfigured as proposed in Application No. 4400159.19A.

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

b. The Permittee shall notify the Regional Office in writing of the date that condensates from the black liquor oxidation system condensate collection tank **(ID No. 08-TK-001)** are hard-piped from the to the WTP and aeration and digestion basin postmarked no later than 30 days after such date.

6. [RESERVED]

C. 40 CFR 63, Subpart S Affected Sources:

Source ID No.	Source Description	Control ID No	Control Description
Bleaching System Sources			
G05012	**No. 1 Hardwood Fiberline Bleaching System:**	05-CD-002-01	No.1 Fiberline Bleaching countercurrent packed tower-type wet scrubber (190 gallons per minute white liquor design flow rate)
	D1 Stage (ClO_2) Tower (No. 05-PU-003)		
	D1 Stage (ClO_2) Washer (No. 05-PU-004)		
	D1 Stage (ClO_2) Filtrate Tank (No. 05-TK-003)		
	D2 Stage (ClO_2) Tower (No. 05-PU-010)		
	D2 (ClO_2) Stage Washer (No. 05-PU-012)		
	D2 Stage (ClO_2) Filtrate Tank (No. 05-TK-011)		
G05013	**No. 2 Pine Fiberline Bleaching System:**	05-CD-017-01	No.2 Pine Fiberline Bleaching countercurrent packed tower-type wet scrubber (70 gallons per minute white liquor design flow rate)
	D1 Stage (ClO_2) Tower (No. 05-PU-017)		
	D1 Stage (ClO_2) Washer (No. 05-PU-022)*		
	D1 Stage (ClO_2) Filtrate Tank (No. 05-TK-018)		
	D2 Stage (ClO_2) Tower (No. 05-PU-021)		
	D2 Stage (ClO_2) Washer (No. 05-PU-024)*		
	D2 Stage (ClO_2) Filtrate Tank (No. 05-TK-027)		
LVHC System Sources			
G02004	**Digester Area:**	G09028	No. 4 Lime Kiln (primary) (via NCG closed collection system)
	Eighteen (18) batch digesters (No. 02-PU-001)		
	No. 1 Hardwood Blow Heat System Blow Tank (No. 02-PU-005)	or	or
	No. 1 Hardwood Blow Heat System Fiberline Accumulator (No. 02-PU-006)	G09029	No. 5 Lime Kiln (backup) (via NCG closed collection system)
	No. 1 Hardwood Blow Heat System Secondary Condenser (No. 02-PU-008)		
	No. 2 Pine Blow Heat System Blow Tank (No. 02-PU-003)		
	No. 2 Pine Blow Heat System Fiberline Accumulator (No. 02-PU-007)		
	No. 2 Pine Blow Heat System Secondary Condenser (No. 02-PU-009)		
G07016	**Black Liquor Evaporator Systems:**	G09029	No. 4 Lime Kiln (primary) (via NCG closed collection system)
	Swenson Countercurrent Evaporator (No. 07-PU-002)		
	Swenson Evaporator Hotwell (No. 07-TK-006)		
	West GB Countercurrent Evaporator (No. 07-PU-003)	or	or
	West GB Evaporator Hotwell (No. 07-TK-007)	G09028	No. 5 Lime Kiln (backup) (via NCG closed collection system)

Source ID No.	Source Description	Control ID No	Control Description
G07018	**Foul Condensate System:**	G09029	No. 5 Lime Kiln (primary) (via NCG closed collection system)
	Condensate Stripper (No. 07-PU-015)		
	Stripper Feed Tank (No. 07-TK-011)		
	Reflux Tank (No. 07-TK-014)	or	or
		G09028	No. 4 Lime Kiln (backup) (via NCG closed collection system)
G20060	**No. 1 Hardwood Turpentine Recovery System:**	G09029	No. 4 Lime Kiln (primary) (via NCG closed collection system)
	Turpentine Entrainment System (No. 20-PU-001)		
	Turpentine Condenser (No. 20-PU-002)		
	Turpentine Decanter (No. 20-TK-003)	or	or
	Turpentine Underflow Tank (No. 20-TK-004)		
	Turpentine Transfer Tank (No. 20-TK-005)	G09028	No. 5 Lime Kiln (backup) (via NCG closed collection system)
G20061	**No. 2 Pine Turpentine Recovery System:**	G09029	No. 4 Lime Kiln (primary) (via NCG closed collection system)
	Turpentine Entrainment System (No. 20-PU-006)		
	Turpentine Condenser (No. 20-PU-007)		
	Turpentine Decanter (No. 20-TK-008)	or	or
	Turpentine Underflow Tank (No. 20-TK-009)		
	Turpentine Transfer Tank (No. 20-TK-010)	G09028	No. 5 Lime Kiln (backup) (via NCG closed collection system)
HVLC System Sources			
G03005	**No. 1 Hardwood Fiberline Brownstock Washing System:**	NA	NA
	Nos. 1 through 4 Brownstock Washers (No. 03-PU-001)		
	Foam Tank No. 1 (No. 03-TK-003)		
	Foam Tank No. 2 (No. 03-TK-004)		
G03006	**No. 2 Pine Fiberline Brownstock Washing System:**	NA	NA
	Washers and Filtrate Tanks (No. 03-PU-032)*		
	Brownstock Washer Mix Tanks (Nos. 03-TK-015, 03-TK-016, 03-TK-017)		
G04009	**No. 1 Hardwood Fiberline Oxygen Delignification System:**	NA	NA
	O_2 Reactor (No. 04-PU-001)*		
	O_2 Blow Tank (No. 04-TK-005)		
	Post-O_2 Washer (No. 04-PU-002)		
	Post-O2 Filtrate Chest (No. 04-TK-008)		
G04010	**No. 2 Pine Fiberline Oxygen Delignification System:**	NA	NA
	O_2 Reactor (No. 04-PU-014)*		
	O_2 Blow Tank (No. 04-TK-018)		
	Post-O_2 Washer (No. 04-PU-016)		
G24087	**No. 1 Hardwood Fiberline Deckers:**	NA	NA
	East Decker (No. 04-PU-009)		

Source ID No.	Source Description	Control ID No	Control Description
	West Decker (No. 04-PU-004)		
	Decker Filtrate Tank (No. 04-TK-007)		
G24088	**No. 2 Pine Fiberline Deckers:**	NA	NA
	Decker (No. 04-PU-015)		
	Decker Filtrate Tank (No. 04-TK-017)		
G04025	No. 1 Hardwood Fiberline Pulp Screening System (No. 04-TK-008)	NA	NA
G04026	No. 2 Pine Fiberline Pulp Screening System	NA	NA
	HVLC Foul Gas Collection System Cooler		

* Sources are fully enclosed and do not have emission points.

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

Pollutant	Limits/Standards	Applicable Regulation
Hazardous Air Pollutants	**Bleaching System** 10 ppmv total chlorinated HAP **LVHC System** Route system vents to No. 4 Lime Kiln or No. 5 Lime Kiln **HVLC System** The following sources are not subject to HVLC control requirements: • Knotter and screen systems with emissions less than 0.3 pounds per ton of oven dried pulp (See Section 2.2 C.1.d, below): • Decker systems that use any process water with a total HAP concentration less than or equal to 400 ppm by weight (see Section 2.2 C.1.d, below): No control is required for HAP emissions from brownstock washing and oxygen delignification systems under an alternate compliance approach using the equivalency by permit option authorized under 40 CFR 63.94. (See Section 2.2 C.2, below) **Pulping Condensate Collection** Collect a minimum 11.1 pounds HAP per ODTP followed by treatment in the Condensate Steam Stripper, meeting: 92 percent HAP removal, or 10.2 pounds HAP per ODTP removal	15 A NCAC 02D .1111 (40 CFR 63 Subpart S)

1. 15A NCAC 02D .1111: MACT 40 CFR PART 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."

Emission Limitations [15A NCAC 02D .1111]

Standards for the Bleaching Systems

b. The Permittee shall meet the following control requirements for bleaching systems using chlorinated compounds [40 CFR 63.445]:

i. The equipment at each bleaching stage of the bleaching systems **(ID Nos. G05012 and G05013)**, where chlorinated compounds are introduced shall be enclosed and vented into a closed-vent system meeting the requirements specified Section 2.2 C.1.g, below, and introduced into the respective bleach plant scrubbers **(ID Nos. 05-CD-002-01 and 05-CD-017-01)**;

ii. The bleach plant scrubbers **(ID Nos. 05-CD-002-01 and 05-CD-017-01)** shall achieve a treatment device outlet concentration of 10 ppmv or less of total chlorinated HAP; and

iii. The Permittee shall not use hypochlorite or chlorine for bleaching in the bleaching systems **(ID Nos. G05012 and G05013)**. [40 CFR 63.445(d)(2)]
iv. Until September 11, 2020, the Permittee shall comply with the work practice standards specified in Section 2.2 G.4, below, during startup, shutdown, and malfunction events.

Standards for the LVHC and HVLC pulping systems at Kraft processes

c. The Permittee shall meet the following control requirements for the total HAP emissions from the LVHC System **(ID Nos. G02004, G07016, G07018, G20060, and G20061)** [40 CFR 63.443]:
   i. Each LVHC system component shall be enclosed and vented into a closed-vent system meeting the requirements of Section 2.2 C.1.g, below; and
   ii. Emissions from each LVHC system **(ID Nos. G02004, G07016, G07018, G20060, and G20061)** shall be routed to either the No. 4 (primary) or No. 5 (backup) Lime Kilns **(ID Nos. G09028 or G09029)** by introducing the HAP emission stream with the primary fuel or into the flame zone. [40 CFR 63.442(d)(4)(i)]
   iii. Periods of excess emissions for the LVHC System **(ID Nos. G02004, G07016, G07018, G20060, and G20061)** reported under Section 2.2 C.1.v, below, shall not be a violation of these control requirements for total HAP emissions from LVHC systems (including periods of startup, shutdown, and malfunction), provided that the time of excess emissions divided by the total process operating time in a semi-annual reporting period does not exceed one percent. [40 CFR 63.443(e)]

   The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111 if HAP emissions from the LVHC system are not controlled as required above.

d. The Permittee shall meet the following control requirements for the HAP emissions from the HVLC system sources **(ID Nos. G03005, G03006, G04009, G04010, G04025, and G04026):** [40 CFR 63.443]
   i. The Permittee shall meet the HVLC control requirements for the No. 1 Hardwood Fiberline Brownstock Washing System **(ID No. G03005)**, the No. 2 Pine Fiberline Brownstock Washing System **(ID No. G03006)**, the No. 1 Hardwood Fiberline Oxygen Delignification System **(ID No. G04009)**, and the No. 2 Pine Fiberline Oxygen Delignification System **(ID No. G04010)** by demonstrating compliance with Section 2.2 C.2, Equivalency by Permit. [40 CFR 63.94]
   ii. The Permittee shall control emissions from each knotter and screen system with total emissions of greater than or equal to 0.3 pounds of total HAP per ton of ODTP. Based on a June 2004 exemption analysis, the Permittee has demonstrated that the following sources are exempt from these HVLC control requirements: [40 CFR 63.443(a)(1)(ii)(C)]
      (A) The No. 1 Hardwood Fiberline Pulp Screening System **(ID No. G04025)**; and
      (B) The No. 2 Pine Fiberline Pulp Screening System **(ID No. G04026).**
   iii. The Permittee shall control emissions from each decker system that uses any process water with a total HAP concentration greater than 400 parts per million by weight. Based on a June 2004 exemption analysis, the Permittee has demonstrated that the following sources are exempt from these HVLC control requirements: [40 CFR 63.443(a)(1)(iv)(B)]
      (A) The No. 1 Hardwood Fiberline Decker Systems **(ID No. G24087)**; and
      (B) The No. 2 Pine Fiberline Decker System **(ID No. G24088).**

   The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111 if HAP emissions from the HVLC systems are not controlled as required above.

Standards for Kraft pulping process condensates

e. The Permittee shall collect pulping process condensates from a combination of one or more of the systems identified below that in total contain a total HAP mass of 11.1 pounds per ton of oven dried pulp: [40 CFR 63.446(b) and (c)(3)]
   i. The Digester System **(ID No. G02004)**;
   ii. The Turpentine Recovery Systems **(ID Nos. G20060 and G20061)**;
   iii. The Evaporator Systems **(ID Nos. G07016)**;
   iv. The HVLC collection system;
   v. The LVHC collection system; and
   vi. The Black Liquor Oxidization System: Condensate Collection Tank **(ID No. G08022b).**
f. The pulping process condensates identified in Section 2.2 C.1.e, above, shall be conveyed in a closed collection system that is designed and operated to meet the following requirements: [40 CFR 63.446(d), (e) and (g)]
   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 and control devices;
   ii. Closed-vent systems shall be designed and operated in accordance with Section 2.2 C.1.g, below;

iii. The Stripper Feed Tank **(ID No. G07018.ES 07-TK-011)** shall meet the following requirements: [40 CFR 63.446(d)(2)]
(A) The fixed roof and all openings (e.g., access hatches, sampling ports, gauge wells) shall be designed and operated with no detectable leaks as indicated by an instrument reading of less than 500 parts per million, measured as methanol, above background.
(B) The Stripper Feed Tank **(ID No. G07018.ES 07-TK-011)** shall be vented into a closed-vent system that meets the requirements in Section 2.2 C.1.j, below, and routed to either the No. 5 (primary) or No. 4 (backup) Lime Kilns **(ID Nos. G09029 or G09028)** by introducing the HAP emission stream with the primary fuel or into the flame zone [40 CFR 63.443(d)(4)(i)]; and
(C) Each opening shall be maintained in a closed, sealed position (e.g., covered by a lid that is gasketed and latched) at all times that the tank contains pulping process condensates or any HAP removed from a pulping process condensate stream except when it is necessary to use the opening for sampling, removal, or for equipment inspection, maintenance, or repair.

iv. The collected pulping process condensates identified in Section 2.2 C.1.f, above, shall be treated by the Condensate Stripper **(ID No. G07018.ES 07-PU-015)** which shall: [40 CFR 63.446(e)(2) or (e)(5)]
(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 HAP per ton of oven dried pulp (ODTP).
(C) Each HAP removed shall be vented into a closed-vent system that meets the requirements in Section 2.2 C.1.g, below, and routed to either the No. 5 (primary) or No. 4 (backup) Lime Kiln **(ID Nos. G09029 or G09028)** by introducing the HAP emission stream with the primary fuel or into the flame zone [40 CFR 63.446(f)]

v. For the Foul Condensate Stripper System **(ID No. G07018)** used to comply with these requirements specified above, periods of excess emissions reported shall not be a violation of Section 2.2 C.1.e provided that the time of excess emissions (including period of startup, shutdown, and malfunction) divided by the total process operating time in a semi-annual reporting period does not exceed 10 percent.

The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111 if the pulping process condensates are not collected and controlled as required above.

Standards for Enclosures and Closed-Vent Systems

g. The Permittee shall meet the following standards for enclosures and closed-vent systems for capturing and transporting vent streams that contain hazardous air pollutants. [40 CFR 63.450]
i. Each enclosure or hood opening closed during the initial performance test shall be maintained in the same closed and sealed position as during the performance test at all times except when necessary to use the opening for sampling, inspection, maintenance, or repairs.
ii. For each enclosure, the Permittee shall maintain negative pressure at each enclosure or hood opening as demonstrated by the procedures specified below: [40 CFR 63.457(e)]
(A) An anemometer to demonstrate flow into the enclosure opening;
(B) Measure the static pressure across the opening;
(C) Smoke tubes to demonstrate flow into the enclosure opening; or
(D) Any other industrial ventilation test method demonstrated to the satisfaction of DAQ.
iii. Each component of the closed-vent system that is operated at positive pressure and located prior to a control device shall be designed for and operated with no detectable leaks as measured by the procedures specified below: [40 CFR 63.457(d)]
(A) A leak is indicated by an instrument reading of 500 parts per million by volume or greater, measured as methanol, above background,
(B) The Permittee shall comply with Method 21, of 40 CFR Part 60, Appendix A-7;
(C) The instrument specified in Method 21 shall be calibrated before use pursuant to the procedures specified in Method 21 on each day that leak checks are performed. The following calibration gases shall be used:
(1) Zero air (less than 10 parts per million by volume of hydrocarbon in air); and
(2) A mixture of methane or n-hexane and air at a concentration of approximately, but less than, 10,000 parts per million by volume methane or n-hexane.
iv. For each bypass line in the closed-vent system that could divert vent streams containing HAP to the atmosphere without meeting the emission limitations Section 2.2 C.1.b through C.1.d, above, shall comply with either of the following requirements [40 CFR 63.450(d)]:
(A) On each bypass line, the Permittee shall install, calibrate, maintain, and operate pursuant to the manufacturer's specifications a flow indicator that is capable of taking periodic readings at least once every 15 minutes. The flow indicator shall be installed in the bypass line in such a way as to indicate flow in the bypass line; or

(B) For bypass line valves that are not computer controlled, the Permittee shall maintain the bypass line valve in the closed position with a car seal or a seal placed on the valve or closure mechanism in such a way that valve or closure mechanism cannot be opened without breaking the seal.

The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111 if the enclosures and closed-vent system standards are not met as specified above.

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

h. 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 C.1.b through C.1.f, above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111.

i. The Permittee shall conduct repeat periodic performance tests at five-year intervals for emission sources specified in Section 2.2 C.1.b and C.1.c, above, except for emission sources controlled by the Nos. 4 or 5 Lime Kilns **(ID Nos. G09028 or G09029)**. [40 CFR 63.457(a)]
   i. The first of the five-year tests shall be conducted by September 7, 2015, and thereafter within 60 months from the date of the previous performance test. Performance testing shall be conducted pursuant to 40 CFR 63.457.
   ii. The Permittee may seek to establish or reestablish the monitoring parameter values specified in Section 2.2 C.1.j, C.1.k, C.1.m, and C.1.n, below. The Permittee shall establish or reestablish the value for each operating parameter during initial or subsequent periodic performance tests, using the following procedures:
      (A) During the initial or any subsequent performance test, the Permittee shall continuously record the operating parameter;
      (B) Determinations shall be based on the control performance and parameter data monitored during the performance test, supplemented if necessary by engineering assessments and the manufacturer's recommendations;
      (C) The Permittee shall provide, for the DAQ approval, the rationale for the selected operating parameter value, and monitoring frequency, and averaging time. Include all data and calculations used to develop the value and a description of why the value, monitoring frequency, and averaging time demonstrate continuous compliance with the applicable emission standard.
   iii. The established continuous compliance monitoring parameters shall not apply during any required subsequent testing.

Monitoring for the Bleaching System Scrubbers [15A NCAC 02Q .0508(f)]

j. The Permittee shall install, calibrate, certify, operate, and maintain pursuant to the manufacturer's specifications, a continuous monitoring system (CMS), on the No. 1 Bleach Plant Wet Scrubber **(ID No. 05-CD-002-01)**. The CMS shall include a continuous recorder. The CMS shall be operated to ensure the following operational parameters are maintained [40 CFR 63.453(c) and (o)]:
   i. The minimum pH of the scrubber's effluent shall be 9.23 (averaged over three hours);
   ii. The scrubber's inlet vent gas fan operating status of "on" (on or off based on motor load); and
   iii. The minimum scrubber liquid recirculation rate for the respective scrubber shall be 85.8 gallons per minute (3-hour average).
   iv. Operation of the No. 1 Bleach Plant Wet Scrubber **(ID No. 05-CD-002-01)** below the minimum operating parameters listed above shall constitute a violation of the emission standard of Section 2.2 C.1.b, above, and shall be reported as a period of excess emissions in accordance with Section 2.2 C.1.v, below.

The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111 if any monitoring parameter values are exceeded, except as provided in Section 2.2 C.1.i, above, or if the monitoring procedures are not followed.

k. The Permittee shall install, calibrate, certify, operate, and maintain pursuant to the manufacturer's specifications, a continuous monitoring system (CMS), on the No. 2 Bleach Plant Wet Scrubber **(ID No. 05-CD-017-01)**. The CMS shall include a continuous recorder. The CMS shall be operated to ensure the following operational parameters are maintained [40 CFR 63.453(c) and (o)]:
   i. The minimum pH of each scrubber's effluent shall be 8.38 (averaged over three hours);
   ii. The scrubber's inlet vent gas fan operating status of "on" (on or off based on motor load); and
   iii. The minimum scrubber liquid recirculation rate for the respective scrubber shall be 27.57 gallons per minute (3-hour average).
   iv. Operation of the No. 2 Bleach Plant Wet Scrubber **(ID No. 05-CD-017-01)** below the minimum operating parameters listed above shall constitute a violation of the emission standard of Section 2.2 C.1.b, above, and shall be reported as a period of excess emissions in accordance with Section 2.2 C.1.v, below.

The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111 if any monitoring parameter values are exceeded, except as provided in Section 2.2 C.1.i, above, or if the monitoring procedures are not followed.

Monitoring for the LVHC Pulping Systems Control Devices [15A NCAC 02D .1111]

l. No control device parameter monitoring is required for pulping vent systems routed to the No. 4 Lime Kiln **(ID No. G09028)** or the No. 5 Lime Kiln **(ID No. G09029)**. [40 CFR 60, Subpart 63.453]

Monitoring for the Pulping Process Condensate Collection: [15A NCAC 02D .1111]

m. The Permittee shall install, calibrate, certify, operate, and maintain pursuant to the manufacturer's specifications, a continuous monitoring system (CMS) to monitor condensate collection. The CMS shall include a continuous recorder. The CMS shall be operated to ensure the following operational parameters are maintained on a 15-day rolling average of stripper operating days. [40 CFR 63.446 and 63.453(g) and (o)]:
   i. Foul condensates collected in the Stripper Feed Tank shall be equal to or greater than 379 gallons per minute; and
   ii. Condensates from the Black Liquor Oxidizer System **(ID No. G08022b)** gas collection shall be collected and sent to the Stripper Feed Tank **(ID No. 07-TK-011)** or collected and sent via hard pipe to, and discharged below the liquid surface of, the Wastewater Treatment Plant Aeration and Digestion Basin **(ID No. G16082)**.
   iii. Condensates collected below the minimum operating parameters listed above shall constitute a violation of the emission standard of Section 2.2 C.1.e, above, and shall be reported as a period of excess emissions in accordance with Section 2.2 C.1.v, below.

   The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111 if any monitoring parameter values are exceeded, except as provided in Section 2.2 C.1.i, above, or if the monitoring procedures are not followed.

Monitoring for the Pulping Process Condensates Steam Stripper [15A NCAC 02D .1111]**:**

n. The Permittee shall install, calibrate, certify, operate, and maintain pursuant to the manufacturer's specifications, a continuous monitoring system (CMS) on the Condensate Stripper **(ID No. ES 07-PU-015)**. The CMS shall include a continuous recorder. The CMS shall be operated to ensure the following operational parameters are maintained on a 15-day rolling average of stripper operating days. [40 CFR 63.453(g) and (o)]:
   i. Foul condensates feed from the Stripper Feed Tank shall be equal to or greater than 379 gallons per minute;
   ii. The temperature of the foul condensates feed shall be equal to or greater than 161 ^{O}F; and
   iii. Steam feed to the Foul Condensate Stripper shall be equal to or greater than 38,021 lb/hour.
   iv. Operation of the Condensate Stripper **(ID No. ES 07-PU-015)** below the minimum operating parameters listed above shall constitute a violation of the emission standard of Section 2.2 C.1.e, above, and shall be reported as a period of excess emissions in accordance with Section 2.2 C.1.v, below.

   The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111 if any monitoring parameter values are exceeded, except as provided in Section 2.2 C.1.i, above, or if the monitoring procedures are not followed.

Monitoring/Inspections for Enclosures, Closed-Vent, and Closed Collection Systems [15A NCAC 02D .1111]

o. Each enclosure and closed-vent system shall meet the following monitoring requirements: [40 CFR 63.453(k)].
   i. The Permittee shall conduct a visual inspection of the closure mechanism of each enclosure specified in Section 2.2 C.1.g, above, shall be performed at least once every 30 days to ensure the opening is maintained in the closed position and sealed. The Permittee shall demonstrate initially and annually that each enclosure opening is maintained at negative pressure as specified in Section 2.2 C.1.g, above.
   ii. The Permittee shall visually inspect each closed-vent system every 30 days and at other times as requested by the DAQ. The visual inspection shall include inspection of ductwork, piping, enclosures, and connections to covers for visible evidence of defects.
   iii. For positive pressure closed-vent systems or portions of closed-vent systems, the Permittee shall demonstrate no detectable leaks as specified in Section 2.2 C.1.g, above, measured initially and annually by the procedures in Section 2.2 C.1.g.
   iv. The Permittee shall inspect the valve or closure mechanism specified in Section 2.2 C.1.g.iii.(B), above, at least once every 30 days to ensure that the valve is maintained in the closed position and the emission point gas stream is not diverted through the bypass line.
   v. If a required inspection identifies visible defects in ductwork, piping, enclosures or connections to covers required, or if an instrument reading of 500 parts per million by volume or greater above background is measured (as methanol), or if enclosure openings are not maintained at negative pressure, then the Permittee shall take following corrective actions as soon as practicable.
      (A) A first effort to repair or correct the closed-vent system shall be made as soon as practicable but no later than 5 calendar days after the problem is identified.
      (B) The repair or corrective action shall be completed no later than 15 calendar days after the problem is identified. Delay of repair or corrective action is allowed if the repair or corrective action is technically infeasible without a process unit shutdown or if the Permittee determines that the emissions resulting

from immediate repair would be greater than the emissions likely to result from delay of repair. Repair of such equipment shall be completed by the end of the next process unit shutdown.

The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111 if the monitoring is not performed.

p. For each pulping process condensate closed collection system used to comply with Section 2.2 C.1.e and C.1.f shall comply with the requirements specified below [40 CFR 63.453(l)]
   i. The Permittee shall visually inspect each pulping process condensate closed collection system every 30 days and shall comply with the inspection and monitoring requirements specified in 40 CFR Part 63, Subpart RR, Section 63.964, except:
      (A) The Permittee shall comply with the recordkeeping requirements Section 2.2 C.1 instead of the requirements specified in 40 CFR 63.964(a)(1)(vi) and (b)(3) (Subpart RR).
      (B) The Permittee shall comply with the inspection and monitoring requirements for closed-vent systems and control devices specified in Section 2.2 C.1.o, above, instead of the requirements specified in 40 CFR 63.964(a)(2) (Subpart RR).
   ii. Each condensate tank used in the closed collection system shall be operated with no detectable leaks as specified in Section 2.2 C.1.f.iv.(C), above, measured initially and annually by the procedures specified in Section 2.2 C.1.f.ii, above.
   iii. If an inspection required by this section identifies visible defects in the closed collection system, or if an instrument reading of 500 parts per million or greater above background is measured, then the Permittee shall take the corrective actions specified in 40 CFR 63.964(b) (Subpart RR).

   The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111 if the closed collection system is not inspected as required above.

q. The Permittee shall prepare and maintain a site-specific inspection plan, including a drawing or schematic of the components of affected equipment and shall record the following for each inspection for each enclosure opening, closed-vent system, and closed collection system [40 CFR 63.454(b)]:
   i. Date of inspection;
   ii. The equipment type and identification;
   iii. Results of negative pressure tests for enclosures;
   iv. Results of leak detection tests;
   v. The nature of the defect or leak and the method of detection (i.e., visual inspection or instrument detection);
   vi. The date the defect or leak was detected and the date of each attempt to repair the defect or leak;
   vii. Repair methods applied in each attempt to repair the defect or leak;
   viii. The reason for the delay if the defect or leak is not repaired within 15 days after discovery;
   ix. The expected date of successful repair of the defect or leak if the repair is not completed within 15 days;
   x. The date of successful repair of the defect or leak;
   xi. The position and duration of opening of bypass line valves and the condition of any valve seals; and
   xii. The duration of the use of bypass valves on computer-controlled valves.

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

Startup, Shutdown, and Malfunction [15A NCAC 02D .1111]

r. Except as specified in Section 2.2 C.1.b.iv, above, the Permittee shall operate and maintain the Subpart S affected sources at all times, 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 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. [40 CFR 63.453(q)] The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111 if these practices are not conducted.

s. In response to an action to enforce the standards set forth in Section 2.2 C.1.b, through C.1.g, above, the Permittee may assert an affirmative defense to a claim for civil penalties for violations of such standards that are caused by malfunction, as defined at 40 CFR 63.2. Appropriate penalties may be assessed, however, if the Permittee fails to meet the burden of proving all of the requirements in the affirmative defense. The affirmative defense shall not be available for claims for injunctive relief. To establish the affirmative defense in any action to enforce such a standard, the Permittee must timely meet the reporting requirements in Section 2.2 C.1.w, below, and must prove by a preponderance of evidence that: [40 CFR 63.456]
   i. The violation:
      (A) Was caused by a sudden, infrequent, and unavoidable failure of air pollution control equipment, process equipment, or a process to operate in a normal or usual manner, and

(B) Could not have been prevented through careful planning, proper design or better operation and maintenance practices; and
(C) Did not stem from any activity or event that could have been foreseen and avoided, or planned for; and
(D) Was not part of a recurring pattern indicative of inadequate design, operation, or maintenance; and

ii. Repairs were made as expeditiously as possible when a violation occurred. Off-shift and overtime labor were used, to the extent practicable to make these repairs; and
iii. The frequency, amount and duration of the violation (including any bypass) were minimized to the maximum extent practicable; and
iv. If the violation resulted from a bypass of control equipment or a process, then the bypass was unavoidable to prevent loss of life, personal injury, or severe property damage; and
v. All possible steps were taken to minimize the impact of the violation on ambient air quality, the environment and human health; and
vi. All emissions monitoring and control systems were kept in operation if at all possible, consistent with safety and good air pollution control practices; and
vii. All of the actions in response to the violation were documented by properly signed, contemporaneous operating logs; and
viii. At all times, the affected source was operated in a manner consistent with good practices for minimizing emissions; and
ix. A written root cause analysis has been prepared, the purpose of which is to determine, correct, and eliminate the primary causes of the malfunction and the violation resulting from the malfunction event at issue. The analysis shall also specify, using best monitoring methods and engineering judgment, the amount of any emissions that were the result of the malfunction.

Recordkeeping [15A NCAC 02D .1111]

t. The results of the CMS monitoring, enclosure system monitoring, and closed-vent system monitoring shall be maintained (in written or electronic format) per the requirements of 40 CFR 63.454(a). The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111 if these records are not maintained.
u. The Permittee shall maintain the following records of malfunctions [40 CFR 63.454(g)]:
   i. Records of the occurrence and duration of each malfunction of operation (i.e., process equipment) or the air pollution control and monitoring equipment.
   ii. Records of actions taken during periods of malfunction to minimize emissions in accordance with Section 2.2 C.1.r, above, including corrective actions to restore malfunctioning process and air pollution control and monitoring equipment to its normal or usual manner of operation.

Reporting [15A NCAC 02D .1111]

v. The Permittee shall submit a summary report of excess emissions 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. When no exceedances of an operating parameter have occurred, such information shall be included in the report. [40 CFR 63.453(q)]
w. The Permittee shall comply with the reporting requirements of 40 CFR 63, Subpart A as specified in Table 1 of Part 63, Subpart S.
x. If a malfunction occurred during the reporting period, the summary report must include the number, duration and a brief description for each type of malfunction which occurred during the reporting period and which caused or may have caused any applicable emission limitation to be exceeded. The report must also include a description of actions taken by an owner or operator during a malfunction of an affected source to minimize emissions in accordance with Section 2.2, C.1.r, above, including actions taken to correct a malfunction. [40 CFR 63.455(g)]
y. The Permittee shall submit performance test reports as specified in 40 CFR 63.455(h).
z. The Permittee seeking to assert an affirmative defense shall submit a written report to DAQ with all necessary supporting documentation, that it has met the requirements set forth in Section 2.2 C.1.s, above. This affirmative defense report shall be included in the summary report otherwise required after the initial occurrence of the violation of the relevant standard (which may be the end of any applicable averaging period). If the summary report is due less than 45 days after the initial occurrence of the violation, the affirmative defense report may be included in the second summary report due after the initial occurrence of the violation of the relevant standard.

2. 15A NCAC 02D .1111: MACT 40 CFR 63 SUBPART S via 40 CFR 63.94 Equivalency by Permit – HVLC System Sources

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 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.

The authority for the alternate control requirements for Equivalency by Permit (EBP) is given in 40 CFR parts 63.91 63.94, and 63.99 as promulgated in "Approval of Section 112(l) Authority for Hazardous Air Pollutants; Equivalency by Permit Provisions; National Emission Standards for Hazardous Air Pollutants from the Pulp and Paper Industry; State of North Carolina", Federal Register, Vol. 69, No. 70/Monday, April 12, 2004 pp 19106-19109. Section 63.99 "Delegated Federal Authorities" of Subpart E "Approval of State Programs and Delegation of Federal Authorities" was also amended at FR Vol. 69, No. 70/Monday, April 12, 2004 p 19110 to add 63.99(a)(33)(ii) North Carolina.

Standards for the affected HVLC pulping system processes [15A NCAC 02Q .0508(f) and 02D .1111]

a. No later than April 16, 2007, the Permittee shall control HAP emissions from the Black Liquor Oxidation (BLOX) System **(ID No. G08022a)** sources as required below, in lieu of controlling the 40 CFR 63, Subpart S-affected HAP emissions from: [40 CFR Part 63.443 and 63.94]

The Brownstock Washing System **(ID Nos. G03005 and G03006)** Sources:

No. 1 Hardwood Fiberline Nos 1. Through 4 Brownstock Washers (No. 03-PU-001);
No. 1 Hardwood Fiberline Foam Tank No.1 (No. ES-03-TK-003);
No. 1 Hardwood Fiberline Foam Tank No. 2 (No. ES-03-TK-004);
*No. 2 Pine Fiberline Washers and Filtrate Tanks (No. 03-PU-032)**
No. 2 Pine Fiberline Brownstock Washer Mix Tanks (Nos. 03-TK-015, 03-TK-016, and 03-TK-017)

The Oxygen Delignification Systems **(ID Nos. G04009 and G04010)** Sources:

*No. 1 Hardwood Fiberline O_2 Reactor (No. 04-PU-001)**
No. 1 Hardwood Fiberline O_2 Blow Tank (No. 04-TK-005);
No. 1 Hardwood Fiberline Post O_2 Washer (No. 04-PU-002);
No. 1 Hardwood Fiberline Post O_2 Filtrate Chest (No. 04-TK-008);
*No. 2 Pine Fiberline O_2 Reactor (No. 04-PU-014)**
No. 2 Pine Fiberline O_2 Blow Tank (No. 04-TK-018); and
No. 2 Pine Fiberline Post O_2 Washer (No. 04-PU-016).

* These sources are fully enclosed and do not have a vent to the atmosphere.

Standards for the BLOX system [15A NCAC 02Q .0508(f) and 02D .1111]

b. No later than April 16, 2007, the Permittee shall meet the control requirements for the total HAP emissions from the BLOX System **(ID No. G08022a)** sources. Each BLOX system component shall be enclosed and vented into a closed-vent system meeting the requirements of Section 2.2 C.1.g, above, and controlled per the following requirements: [40 CFR 63.94 and 63.443]:
   i. Reduce total HAP emissions by 98 percent or more by weight; or
   ii. Reduce total HAP emissions using a thermal oxidizer designed and operated at a minimum temperature of 871°C (1600°F) and a minimum residence time of 0.75 seconds.

c. Periods of excess emissions reported under Section 2.2 C.2.o, below, shall not be a violation of the above requirements provided that the time of excess emissions (including periods of startup, shutdown, and malfunction) divided by the total process operating time in a semi-annual reporting period does not exceed four percent for control devices used to reduce the total HAP emissions from the BLOX system. The Permittee shall be deemed in non-compliance with 15A NCAC 02D .1111 when excess emissions exceed four percent.

d. The Black Liquor Oxidation (BLOX) System thermal oxidizer is permitted to burn only BLOX gases and natural gas as an auxiliary fuel.

Testing [15A NCAC 02Q .0508(f) and 02D .1111]

e. If emissions testing is required, the testing shall be performed in accordance General Condition JJ. If the results of this or any testing are above the limits contained herein, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111 via 40 CFR 63.94. [40 CFR 63.94, 40 CFR 63.457]
   i. An initial performance test is not required to show compliance with the HAP destruction efficiency if the Permittee selects the compliance method per paragraph 2.2 C.2.b.ii, above. Otherwise, an initial performance test shall be conducted no later than April 16, 2007 and subsequent performance tests shall be conducted within 60 months after the previous test. The performance tests shall be conducted in accordance with General Condition JJ and with the requirements of 40 CFR 63.457.
   ii. If emission testing is required for parity demonstration, the testing shall be done in accordance with General Condition JJ, and the test methods and procedures contained in 40 CFR 63.457. The testing will consist of:
   (A) determining the emissions from the sources that were subject to 40 CFR 63 Subpart S as identified in Section 2.2 C.2.a, above, but are not controlled under the EBP option; and
   (B) the uncontrolled emissions from the BLOX system.

   The Permittee shall be deemed in non-compliance with 15A NCAC 02D .1111 via 40 CFR 63.94 if the emissions from Section 2.2 C.2.e.ii.(A), above, exceed the emissions from Section 2.2 C.2.e.ii.(B), above.

Production Monitoring for Parity with 40 CFR 63, Subpart S [15A NCAC 02Q .0508(f) and 02D .1111]

f. To ensure continuing parity, the hardwood pulp production shall not exceed 83 percent of the total pulp production on a 12-month rolling average basis. The Permittee shall keep records of the monthly hardwood pulp production and the monthly total pulp production. The initial 12-month rolling average shall cover the period May 2007 through April 2008. [40 CFR 63.94] The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111 via 40 CFR 63.94 if the monitoring is not performed, or if the 12-month rolling average hardwood pulp production exceeds 83 percent of the total pulp production.

Monitoring for BLOX System Control Device [15A NCAC 02Q .0508(f) and 02D .1111]

g. The Permittee shall install, calibrate, operate, and maintain pursuant to the manufacturer's specifications, a continuous monitoring system (CMS) to measure the temperature in the thermal oxidizer firebox or in the ductwork immediately downstream of the firebox and before any substantial heat exchange occurs. 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(a), (b), (n), and (o) and 63.94]:
   i. If the Permittee elects to comply with Section 2.2 C.2.b.i, above, a 3-hour rolling average minimum operating temperature of 1450°F shall be recorded and maintained.
   ii. An alternate minimum operating temperature may be established per additional approved testing performed per Section 2.2 C.1.i.ii, above.
   iii. If the Permittee elects to comply with Section 2.2 C.2.b.ii, above, then a minimum operating temperature of 871°C (1600°F) shall be recorded and maintained.

   Operation of the black liquor oxidation system control device **(ID. No. CD-BLOXRTO)** below established minimum operating temperatures, or failure to perform the required monitoring shall be reported as a period of excess emissions. The established continuous compliance monitoring parameters shall not apply during any required subsequent testing.

Standards for Enclosures and Closed-Vent Systems [15A NCAC 02Q .0508(f) and 02D .1111]

h. The Black Liquor Oxidation System enclosure and closed-vent system shall meet the requirements of Section 2.2 C.1.g, above. [40 CFR 63.450, 40 CFR 63.94] The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111 via 40 CFR 63.94 if the enclosure and closed-vent system requirements are not met.

Monitoring for Enclosures and Closed-Vent Systems [15A NCAC 02Q .0508(f) and 02D .1111]

i. The Black Liquor Oxidation System enclosure and closed-vent system shall meet the monitoring requirements of Section 2.2 C.1.o, above. [40 CFR 63.453, 40 CFR 63.94] The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111 via 40 CFR 63.94 if the monitoring is not performed.

Startup, Shutdown, and Malfunction [15A NCAC 02Q .0508(f) and 02D .1111]

j. At all times, the Permittee shall operate and maintain the Black Liquor Oxidation System, 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 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. [40 CFR 63.94 and 63.453(q)] The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111 if these practices are not conducted.

k. In response to an action to enforce the standards set forth in Section 2.2 C.2.b, above, the Permittee may assert an affirmative defense to a claim for civil penalties for violations of such standards that are caused by malfunction, as defined at 40 CFR 63.2. Appropriate penalties may be assessed, however, if the Permittee fails to meet the burden of proving all of the requirements in the affirmative defense. The affirmative defense shall not be available for claims for injunctive relief. To establish the affirmative defense in any action to enforce such a standard, the Permittee must timely meet the reporting requirements in Section 2.2 C.2.s, below, and must prove by a preponderance of evidence that: [40 CFR 63.456]
   i. The violation:
      (A) Was caused by a sudden, infrequent, and unavoidable failure of air pollution control equipment, process equipment, or a process to operate in a normal or usual manner, and
      (B) Could not have been prevented through careful planning, proper design or better operation and maintenance practices; and
      (C) Did not stem from any activity or event that could have been foreseen and avoided, or planned for; and
      (D) Was not part of a recurring pattern indicative of inadequate design, operation, or maintenance; and
   ii. Repairs were made as expeditiously as possible when a violation occurred. Off-shift and overtime labor were used, to the extent practicable to make these repairs; and
   iii. The frequency, amount and duration of the violation (including any bypass) were minimized to the maximum extent practicable; and
   iv. If the violation resulted from a bypass of control equipment or a process, then the bypass was unavoidable to prevent loss of life, personal injury, or severe property damage; and
   v. All possible steps were taken to minimize the impact of the violation on ambient air quality, the environment and human health; and
   vi. All emissions monitoring and control systems were kept in operation if at all possible, consistent with safety and good air pollution control practices; and
   vii. All of the actions in response to the violation were documented by properly signed, contemporaneous operating logs; and
   viii. At all times, the affected source was operated in a manner consistent with good practices for minimizing emissions; and
   ix. A written root cause analysis has been prepared, the purpose of which is to determine, correct, and eliminate the primary causes of the malfunction and the violation resulting from the malfunction event at issue. The analysis shall also specify, using best monitoring methods and engineering judgment, the amount of any emissions that were the result of the malfunction.

Recordkeeping/Reporting [15A NCAC 02Q .0508(f) and 02D .1111]

l. The results of the CMS monitoring, Enclosure System monitoring, and Closed-Vent System monitoring shall be maintained (in written or electronic format) per the requirements of 40 CFR 63.454 and 63.455. [40 CFR 63.94, 63.454, and 63.455] The Permittee shall be deemed in noncompliance with 15A NCAC .02D .1111 if these records are not maintained.

m. The results of the monthly hardwood and total pulp production monitoring required by Section 2.2 C.2.f shall be maintained in written or electronic format. [40 CFR 63.94, 63.454, and 63.455]

n. The Permittee shall maintain the following records of malfunctions [40 CFR 63.94 and 63.454(g)]:
   i. Records of the occurrence and duration of each malfunction of operation (i.e., process equipment) or the air pollution control and monitoring equipment.
   ii. Records of actions taken during periods of malfunction to minimize emissions in accordance with Section 2.2 C.2.j, above, including corrective actions to restore malfunctioning process and air pollution control and monitoring equipment to its normal or usual manner of operation.

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

Reporting [15A NCAC 02Q .0508(f) and 02D .1111]

o. The Permittee shall submit a summary report of excess emissions 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. When no exceedances of an operating parameter have occurred, such information shall be included in the report. This report shall also include the 12-month rolling average percent hardwood pulp production for each month in the reporting period, or the average percent hardwood pulp

production since April 16, 2007 if 12 months of data are not yet available. [40 CFR 63.454; 63.455, 40 CFR 63.94]

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

q. If a malfunction occurred during the reporting period, the summary report must include the number, duration and a brief description for each type of malfunction which occurred during the reporting period and which caused or may have caused any applicable emission limitation to be exceeded. The report must also include a description of actions taken by an owner or operator during a malfunction of an affected source to minimize emissions in accordance with Section 2.2 C.2.j, above, including actions taken to correct a malfunction. [40 CFR 63.455(g)]

r. The Permittee shall submit performance test reports as specified in 40 CFR 63.455(h).

s. The Permittee seeking to assert an affirmative defense shall submit a written report to DAQ with all necessary supporting documentation, that it has met the requirements set forth in Section 2.2 C.2.k, above. This affirmative defense report shall be included in the summary report otherwise required after the initial occurrence of the violation of the relevant standard (which may be the end of any applicable averaging period). If the summary report is due less than 45 days after the initial occurrence of the violation, the affirmative defense report may be included in the second summary report due after the initial occurrence of the violation of the relevant standard. [40 CFR 63.456(b)]

D. 40 CFR 63, Subpart MM Affected Sources:

Source ID No.	Source Description	Control ID No	Control Description
G08020	No. 10 Recovery Furnace	08-CD-001-01	Wet Bottom electrostatic precipitator
G08023	No. 10 Smelt Dissolving Tank	08-CD-011-01	Chevron Mist Eliminator
G08021	No. 11 Recovery Furnace	08-CD-002-01	Wet Bottom electrostatic precipitator
G08024	No. 11 Smelt Dissolving Tank	08-CD-012-01	Chevron Mist Eliminator
G09028	No. 4 Lime Kiln	09-CD-009-01	Flooded Disk-type wet scrubber
G09029	No. 5 Lime Kiln	09-CD-010-01	MicroMist venturi scrubber

Table 2.2 D-1

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

Pollutant	Limits/Standards	Applicable Regulation
Hazardous Air Pollutants	**No. 4 Lime Kiln** PM emissions shall be no greater than 0.10 gr/dscf, corrected to 10% oxygen. **No. 5 Lime Kiln** PM emissions shall be no greater than 0.10 gr/dscf, corrected to 10% oxygen. **No. 10 Recovery Furnace** PM emissions shall be no greater than 0.032 gr/dscf, corrected to 8% oxygen. During times when spent pulping liquor is fed, opacity shall not be greater than 35 percent for more than 2 percent of the operating time within any semiannual period. **No. 11 Recovery Furnace** PM emissions shall be no greater than 0.032 gr/dscf, corrected to 8% oxygen. During times when spent pulping liquor is fed, opacity shall not be greater than 35 percent for more than 2 percent of the operating time within any semiannual period.	15A NCAC 02D .1111 (40 CFR 63, Subpart MM)

Pollutant	Limits/Standards	Applicable Regulation
	No. 10 Smelt Dissolving Tank PM emissions shall be no greater than 0.268 gr/dscf. **No. 11 Smelt Dissolving Tank** PM emissions shall be no greater than 0.321 gr/dscf. **Overall Chemical Recovery System PM Limit** Total PM emissions from the Nos. 4 and 5 Lime Kilns, Nos. 10 and 11 Recovery Furnaces, and Nos. 10 and 11 Smelt Dissolving Tanks shall be no greater than 1.49 lb/TBLS.	

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 Nos. 10 and 11 Recovery Furnaces **(ID Nos. G08020 and G08021)**, the Nos. 10 and 11 Smelt Dissolving Tanks **(ID No. G08023 and G08024)** and the Nos. 4 and 5 Lime Kilns **(ID Nos. G09028 and G09029):**
   i. Particulate matter emissions from the recovery furnaces, smelt dissolving tanks, and lime kilns shall not exceed the limits presented in Table 2.2 D-1, above. [40 CFR 63.862(a)(1)(ii) and 63.865(a)]
   ii. The chemical recovery system emissions limits must be re-established if either [40 CFR 63.862(a)(1)(ii)(D):
      (A) the wet ESPs installed on the Nos. 10 and 11 Recovery Furnaces **(ID Nos. 08-CD-001-01 and 08-CD-002-01)**, the scrubbers installed on the Nos. 10 and 11 Smelt Dissolving Tanks **(ID Nos. 08-CD-011-01 and 08-CD-012-01)**, and the Nos. 4 and 5 Lime Kilns **(ID Nos. 09-CD-009-01 and 09-CD-010-01)** are modified (as defined in 40 CFR 63.861) or replaced, or
      (B) The recovery furnaces, smelt dissolving tanks, or lime kilns are shut down for more than 60 consecutive days.
   iii. At all times, the Permittee shall operate and maintain each recovery furnace, smelt dissolving tank, 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. [40 CFR 63.860(d)]

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 Table 2.2 D-1, 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 D.1.c, above, on the Nos. 10 and 11 Recovery Furnaces **(ID Nos. G08020 and G08021)**, the Nos. 10 and 11 Smelt Dissolving Tanks **(ID No. G08023 and G08024)**, and the Nos. 4 and 5 Lime Kilns **(ID Nos. G09028 and G09029)** no later than October 13, 2020 and thereafter every 5 years following the previous performance test. [40 CFR 63.865]
   i. The Permittee may only use a previously conducted performance test to satisfy the October 13, 2020, testing requirement for the No. 5 Lime Kiln, the recovery furnaces and the smelt dissolving tanks, provided DAQ has approved the test.

ii. The Permittee shall conduct performance tests based on representative performance of the recovery furnaces, smelt dissolving tank, and lime kilns for the period being tested. Representative conditions do not include periods of startup and shutdown.
iii. The Permittee shall not conduct performance tests during periods of malfunction.
iv. The Permittee shall conduct a performance test on the No. 5 Lime Kiln Scrubber no later than 180 days of the resumption of normal operation following the upgrades proposed in Permit Application No. 4400159.20B.

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 the No. 10 Recovery Furnace ESP **(ID No. 08-CD-001-01)** and No. 11 Recovery Furnace ESP **(ID No. 08-CD-002-01)** in accordance with Performance Specification 1 in Appendix B to 40 CFR Part 60 and the provisions in 40 CFR 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. The Permittee shall maintain proper operation of automatic voltage control of the ESPs installed on the Nos. 10 and 11 Recovery Furnaces. [40 CFR 63.864(e)(1)]
   ii. The Permittee shall install, calibrate, maintain, and operate CPMS that can be used to determine and record the pressure drop across the scrubber and the scrubbing liquid flow rate on the No. 4 Lime Kiln Scrubber **(ID No. 08-CD-009-01)**, No. 5 Lime Kiln Scrubber **(ID No. 09-CD-010-01)**, No. 10 Smelt Dissolving Tank Scrubber **(ID No. 08-CD-011-01)**, and No. 11 Smelt Dissolving Tank Scrubber **(ID No. 08-CD-012-01)**. Pressure drop and scrubbing liquid flow rate must be recorded at least once every successive 15-minute period using the procedures in 40 CFR 63.8(c), as well as the following procedures [40 CFR 63.864(e)(10)]:
      (A) The monitoring device used for the continuous measurement of the pressure drop of the gas stream across each scrubber shall be certified by the manufacturer to be 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 shall 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 shall not be included in any data averages computed for compliance with Section 2.2 D.1. The Permittee 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 in Table 2.2 D-2, below, during performance tests conducted per Section 2.2 D.1.c, 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 D.1.c and D.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 limits, provided that test data used to establish the operating limits 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 limits were obtained.
   iii. The Permittee may establish expanded or replacement operating limits for the monitoring parameters specified in Table 2.2 D-2, below, 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 the minimum scrubber pressure drop operating limit for the scrubbers installed on the smelt dissolving tanks and the lime kilns 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 D.1.b, above.

The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111 if the operating ranges for the specified monitoring parameters are not established as required above.

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 Nos. 10 or 11 Recovery Boilers **(ID Nos. G08020 and G08021)** or lime mud is fed to the Nos. 4 or 5 Lime Kilns **(ID Nos. G09028 and G09029)**. Corrective action can include completion of transient startup and shutdown conditions as expediently as possible.
   i. For the Nos. 10 and 11 Recovery Furnaces, 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 Nos. 4 and 5 Lime Kilns and the Nos. 10 and 11 Smelt Dissolving Tanks **(ID Nos. G08023 and G08024)**, when any 3-hour average wet scrubber parameter value is below the minimum operating limit established according to the methods specified in Section 2.2 D.1.h, above, and indicated in Table 2.2 D-2, below, with the exception of pressure drop during periods of startup and shutdown. [40 CFR 63.864(k)(1)(ii)]

   The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111 if corrective action is not implemented for the monitoring exceedances above.

j. The Permittee is in noncompliance with the emission limits in Section 2.2 D.1.b, above, if the following monitoring exceedances occur during times when spent pulping liquor is being fed to the Nos. 10 or 11 Recovery Boilers **(ID Nos. G08020 and G08021)** or lime mud is fed to the Nos. 4 or 5 Lime Kilns **(ID Nos. G09028 and G09029)**. [40 CFR 63.864(k)(2)]
   i. For Nos. 10 and 11 Recovery Furnaces, 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 Nos. 4 and 5 Lime Kilns and Nos. 10 and 11 Smelt Dissolving Tanks, when six or more 3-hour average parameter values within any 6-month reporting period below the minimum operating limits above, established according to the methods specified in Section 2.2 D.1.h and specified in Table 2.2 D.2, below, with the exception of pressure drop during periods of startup or shutdown. [40 CFR 63.864(k)(2)(iv) and (viii)]

   The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111 these monitoring exceedances occur. The established continuous compliance monitoring parameters shall not apply during any required subsequent performance testing.

Table 2.2 D-2

Source Description	Parameter Values
No. 4 Lime Kiln	***Prior to upgrades to the scrubber (ID No. 09-CD-009-01):*** 1. Scrubber recirculation liquid flow shall be no less than 289 gpm (3-hour average), and 2. Scrubber differential pressure shall be no less than 20 in. H_2O (3-hour average). ***After upgrades to the scrubber (ID No. 09-CD-009-01):*** 1. Scrubber recirculation liquid flow rate shall be no less than the minimum value recommended by the manufacturer. The Permittee shall establish site-specific minimum scrubber recirculation liquid flow during the performance test required in Section 2.2 D.1.d, above. 2. Scrubber differential pressure shall be no less than the minimum value recommended by the scrubber manufacturer. The Permittee shall establish site-specific minimum scrubber differential pressure during the performance test require in Section 2.2 D.1.d, above.
No. 5 Lime Kiln	***Prior to upgrades to the scrubber (ID No. 09-CD-010-01):*** 1. Scrubber venturi liquid flow shall be no less than 224 gpm (3-hour average), 2. Scrubber quench liquid flow shall be no less than 152 gpm (3-hour average), and 3. Scrubber differential pressure shall be no less than 19.2 in. H_2O (3-hour average). ***After upgrades to the scrubber (ID No. 09-CD-010-01):*** 1. Scrubber venturi liquid flow rate shall be no less than the minimum value recommended by the manufacturer. The Permittee shall establish a site-specific minimum venturi liquid flow rate during the performance test required in Section 2.2 D.1.d, above. 2. Scrubber quench liquid flow rate shall be no less than the minimum value recommended by the manufacturer. The Permittee shall establish a site-specific minimum quench liquid flow rated during the performance test required in Section 2.2 D.1.d, above.

Source Description	Parameter Values
	3. Scrubber differential pressure shall be no less than the minimum value recommended by the manufacturer. The Permittee shall establish a site-specific minimum scrubber differential pressure during the performance test require in Section 2.2 D.1.d, above.
No. 10 Smelt Dissolving Tank	1. Scrubber liquid flow to firing floor shall be no less than 30 gpm (3-hour average), and 2. Scrubber pressure drop shall be no less than 0.12 in H_2O (3-hr average).
No. 11 Smelt Dissolving Tank	1. Scrubber liquid flow to demister system shall be no less than 74 gpm (3-hour average); and 2. Scrubber pressure drop shall be no less than 1.50 inches H2O (3-hr average).

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

Recordkeeping [15A NCAC 02D .1111]

l. 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 tons per day for the Nos. 10 and 11 Recovery Furnaces **(ID Nos. G08020 and G08021)**;
   ii. Records of lime (CaO) production rates in units of tons per day for the Nos. 4 and 5 Lime Kilns **(ID Nos. G09028 and G09029)**;
   iii. Records of parameter monitoring data required under Section 2.2 D.1.e and D.1.f, above, including any period when the operating parameter levels were inconsistent with the levels established during performance tests, 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 D.1.b, above;
   v. Records of parameter operating limits established under Section 2.2 D.1.h, and specified in Table 2.2 D-2;
   vi. Records demonstrating compliance with the requirement specified in Section 2.2 D.1.f.i, above, to maintain proper operation of the ESP AVC.
   vii. Records of any occurrence when corrective action is required under Section 2.2 D.1.i, above, and when period of noncompliance is noted under Section 2.2 D.1.j, above.
   viii. 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. [40 CFR 63.865]

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

m. The Permittee shall maintain the following records [40 CFR 63.866(d)(1)]:
   i. In the event that the Nos. 10 and 11 Recovery Furnaces **(ID Nos. G08020 and G08021)**, Nos. 10 and 11 Smelt Dissolving Tanks **(ID Nos. G08023 and G08024)**, or Nos. 4 and 5 Lime Kilns **(ID No. G09028 and G09029)** fails to meet an applicable standard, including any emission limit or any opacity or CPMS operating limit in Section 2.2 D.1.b, or Table 2.2 D-2, 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 Section 2.2 D.1.b, 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 D-2, 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 DAQ.
   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.

n. 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 Nos. 10 and 11 Recovery Furnaces **(ID Nos. G08020 and G08021)**, Nos. 10 and 11 Smelt Dissolving Tanks **(ID Nos. G08023 and G08024)**, or Nos. 4 and 5 Lime Kilns **(ID No. G09028 and G09029)**. 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 program of corrective action should be included in the plan required under 40 CFR 63.8(d)(2). 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)]

o. 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.

Reporting [15A NCAC 02D .1111]

p. After DAQ has approved the emissions limits Specified in Section 2.2 D.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 Nos. 10 or 11 Recovery Furnaces **(ID Nos. 08-CD-001-01 or 08-CD-002-01)**, the scrubbers installed on the Nos. 10 or 11 Smelt Dissolving Tanks **(ID Nos. 08-CD-011-01 or 08-CD-012-01)** the scrubbers installed on the Nos. 4 or 5 Lime Kilns **(ID Nos. 09-CD-009-01 or 09-CD-010-01)**, are modified or replaced;
   ii. The Nos. 10 or 11 Recovery Furnace **(ID No. G08020 or G08021)**, Nos. 10 or 11 Smelt Dissolving Tank **(ID No. G08023 and G08024)**, or Nos. 4 or 5 Lime Kiln **(ID No. G09028 or G09029)**, 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 the Nos. 10 or 11 Recovery Furnaces, the Nos. 10 or 11 Smelt Dissolving Tanks, or the Nos. 4 and 5 Lime Kilns in Table 2.2 D-2, above, are changed; or
   iv. The black liquor solids firing rate for Nos. 10 or No. 11 Recovery Furnaces **(ID Nos. G08020 or G08021)** during any 24-hour averaging period is increased by more than 10 percent above the level measured during the most recent performance test.

q. If the Permittee is required to recalculate the overall PM emissions limit for the Nos. 10 and 11 Recovery Furnaces **(ID Nos. G08020 and G08021)**, Nos. 10 or 11 Smelt Dissolving Tank **(ID Nos. G08023 and G08024)**, or Nos. 4 and 5 Lime Kilns **(ID Nos. G09028 and G09029)** as required in Section 2.2 D.1.b.ii, above, the Permittee shall resubmit the calculations and supporting documentation used in accordance with 40 CFR 63.865 to DAQ to approval.

r. The Permittee shall submit semiannual excess emissions reports 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. Each report shall contain the following information and shall be submitted following the reporting procedures specified in 40 CFR 63.867(d). [40 CFR 63.867(c)]
   (i) 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)]
   (ii) If measured parameters meet any of the conditions specified in Section 2.2 D.1.i or D.1.j, 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 D.1.j, 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 D.1.j and D.1.k, above, are reached. [40 CFR 63.867(c)(3)]
   (iii) If a source fails to meet an applicable standard, including any emission limit or operating limit specified in Table 2.2 D-2, above, 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 D-2, 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)]
   (iv) 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)]

E. Riley Coal (ID No. G11039) – equipped with low NO_X burners; a 2-chamber, 3-field electrostatic precipitator (ID No. 11-CD-005-01); and a wet scrubber (ID No. 11-CD-005-02)

No. 4 Power Boiler (ID No. G11040) – equipped with low NO_X burner components; a Separated Over Fire Air (SOFA) system; a 2-chamber, 4-field electrostatic precipitator (ID No. 11-CD-006-01); a urea-based Selective Non-Catalytic Reduction (SNCR) NO_X emission reduction system (ID No. 11-CD-006-02); and a wet scrubber (ID No. 11-CD-006-03).

Riley Bark Boiler (ID No. G11042) – with partial flyash reinjection and grate fire ignition (kerosene and rags), equipped with a multicyclone (ID No. 11-CD- 016-01) in series with a venturi-type wet scrubber (ID No. 11-CD-016-02).

1. 15A NCAC 02Q .0508(j): 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 Riley Coal Boiler and No. 4 Power Boiler **(ID Nos. G11039 and G11040)** equipped with an ESP and monitoring opacity using a COMS.
b. The Alternate Operating Scenario (AOS) is defined as the Riley Coal Boiler and No. 4 Power Boiler **(ID Nos. G11039 and G11040)** equipped with an ESP, wet scrubber, and monitoring PM emissions using a PM CEMS.

2. 15A NCAC 02D .1111: MAXIMUM ACHIEVABLE CONTROL TECHNOLOGY

Applicability

a. For the existing Riley Coal, No. 4 Power, and Riley Bark Boilers **(ID Nos. G11039, G11040, and G11042)**, the Permittee shall comply with all applicable provisions for the subcategories of boilers (as defined in 40 CFR 63.7575) identified below, 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." [40 CFR 63.7485, 63.7490(d)]
    i. Riley Coal Boiler and No. 4 Power Boiler **(ID Nos. G11039 and G11040)** are considered pulverized coal/solid fossil fuel units. The boilers shall burn at least 10 percent coal or other solid fossil fuel on an annual heat input basis. [40 CFR 63.7499(a), (p), and (r)]
    ii. Riley Bark Boiler **(ID No. G11042)** is considered a unit designed to burn biomass/bio-based solid fuel and a hybrid suspension grate boiler. [40 CFR 63.7499(h) and (p), and 63.7575]
        (A) The boiler shall burn at least 10 percent biomass or bio-based solids on an annual heat input basis in combination with solid fossil fuels, liquid fuels, or gaseous fuels.
        (B) The moisture of the biomass fuel combusted in the Riley Bark Boiler shall exceed 40 percent on an as-fired annual heat input basis as demonstrated by monthly fuel analysis.

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 40 CFR Part 63 Subpart DDDDD. [40 CFR 63.7565]

Compliance Date

d. The Permittee shall be subject to the requirements of 40 CFR Part 63, Subpart DDDDD 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 2.2 E.2.s and A.10.t no later than May 20, 2019.

ii. Complete the initial compliance requirements in Section 2.2 E.2.k no later than November 16, 2019 and according to the applicable provisions in §63.7(a)(2).

General Compliance Requirements

e. The Permittee shall meet the following general compliance requirements.
   i. At all times the Riley Coal, No. 4 Power, and Riley Bark Boilers **(ID Nos. G11039, G11040, and G11042)** are operating, the Permittee shall be in compliance with the emission standards in Section 2.2 E.2.g, below, except during periods of startup and shutdown. During startup and shutdown, the Permittee shall comply only with Section 2.2 E.2.u through E.2.v, 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 each CMS (including CEMS or CPMS). [40 CFR 63.7505(d)]
      (A) For each CEMS and CPMS, 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 CEMS and oxygen analyzer system.
         (1) Installation of the CMS sampling probe or other interface at a measurement location relative to each 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.

      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 Riley Coal, No. 4 Power, and Riley Bark Boilers **(ID Nos. G11039, G11040, and G11042)**, 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 in the table below for the Riley Coal, No. 4 Power, and Riley Bark Boilers **(ID Nos. G11039, G11040, and G11042)**. [40 CFR 63.7500(a)(1) and Table 2 to 40 CFR Part 63, Subpart DDDDD]

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	**Riley Coal and No. 4 Power Boilers**	1-hour minimum sampling time.

Pollutant	Emission Limit	Sample Volume or Test Run Duration for Performance Tests
Monoxide (CO)	130 ppm by volume on a dry basis corrected to 3 percent oxygen, 3-run average **Riley Bark Boiler** 3,500 ppm by volume on a dry basis corrected to 3 percent oxygen, 3-run average	
Filterable Particulate Matter (PM)	**Riley Coal and No. 4 Power Boilers** 4.0E-02 lb PM per million Btu of heat input **Riley Bark Boiler** 4.4E-01 lb PM per million Btu of heat input	Collect a minimum of 1 dry standard cubic meter per run.

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 stack 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). [40 CFR 63.7520(a)]
   ii. Conduct each performance test according to the requirements in Table 5 to 40 CFR Part 63, Subpart DDDDD. [40 CFR 63.7520(b)]
   iii. Conduct each performance test under the specific conditions listed in Tables 5 and 7 to 40 CFR Part 63, Subpart DDDDD. The Permittee shall conduct performance stack tests at representative operating load conditions while burning the type of fuel or mixture of fuels that has the highest content of HCl or mercury and the Permittee shall demonstrate initial compliance and establish operating limits based on these performance tests. These requirements could result in the need to conduct more than one performance test. Following each performance test and until the next performance test, the Permittee shall comply with the operating limit for operating load conditions specified in Table 4 to 40 CFR Part 63, Subpart DDDDD.
   iv. Conduct a minimum of three separate test runs for each required performance stack test. Each test run must comply with the minimum applicable sampling times or volumes specified in Section 2.2 E.2.g, above. [40 CFR 63.7520(b)]
   v. Convert measured PM and mercury concentrations resulting from the performance stack test to pounds per million Btu heat input emission rates as specified in 40 CFR 63.7520(e).
   vi. Except for a 30-day rolling average based on CEMS (or sorbent trap monitoring system) data, if measurement results for any pollutant are reported as below the method detection level (e.g., laboratory analytical results for one or more sample components are below the method defined analytical detection level), the Permittee shall use the method detection level as the measured emissions level for that pollutant in calculating compliance. The measured result for a multiple component analysis (e.g., analytical values for multiple Method 29 fractions both for individual HAP metals and for total HAP metals) may include a combination of method detection level data and analytical data reported above the method detection level. [40 CFR 63.7520(f)]

   If the performance tests are not conducted as required 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 according to the following paragraphs. 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 2.2 E.2.i.ii and E.2.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) For boilers that fire a single type of fuel, a fuel analysis is not required for each type of fuel burned in the boiler. Units that use supplemental fuel for only startup, shutdown, and transient flame stability purposes qualify as unites that burn a single type of fuel. A fuel analysis is not required for the supplemental fuel.

(B) Natural gas, refinery gas, or "other gas 1 fuels" that are co-fired with other fuels.

(C) Non-Gas 1 gaseous fuels that are subject to another subpart of 40 CFR Part 60, Part 61, Part 63, or Part 65.

(D) Chlorine content of any gaseous fuel and mercury content of gaseous fuels exempted from (A) or (B) above.

If the fuel analysis is not conducted as required above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111.

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 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 Riley Coal, No. 4 Power, and Riley Bark Boilers **(ID Nos. G11039, G11040, and G11042)**.

iii. The Notification of Compliance Status report must contain the information specified in 40 CFR 63.7545(e).

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 emission limits in Section 2.2 E.2.g, above, by [40 CFR 63.7510 and 63.7530]:

i. Conducting the initial performance test(s) as specified in Section 2.2 E.2.h, above for each pollutant, except as specified below. [40 CFR 63.7510(a)(1) and 63.7530(a)]

(A) An initial performance stack test is not required to demonstrate initial compliance based on fuel analysis alone for the HCl emission limit specified in Section 2.2 E.2.g, above, for the Riley Coal, No. 4 Power, **(ID Nos. G11039 and G11040)** provided the fuel analysis is conducted as required in Section E.2.k.ii, below. [40 CFR 63.7510(b)]

(B) The Permittee is not required to conduct an initial performance test on the Riley Coal, No. 4 Power, and Riley Bark Boilers **(ID Nos. G11039, G11040, and G11042)** 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 performance test must not be older than 2 years.

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

(4) Either no process or equipment changes shall 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.

(C) Each boiler equipped with CEMS or sorbent trap based integrated monitor for mercury are exempt from the performance testing and operating parameter requirements. [40 CFR 63.7510(b)]

ii. Conducting the fuel analyses according to the procedures specified in Section 2.2 E.2.i, above, and as follows:

(A) When demonstrating compliance using performance testing, the Permittee shall establish maximum fuel pollutant input levels using the procedures specified in 40 CFR 63.7530(b)(1) through (b)(3). [40 CFR 63.7510(a)(2) and 63.7530(b)]

(B) When demonstrating compliance using fuel analysis alone, the Permittee shall follow the procedures in 40 CFR 63.7530(c). If the emission rate calculated according to 40 CFR 63.7530(c) is not less than the emission limit in Section 2.2 E.2.g, above, the Permittee must demonstrate compliance using performance stack testing. [40 CFR 63.7510(b) and 63.7530(c)]

iii. Establishing operating limits as specified in Section 2.2 E.2.q and E.2.r, below [40 CFR 63.7510(a)(3) and 63.7530(b)(4)]. The Permittee shall submit a request to incorporate the established operating limits in the permit at the same time the test report is submitted per General Condition JJ. The permit revision will be processed pursuant to 15A NCAC 02Q .0514.

iv. Submitting the Notification of Compliance Status as specified in Section 2.2 E.2.j.iii, above [40 CFR 63.7530(e)].

v. Meeting the work practice standards in Section 2.2 E.2.s through E.2.v, below [40 CFR 63.7510(e) and 63.7530(h)].

vi. Installing monitoring systems and conducting CMS evaluation(s) as necessary as specified in Section 2.2 E.2.n and E.2.o, below [40 CFR 63.7510(a)(4) and 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 2.2 E.2.h, above, on an annual basis, except as specified below. Annual performance tests must be completed no more than 13 months after the previous performance test. [40 CFR 63.7515(a)]

(A) 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 2.2 E.2.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. [40 CFR 63.7515(b)]

(B) If a performance test shows that emissions exceeded the emission limit or 75 percent of the applicable emission limit specified in Section 2.2 E.20.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 2.2 E.2.g, above). [40 CFR 63.7515(c)]

ii. For the Riley Coal and No. 4 Power Boilers (**ID Nos. G11039 and G11040)**, conduct a monthly fuel analysis to demonstrate continuous compliance with the HCl emission limits according to Section 2.2 E.2.i, above, for each type of fuel burned that is subject to the HCl emission limits in Section 2.2 E.2.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. [40 CFR 63.7515(e)]

(A) If a new type of fuel is burned in one of the boilers, 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.

(B) 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)]

iii. If one of the boilers have not operated since the previous compliance demonstration and more than one year has passed since the previous compliance demonstration, the Permittee shall complete subsequent compliance demonstrations no later than 180 days after the re-start of the affected source and according to 40 CFR 63.7(a)(2) as cited in Table 10 of 40 CFR Part 63, Subpart DDDDD. [40 CFR 63.7515(g)]

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 Table 8 of 40 CFR Part 63, Subpart DDDDD and as follows:
   i. Keep records as specified in Section 2.2 E.2.w, 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 the Riley Coal and No. 4 Power Boilers **(ID Nos. G11039 and G11040)** HCl emission rate using Equation 16 of 40 CFR 63.7530; the Riley Bark Boiler **(ID No. G11042)** HCl emission rate using Equation 7 of 40 CFR 63.7530; and the mercury emission rate from the Riley Coal, No. 4 Power, and Riley Bark Boilers **(ID Nos. G11039, G11040, and G11042)** using Equation 8 of 40 CFR 63.7530 according to the following paragraphs. A fuel analysis in not required for the fuels specified in Section 2.2 E.2.i.v, above and the Permittee may exclude the fuels described in Section 2.2 E.2.i.v, above, when recalculating the emission rates.
      (A) When demonstrating compliance using fuel analysis alone for the Riley Coal and No. 4 Power Boilers **(ID Nos. G11039 and G11040)** HCl limits, the Permittee shall determine the chlorine concentration for any new fuel type in units of pounds per million Btu, based on supplier data or the Permittee may conduct a fuel analysis, according to the provisions in the site-specific fuel analysis plan developed according Section 2.2 E.2.i, above.
      (B) When demonstrating compliance using fuel analysis alone for the Riley Coal and No. 4 Power Boilers **(ID Nos. G11039 and G11040)** HCl limits, the Permittee shall determine the new mixture of fuels that will have the highest content of chlorine.
      (C) When demonstrating compliance using fuel analysis alone for the Riley Coal and No. 4 Power Boilers **(ID Nos. G11039 and G11040)** HCl limits, the Permittee shall recalculate the HCl emission rate from each boiler under these new conditions using Equation 16 of 40 CFR 63.7530. The recalculated HCl emission rates must be less than the applicable emission limits specified in Section 2.2 E.2.g, above. [40 CFR 63.7540(a)(3) and (a)(5)]
      (D) When demonstrating compliance using performance testing for the HCl emission limit for the Riley Bark Boiler **(ID No. G11042)** and for the mercury limits for the Riley Coal, No. 4 Power and Riley Bark Boilers **(ID Nos. G11039, G11040, and G11042)**, the Permittee shall recalculate the maximum chlorine input using Equation 7 of 40 CFR 63.7530 or the maximum mercury input using Equation 8 of 40 CFR 63.7530, as applicable. If the maximum compound input is greater than the maximum compound input level established during the previous performance test, the Permittee shall conduct a new performance test within 60 days of burning the new fuel type or fuel mixture according to Section 2.2 E.1.h, above, to demonstrate emissions do not exceed the emissions limits specified in Section 2.2 E.1.g, above. The Permittee shall establish new operating limits according to Section 2.2 E.2.r, below.
   iii. For the CEMS installed on the Riley Coal and No. 4 Boilers **(ID Nos. G11039 and G11040)** as specified in Section 2.2 E.2.n through E.2.p, below, the Permittee shall do the following. [40 CFR 63.7540(a)(9), (14), and (19)].
      (A) Install, certify, operate, and maintain the PM CEMS in accordance with the site-specific monitoring plan as required in Section 2.2 E.2.e.ii, above.
      (B) Install, certify, operate, and maintain the mercury CEMS or sorbent trap based integrated monitor as specified in 40 CFR 63.7540(a)(14).
      (C) Install, certify, operate, and maintain the PM CEMS and record the output of the PM CEMS as specified in 40 CFR 63.7540(a)(19). The compliance limit will be expressed as a 30-day rolling average of the numerical emissions limit value applicable for the boiler in Section 2.2 E.2.g, above.
   iv. The Permittee shall conduct tune-ups of the boilers as specified in Section 2.2 E.2.s, below. [40 CFR 63.7540(a)(10) and (a)(12)]
   v. For startup and shutdown, the Permittee shall meet the work practice standards specified in Section 2.2 E.2.t and A.10.u, below. [40 CFR 63.7540(d)]
   vi. Operation above the established maximum or below the established minimum operating limits shall constitute a period of noncompliance with the 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. [40 CFR 63.7540(a)(1)]
   vii. For demonstrating continuous compliance with the limits specified in Section 2.2 E.2.g, above, for the Riley Bark Boiler **(ID No. G11042)**, the Permittee shall:
      (A) Meet the operating limits for wet scrubber pressure drop and liquid flow rate operating limits by:
         (1) Collecting the pressure drop and liquid flow rate monitoring system data according to Section 2.2 E.2.o, below; and.
         (2) Reducing the data to 30-day rolling averages; and

(3) Maintaining the 30-day rolling average pressure drop and liquid flow-rate at or above the operating limits established during the performance test according to Section 2.2 E.2.r, below.

(B) Meet the operating limits for wet scrubber pH by:
(1) Collecting the pH monitoring system data according to Section 2.2 E.2.o, below; and
(2) Reducing the data to 30-day rolling averages; and
(3) Maintaining the 30-day rolling average pH at or above the operating limit established during the performance test according to Section 2.2 E.2.r, below.

viii. For demonstrating continuous compliance with the HCl emission limits for the Riley Coal and No. 4 Power Boilers **(ID Nos. G11039 and G11040)** specified in Section 2.2 E.2.g, above, using fuel analyses, the Permittee shall:
(A) Conduct monthly fuel analysis for HCl according to Section 2.2 E.2.i, above.
(B) Reduce the data to 12-month rolling averages; and
(C) Maintain the 12-month rolling average at or below the applicable emission limit for HCl or mercury in Section 2.2 E.2.g, above; and
(D) Calculate the HCl and mercury emission rate from the boilers in units of lb/MMBtu using Equation 15 and Equations 17, 18, and/or 19 in 40 CFR 63.7530.

ix. For demonstrating continuous compliance with the oxygen content operating parameter limits, the Permittee shall:
(A) Continuously monitor oxygen content using an oxygen analyzer system according to Section 2.2 E.2.p, below; and
(B) Reduce the data to 30-day rolling averages; and
(C) Maintain the 30-day rolling average oxygen content at or above the lowest hourly average oxygen level measured during the CO performance test.

x. For demonstrating continuous compliance with the boiler operating load operating parameter limits, the Permittee shall:
(A) Collect operating load data or steam generation data every 15 minutes.
(B) Reduce the data to 30-day rolling averages; and
(C) Maintain the 30-day rolling average operating load such that it does not exceed 110 percent of the highest hourly average operating load recorded during the performance test in Section 2.2 E.2.h, above.

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 monitoring systems on the Riley Coal and No. 4 Power Boilers **(ID Nos. G11039 and G11040)** as follows. [40 CFR 63.8(c) through (e) and (g), 63.7525, and 63.7540(a)(19)]

i. The Permittee shall install, certify, operate and maintain each PM CEMS according to the procedures in the approved site-specific monitoring plan developed according to Section 2.2 E.2.e.ii, above, and the Permittee shall do the following [40 CFR 63.7525(b)(5) through (8)]:
(A) conduct a performance evaluation of the PM CEMS according to the applicable requirements of 40 CFR 60.8(e), and Performance Specification 11 at 40 CFR part 60, appendix B. The reportable measurement output from the PM CEMS shall be expressed in terms pounds per million Btu.
(B) during each PM correlation testing run of the CEMS required by Performance Specification 11 at 40 CFR part 60, appendix B of this chapter, collect PM and oxygen (or carbon dioxide) data concurrently (or within a 30-to 60-minute period) by both the CEMS and conducting performance tests using Method 5 at 40 CFR part 60, appendix A-3 or Method 17 at 40 CFR part 60, appendix A-6 of this chapter.
(C) perform quarterly accuracy determinations and daily calibration drift tests in accordance with Procedure 2 at 40 CFR part 60, appendix F of this chapter. You must perform Relative Response Audits annually and perform Response Correlation Audits every 3 years.
(D) within 60 days after the date of completing each CEMS relative accuracy test audit or performance test conducted to demonstrate compliance with this subpart, submit the relative accuracy test audit data and performance test data to the EPA by successfully submitting the data electronically into the EPA's Central Data Exchange by using the Electronic Reporting Tool (see *http://www.epa.gov/ttn/chief/ert/erttool.html/*).
(E) complete the initial performance evaluation no later than November 16, 2019.
(F) collect PM CEMS hourly average output data for all boiler operating hours except as indicated in Section 2.2 E.2.p.ii, below.
(G) calculate the arithmetic 30-day rolling average of all the hourly average PM CEMS output data collected during all boiler operating hours.

ii. The Permittee shall install, certify, maintain, and operate a CEMS measuring mercury emissions discharged to the atmosphere and record the output of the system as specified in 40 CFR 63.7525(l).
iii. The Permittee shall install, operate, and maintain an oxygen analyzer system on each boiler, according to the requirements of Section 2.2 E.2.p, below.

o. The Permittee shall install, operate, and maintain monitoring systems on the Riley Bark Boiler **(ID No. G11042)**, as follows:
i. A continuous monitoring system to monitor the liquid flow rate of the scrubber installed on the boiler as follows [40 CFR 63.7525(e)]:
(A) install the flow sensor and other necessary equipment in a position that provides a representative flow.
(B) use a flow sensor with a measurement sensitivity of no greater than 2 percent of the design flow rate.
(C) minimize, consistent with good engineering practices, the effects of swirling flow or abnormal velocity distributions due to upstream and downstream disturbances.
(D) conduct a flow monitoring system performance evaluation in accordance with the site-specific monitoring plan required in Section 2.2 E.2.e.ii, above, at the time of each performance test but no less frequently than annually.
ii. A continuous monitoring system to monitor the pressure drop of the scrubber installed on the boiler as follows [40 CFR 63.7525(f)]:
(A) Install the pressure sensor(s) in a position that provides a representative measurement of the pressure (*e.g.*, PM scrubber pressure drop).
(B) Minimize or eliminate pulsating pressure, vibration, and internal and external corrosion consistent with good engineering practices.
(C) Use a pressure sensor with a minimum tolerance of 1.27 centimeters of water or a minimum tolerance of 1 percent of the pressure monitoring system operating range, whichever is less.
(D) Perform checks at least once each process operating day to ensure pressure measurements are not obstructed (*e.g.*, check for pressure tap pluggage daily).
(E) Conduct a performance evaluation of the pressure monitoring system in accordance with the site-specific monitoring plan required in Section 2.2 E.2.e.ii, above, at the time of each performance test but no less frequently than annually.
(F) If at any time the measured pressure exceeds the manufacturer's specified maximum operating pressure range, conduct a performance evaluation of the pressure monitoring system in accordance with the site-specific monitoring plan required in Section 2.2 E.2.e.ii, above, and confirm that the pressure monitoring system continues to meet the performance requirements in the monitoring plan. Alternatively, install and verify the operation of a new pressure sensor.
iii. An oxygen analyzer system to monitor the oxygen content of the boiler according to the requirements of Section 2.2 E.2.p, below. [40 CFR 63.7525(a)]
iv. A pH monitoring system to monitor the wet scrubber liquid pH installed as follows [40 CFR 63.7525(g)]
(A) The pH sensor shall be installed in a position that provides a representative measurement of scrubber effluent pH.
(B) Ensure the sample is properly mixed and representative of the fluid to be measured.
(C) Calibrate the pH monitoring system in accordance with your monitoring plan and according to the manufacturer's instructions. Clean the pH probe at least once each process operating day. Maintain on-site documentation that your calibration frequency is sufficient to maintain the specified accuracy of your device.
(D) Conduct a performance evaluation (including a two-point calibration with one of the two buffer solutions having a pH within 1 of the pH of the operating limit) of the pH monitoring system in accordance with your monitoring plan at the time of each performance test but no less frequently than annually.

The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111 if the requirements for monitoring systems installed on the Riley Bark Boiler are not met as specified above.

p. The Permittee shall install, operate, and maintain each CMS specified in Section 2.2 E.2.n through E.2.o, above, including oxygen analyzer systems and operating load or steam generation monitors, as follows: [40 CFR 63.7525(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. [40 CFR 63.7525(d)(1)]
ii. The CMS shall be operated according to and comply with the data calculation requirements specified below. [40 CFR 63.7525(d)(2)]
(A) The Permittee shall operate the monitoring system and collect data at all required intervals at all times that each 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 2.2 E.2.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. [40 CFR 63.7535(b)]

(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. [40 CFR 63.7535(c)]

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). [40 CFR 63.7525(d)(3)]

iv. The Permittee shall determine the 30-day rolling average of all recorded readings, except as provided in paragraph ii(B), above. [40 CFR 63.7525(d)(4)]

v. The Permittee shall record the results of each inspection, calibration, and validation check. [40 CFR 63.7525(d)(5)]

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)],

q. The Permittee shall comply with the following operating limits established during performance testing conducted according to Section 2.2 E.2.h, above, for the Riley Coal, No. 4 Power, and Riley Bark Boilers **(ID Nos. G11039, G11040, and G11042)**. [40 CFR 63.7500, Table 4 to 40 CFR Part 63, Subpart DDDDD]

i. When demonstrating compliance with the Riley Bark Boiler **(ID No. G11042)** emission limits specified in Section 2.2 E.2.g, above, the Permittee shall operate the wet scrubber as follows:

(A) maintain the 30-day rolling average pressure drop at or above the lowest one-hour average pressure drop measured during the PM performance test; and

(B) maintain the 30-day rolling average liquid flow rate at or above the lowest one-hour average liquid flow rate measured during the PM and HCl performance test.

(C) Maintain the 30-day rolling average effluent pH at or above the lowest one-hour average pH and the 30-day rolling average liquid flow rate at or above the lowest one-hour average liquid flow rate measured during HCl the performance test.

ii. When demonstrating compliance with the Riley Coal, No. 4 Power, and Riley Bark Boilers **(ID No. G11039, G11040, and G11042)** CO emission limit specified in Section 2.2 E.2.g, above, the Permittee shall maintain the 30-day rolling average oxygen content at or above the lowest hourly average oxygen concentration measured during the most recent CO performance test.

iii. When demonstrating compliance with the CO emission limits for all boilers or the mercury emission limit for the Riley Bark Boiler **(ID No. G11042)**, the Permittee shall maintain the 30-day rolling average operating load of such that it does not exceed 110 percent of the highest hourly average operating load recorded during the performance test.

iv. Operation above the established maximum or below the established minimum operating limits shall constitute a period of noncompliance with the established operating limits listed in Table 4 to 40 CFR Part 63, Subpart DDDDD except during performance tests conducted to determine compliance with the emission limits or to establish new operating limits. The Permittee shall confirm or reestablish operating limits during performance tests. [40 CFR 63.7540(a)(1)]

(A) If revisions to operating parameter values are necessary to demonstrate compliance with the emission limits and are more stringent than the established minimum or maximum operating limits, the Permittee shall submit a request to revise the values in the permit at the same time as the test report is submitted as

required per General Condition JJ. The permit revision will be processed pursuant to 15A NCAC 02Q .0514.

(B) If performance testing indicates that compliance with emission limits is demonstrated with revisions to operating parameter values that are less stringent than the established minimum or maximum operating limits, 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 .1111 if the operating limits above are not met.

r. During the performance tests conducted according to Section 2.2 E.2.h, above, the Permittee shall establish each site-specific operating limit in Section 2.2 EA.2.q, above, for the Riley Coal, No. 4 Power, and Riley Bark Boilers **(ID Nos. G11039, G11040 and G11042)** as follows: [40 CFR 63.7530(b) and Table 7 of 40 CFR Part 63, Subpart DDDDD]

i. For the CMS installed on Riley Bark Boiler **(ID No. G11042)** identified in Section 2.2 E.2.o, above, the Permittee shall establish the minimum pressure drop, liquid flow rate, and liquid pH as the operating limits during the three-run performance test conducted according to Section 2.2 E.2.h, above. If the Permittee conducts multiple performance tests, the minimum liquid flow rate, pressure drop and pH operating limits shall be set at the higher of the minimum values established during the performance tests. [40 CFR 63.7530(b)(4)(iii) and Table 7 of 40 CFR Part 63, Subpart DDDDD]

(A) The Permittee shall collect scrubber pressure drop, liquid flow rate, and pH data every 15 minutes during the entire period of the performance tests.

(B) The Permittee shall determine the lowest hourly average scrubber pressure drop, liquid flow rate, and liquid pH by computing the hourly averages using all of the 15-minute readings taken during each performance test.

ii. Using data from the oxygen analyzer system installed to measure the oxygen content of all boilers and operated according to Section 2.2 E.2.p, 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.

iii. Using data from the operating load monitors or from steam generation monitors installed and operated as specified in Section 2.2 E.2.p, above, establish a unit-specific limit for maximum operating load according to Section 2.2 E.2.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.

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)]

s. Tune-up Requirements. The Permittee shall conduct a tune-up of the Riley Coal, No. 4, and Riley Bark Boilers **(ID Nos. G11039, G11040, and G11042)** 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 each boiler 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. After the initial tune-up conducted by the date specified in Section 2.2 E.2.d, above, each subsequent tune-up shall be conducted once per year and no more than 13 months after the previous tune-up.
vii. If the boiler 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.

t. 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 DDDDD, 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 of 40 CFR Part 63, Subpart DDDDD] The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111 if these requirements are not met.

u. Startup Requirements. The Permittee shall comply with all applicable emission standards at all times the unit is operating except during startup, the Permittee shall meet the work practice requirements below. [Table 3 of 40 CFR Part 63, Subpart DDDDD]
i. All CMS shall be operated during startup.
ii. For startup of each boiler, 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 2.2 E.2.p.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.

v. Shutdown Requirements. The Permittee shall comply with all applicable standards at all times except during shutdown periods shall meet the work practice requirements below. [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 Section 2.2 E.2.p.ii(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)]

w. 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 §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.

x. 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)]

y. 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 January 30, 2020 and cover the period from May 20, 2019 through December 31, 2019.
   ii. The compliance reports shall also be submitted electronically to the EPA via the procedures in 40 CFR 63.7550(h).
z. The compliance report shall contain [Table 9 to Subpart DDDDD of Part 63]:
   i. The information in 40 CFR 63.7550(c) as applicable.
   ii. If there are no periods of noncompliance with any applicable emission limitation (emission limit and operating limit) and there are no periods of noncompliance from the applicable requirements for work practice standards for periods of startup and shutdown in Table 3, a statement that there were no periods of noncompliance from the emission limitations and work practice standards during the reporting period. If there were no periods during which the CMSs, including CEMS and operating parameter monitoring systems, were out-of-control as specified in 40 CFR 63.8(c)(7), a statement that there were no periods during which the CMSs were out-of-control during the reporting period; and

iii. If there is a period of noncompliance with any applicable emission limitation (emission limit and operating limit) where a CMS is not used to comply with that emission limit or operating limit, or a deviation from a work practice standard for periods of startup and shutdown, during the reporting period, the report must contain the information in 40 CFR 63.7550(d); and

iv. If there were periods during which the CMSs, including continuous emissions monitoring system, continuous opacity monitoring system, and operating parameter monitoring systems, were out-of-control as specified in §63.8(c)(7), or otherwise not operating, the report must contain the information in §63.7550(e). [40 CFR 63.7535(d)]

aa. 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)]

F. [RESERVED]

G. 15A NCAC 02D .1109: CAA 112(j); Case-by-case MACT for Start-up, Shutdown, or Malfunction (SSM) Conditions from Subpart S affected sources

1. <u>No. 1 Hardwood Fiberline Bleaching System and No. 2 Pine Fiberline Bleaching System</u>.

a. The Permittee shall comply with this CAA §112(j) standard until September 11, 2020. The initial compliance date for the applicable CAA §112(d) standard for ‘‘National Emission Standards for Hazardous Air Pollutants from the Pulp and Paper Industry” is September 11, 2020.

<u>Startup</u>

b. For the No. 1 Hardwood Fiberline Bleaching System **(ID No. G05012)** and the No 2 Pine Fiberline Bleaching System **(ID No. G05013)**, startup begins when pulp stock enters either bleach plant tower for chlorine dioxide application. Startup ends when all bleach plant towers are operating steady-state and normal operating conditions have been attained as determined by pulp brightness and D2 tower residual chlorine dioxide. Operators will operate the bleach plant scrubber with scrubber fan status, scrubber liquid recirculation rate, and scrubber effluent pH meeting the specifications for normal operations as defined in 2.2.C.1.h PRIOR to the introduction of stock to the bleach plant. The period of startup for the bleach plants managed in accordance with this work practice standard shall not be an excess emission under 40 CFR Part 63, Subpart S or 15A NCAC 02D .1111. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1109 if these work practices are not conducted during startup.

<u>Shutdown</u>

c. For the No. 1 Hardwood Fiberline Bleaching System **(ID No. G05012)** and the No 2 Pine Fiberline Bleaching System **(ID No. G05013)**, shutdown begins when pulp stock is no longer fed to the pre-bleach washers. Shutdown ends when chlorine dioxide flow to both towers is stopped and stock levels are brought to desired levels. During shutdown, operators will operate the bleach plant scrubber with scrubber fan status, scrubber liquid recirculation rate and scrubber effluent pH meeting the specifications for normal operations as defined in 2.2.C.1.h. The period of shutdown for the bleach plants managed in accordance with this work practice standard shall not be an excess emission under 40 CFR Part 63, Subpart S or 15A NCAC 02D .1111. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1109 if these work practices are not conducted during shutdown.

<u>Malfunction</u>

d. In the event of malfunction of a bleach plant scrubber or scrubber fan installed on the No. 1 Hardwood Fiberline Bleaching System control device **(ID No. 05-CD-002-01)** and the No 2 Pine Fiberline Bleaching System control device **(ID No. 05-CD-017-01)**, the following work practice will be followed:

i. Upon knowledge of the parameter excursion, operators will take immediate steps to identify the root cause of the parameter excursion;

ii. If the root cause of the parameter excursion cannot be determined within 2 operating hours from initial knowledge of the parameter excursion, operators will initiate an orderly shutdown of the process. If the projected time to correct the parameter excursion exceeds 2 hours, operators will initiate an orderly shutdown

of the process. If required, the respective bleach plant will commence an orderly shutdown to a zero operating state defined as pulp washers being flushed and cleared of stock and application of chlorine dioxide to the bleach towers stopped. Stock may be held in the bleaching towers with no chlorine dioxide application after washers are cleared. In the event the malfunction is resolved prior to reaching a zero operating state, the orderly shutdown may be terminated, and the bleach plant equipment returned to normal operating condition.

iii. The parameter excursion shall be corrected as soon as practicable.

The period of malfunction for the bleach plants managed in accordance with this work practice standard shall not be an excess emission under 40 CFR Part 63, Subpart S or 15A NCAC 02D .1111. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1109 if these work practices are not conducted during malfunction.

H. North Carolina Air Toxics

State Enforceable Only Requirement

1. 15A NCAC 02D .1100: CONTROL OF TOXIC AIR POLLUTANTS

a. Pursuant to 15A NCAC 02D .1100 and in accordance with the approved air toxic compliance demonstration, the Permittee shall be subject to the toxic air pollutant emission limits in Table 2.2 H-1 for known compounds emitted from nonexempt sources at the pulp and paper mill. The limits are optimized, which means that the source would have to generate emissions greater than the potential to emit in order to exceed the acceptable ambient levels established in 15A NCAC 02D .1104.

Table 2.2 H.1 Toxic Air Pollutant Emission Limits

Permit ID No.	Emission Source Description	Toxic Air Pollutant (CAS No.)	Emission Limit		
			(lb/yr)	(lb/day)	(lb/hr)
G04011	White Liquor Oxidation System	acetaldehyde (75-07-0)			6.29E-01
		benzene (71-43-2)	2.13E+01		
		formaldehyde (50-00-0)			5.93E-02
		n-hexane (110-54-3)		3.46E+01	
		methyl ethyl ketone (78-93-3)		3.21E+00	6.26E-01
G05073	Minerals Removal Process (MRP)	chloroform (67-66-3)	1.72E+02		
G06014.06-PU-002	R-8 Chlorine Dioxide Generator	acetaldehyde (75-07-0)			1.23E-01
		benzene (71-43-2)	1.56E+00		
		carbon tetrachloride (56-23-5)	1.48E+03		
		chlorine (7782-50-5)		1.49E+02	1.68E+01
		chloroform (67-66-3)	5.43E+02		
		formaldehyde (50-00-0)			3.50E-02
		hydrogen chloride (7647-01-0)			1.67E-01
		methylene chloride (75-09-2)	5.10E+02		1.42E-01
		methyl ethyl ketone (78-93-3)		5.98E-01	1.16E-01
		phenol (108-95-2)			4.51E-02
I-G08074	Chloride Removal Process (CRP)	acetaldehyde (75-07-0)			1.25E-02
G09027 G09027-3	No. 4 Lime Pre-Coat Filter (No. 09-PU-001) No. 5 Lime Pre-Coat Filter (No. 09-PU-002) No. 6 Lime Pre-Coat Filter (No. 09-PU-004) No. 4 Lime Pre-Coat Filter Vacuum Pump (No. 09-PU-001a) No. 5 Lime Pre-Coat Filter Vacuum Pump (No. 09-PU-002a) No. 6 Lime Pre-Coat Filter Vacuum Pump (No. 09-PU-004a) Dregs Filter	acetaldehyde (75-07-0)			8.08E+00
		acrolein (107-02-8)			3.55E-02
		benzene (71-43-2)	6.86E+00		
		carbon disulfide (75-15-0)		6.57E+00	
		chloroform (67-66-3)	1.22E+02		
		formaldehyde (50-00-0)			5.54E-02
		n-hexane (110-54-3)		6.11E+01	
		methylene chloride (75-09-2)	1.28E+03		3.57E-01
		methyl ethyl ketone (78-93-3)		3.47E+01	6.74E+00

Table 2.2 H.1 Toxic Air Pollutant Emission Limits

Permit ID No.	Emission Source Description	Toxic Air Pollutant (CAS No.)	Emission Limit		
			(lb/yr)	(lb/day)	(lb/hr)
G10035	No. 5 Lime Slaker	acetaldehyde (75-07-0)			7.80E+00
		ammonia (7664-41-7)			1.45E+01
		benzene (71-43-2)	1.02E+00		
		carbon disulfide (75-15-0)		8.43E-02	
		n-hexane (110-54-3)		1.55E+00	
		methylene chloride (75-09-2)	4.29E+04		2.13E+01
		methyl ethyl ketone (78-93-3)		8.24E+00	2.87E+00
		phenol (108-95-2)			1.02E-01
G10034	No. 6 Lime Slaker	acetaldehyde (75-07-0)			7.59E+00
		ammonia (7664-41-7)			1.41E+01
		benzene (71-43-2)	1.53E+00		
		carbon disulfide (75-15-0)		1.26E-01	
		n-hexane (110-54-3)		2.33E+00	
		methylene chloride (75-09-2)	6.44E+04		2.08E+01
		methyl ethyl ketone (78-93-3)		1.24E+01	2.79E+00
		phenol (108-95-2)			9.91E-02
G10089.10-TK-002 G10089.10-TK-013 G10089.10-TK-005 G10089.10-TK-006	West Green Liquor Storage North Green Liquor Storage South Green Liquor Clarifier North Green Liquor Clarifier	acetaldehyde (75-07-0)			8.92E-02
		benzene (71-43-2)	9.79E+00		
		methyl ethyl ketone (78-93-3)		3.44E+00	8.63E-01
		methyl mercaptan (74-93-1)			1.18E-02
		phenol (108-95-2)			4.23E+00
G10090	Green Liquor Stabilization	acetaldehyde (75-07-0)			3.34E-02
		benzene (71-43-2)	1.37E+00		
		chloroform (67-66-3)	2.57E+00		
		n-hexane (110-54-3)		4.27E-01	
		methyl ethyl ketone (78-93-3)		2.86E-01	5.57E-02
		methyl mercaptan (74-93-1)			3.82E-05
I-G10091	Lime Mud Washers and Storage	methyl ethyl ketone (78-93-3)		7.30E-02	2.20E-02
G21072	Tall Oil Reactor	acetaldehyde (75-07-0)			3.01E-01
		acrolein (107-02-8)			3.50E-01
		benzene (71-43-2)	1.74E+01		
		carbon disulfide (75-15-0)		1.23E+02	
		chloroform (67-66-3)	1.10E+03		
		n-hexane (110-54-3)		2.49E+03	
		hydrogen sulfide (7783-06-4)		8.45E+00	
		methylene chloride (75-09-2)	4.98E+02		1.39E-01
		methyl ethyl ketone (78-93-3)		9.50E+00	1.85E+00
		methyl mercaptan (74-93-1)			2.76E-01
		phenol (108-95-2)			1.24E+00

Table 2.2 H.1 Toxic Air Pollutant Emission Limits

Permit ID No.	Emission Source Description	Toxic Air Pollutant (CAS No.)	Emission Limit		
			(lb/yr)	(lb/day)	(lb/hr)
G12049	No. 19 Paper Machine	acetaldehyde (75-07-0)			6.52E+00
		acrolein (107-02-8)			2.40E+00
		ammonia (7664-41-7)			9.81E+00
		benzene (71-43-2)	1.83E+02		
		carbon disulfide (75-15-0)		2.41E+02	
		chloroform (67-66-3)	5.71E+02		
		formaldehyde (50-00-0)			1.38E+00
		n-hexane (110-54-3)		2.42E+02	
		methylene chloride (75-09-2)	5.42E+04		1.51E+01
		methyl ethyl ketone (78-93-3)		7.20E+01	1.40E+01
		methyl mercaptan (74-93-1)			5.03E-01
		phenol (108-95-2)			2.80E+00
G12048	No. 20 Paper Machine	acetaldehyde (75-07-0)			3.67E+00
		acrolein (107-02-8)			1.35E+00
		ammonia (7664-41-7)			5.52E+00
		benzene (71-43-2)	1.03E+02		
		carbon disulfide (75-15-0)		1.36E+02	
		chloroform (67-66-3)	3.21E+02		
		formaldehyde (50-00-0)			7.75E-01
		n-hexane (110-54-3)		1.36E+02	
		methylene chloride (75-09-2)	3.05E+04		8.49E+00
		methyl ethyl ketone (78-93-3)		4.05E+01	7.88E+00
		methyl mercaptan (74-93-1)			2.83E-01
		phenol (108-95-2)			1.58E+00
G12050	No. 12 Paper Machine	acetaldehyde (75-07-0)			1.83E+00
		acrolein (107-02-8)			6.76E-01
		ammonia (7664-41-7)			2.76E+00
		benzene (71-43-2)	5.15E+01		
		carbon disulfide (75-15-0)		6.78E+01	
		chloroform (67-66-3)	1.60E+02		
		formaldehyde (50-00-0)			3.88E-01
		n-hexane (110-54-3)		6.80E+01	
		methylene chloride (75-09-2)	1.52E+04		4.24E+00
		methyl ethyl ketone (78-93-3)		2.02E+01	3.94E+00
		methyl mercaptan (74-93-1)			1.41E-01
		phenol (108-95-2)			7.89E-01

Table 2.2 H.1 Toxic Air Pollutant Emission Limits

Permit ID No.	Emission Source Description	Toxic Air Pollutant (CAS No.)	Emission Limit		
			(lb/yr)	(lb/day)	(lb/hr)
G12051	No. 11 Paper Machine	acetaldehyde (75-07-0)			1.83E+00
		acrolein (107-02-8)			6.76E-01
		ammonia (7664-41-7)			2.76E+00
		benzene (71-43-2)	5.15E+01		
		carbon disulfide (75-15-0)		6.78E+01	
		chloroform (67-66-3)	1.60E+02		
		formaldehyde (50-00-0)			3.88E-01
		n-hexane (110-54-3)		6.80E+01	
		methylene chloride (75-09-2)	1.52E+04		4.24E+00
		methyl ethyl ketone (78-93-3)		2.02E+01	3.94E+00
		methyl mercaptan (74-93-1)			1.41E-01
		phenol (108-95-2)			7.89E-01
I-G10036	White Liquor Clarifier (West) (No. 10-TK-015)	acetaldehyde (75-07-0)			1.61E+00
	White Liquor Clarifier (EIMCO) (No. 10-TK-018)	acrolein (107-02-8)			4.12E-02
	White Liquor Clarifier (South) (No. 10-TK-012)	benzene (71-43-2)	2.13E+01		
	White Liquor Pressure Disc Filter (No.10a)	methyl ethyl ketone (78-93-3)		3.26E+00	8.20E-01
I-G23065	Bleached Stock Storage	acetaldehyde (75-07-0)			1.71E-02
		benzene (71-43-2)	2.91E-02		
		chloroform (67-66-3)	3.55E+02		
		n-hexane (110-54-3)		3.75E-01	
		hydrogen sulfide (7783-06-4)		2.99E-02	
		methyl ethyl ketone (78-93-3)		4.83E-01	9.39E-02
		methyl mercaptan (74-93-1)			3.26E-04
		phenol (108-95-2)			4.99E-02
G07019.07-TK-023 G07019.07-TK-024 G07019.07-TK-022 G07019.07-TK-025	Heavy Black Liquor Storage: East Storage Tank West Storage Tank Red Liquor Tank Backup Tank	acetaldehyde (75-07-0)			2.66E+00
		acrolein (107-02-8)			1.84E-03
		benzene (71-43-2)	5.99E-01		
		1,3-butadiene (106-99-0)	3.56E+01		
		carbon disulfide (75-15-0)		5.32E+01	
		chloroform (67-66-3)	1.60E+01		
		formaldehyde (50-00-0)			2.45E-02
		n-hexane (110-54-3)		3.52E+00	
		hydrogen sulfide (7783-06-4)		2.49E+01	
		methylene chloride (75-09-2)	9.04E+01		2.52E-02
		methyl ethyl ketone (78-93-3)		3.60E+01	7.00E+00
		methyl mercaptan (74-93-1)			2.71E-01
		phenol (108-95-2)			3.15E-02

Table 2.2 H.1 Toxic Air Pollutant Emission Limits

Permit ID No.	Emission Source Description	Toxic Air Pollutant (CAS No.)	Emission Limit (lb/yr)	Emission Limit (lb/day)	Emission Limit (lb/hr)
G07086.07-TK-004, G07086.07-TK-013, G07086.07-TK-016, G07086.07-TK-017, G07086.07-TK-018, G07086.07-TK-019, G07086.07-TK-020, G07086.07-TK-021	Weak Black Liquor Storage: Eight Tanks	acetaldehyde (75-07-0)			1.25E-01
		acrolein (107-02-8)			2.80E-02
		benzene (71-43-2)	5.31E+00		
		1,3-butadiene (106-99-0)	9.92E+01		
		carbon disulfide (75-15-0)		5.30E+02	
		carbon tetrachloride (56-23-5)	1.44E+01		
		chloroform (67-66-3)	4.90E-01		
		formaldehyde (50-00-0)			1.96E-02
		n-hexane (110-54-3)		6.74E-01	
		hydrogen sulfide (7783-06-4)		3.94E+00	
		methylene chloride (75-09-2)	9.51E+02		2.65E-01
		methyl ethyl ketone (78-93-3)		1.39E+01	2.71E+00
		methyl mercaptan (74-93-1)			3.41E-02
I-G23066a	Sewer Lines	chlorine (7782-50-5)		5.65E-01	6.38E-02
G03007	Reject Knots	acetaldehyde (75-07-0)			1.67E+00
		acrolein (107-02-8)			3.46E-01
		benzene (71-43-2)	1.29E+00		
		1,3-butadiene (106-99-0)	1.42E+02		
		carbon disulfide (75-15-0)		1.55E+01	
		carbon tetrachloride (56-23-5)	2.94E+03		
		chloroform (67-66-3)	1.32E+01		
		formaldehyde (50-00-0)			1.59E-02
		methylene chloride (75-09-2)	5.79E+03		1.83E+00
		methyl ethyl ketone (78-93-3)		3.42E+01	7.57E+00
		methyl mercaptan (74-93-1)			2.40E-02
		phenol (108-95-2)			1.46E-01
I-G10036	Causticizer (Center) (No. 10-TK-010) Causticizer (East) (No. 10-TK-009) Causticizer (South) (No. 10-TK-025) Causticizer (West) (No. 10-TK-011) Causticizer (North) (No. 10-TK-026)	acetaldehyde (75-07-0)			8.56E-01
		acrolein (107-02-8)			1.19E-02
		ammonia (7664-41-7)			1.10E+01
		benzene (71-43-2)	4.93E+00		
		carbon disulfide (75-15-0)		3.37E-01	
		chloroform (67-66-3)	1.17E-01		
		formaldehyde (50-00-0)			7.01E-03
		n-hexane (110-54-3)		2.56E-01	
		methylene chloride (75-09-2)	4.12E+01		1.48E-02
		methyl ethyl ketone (78-93-3)		1.20E-01	3.02E-02
		phenol (108-95-2)			4.10E-03
G23066.k	No. 1 Fiberline Building Ventilation Fugitives	acetaldehyde (75-07-0)			2.76E+01

Table 2.2 H.1 Toxic Air Pollutant Emission Limits

Permit ID No.	Emission Source Description	Toxic Air Pollutant (CAS No.)	Emission Limit		
			(lb/yr)	(lb/day)	(lb/hr)
G23066.l G03006 -common exhaust	No. 2 Fiberline Building Ventilation Fugitives No. 2 Pine Fiberline Brownstock Washer System	acetaldehyde (75-07-0)			1.03E+01
		acrolein (107-02-8)			5.65E-02
		benzene (71-43-2)	5.23E+01		
		1,3-butadiene (106-99-0)	2.53E+02		
		carbon disulfide (75-15-0)		1.86E+01	
		carbon tetrachloride (56-23-5)	4.16E+04		
		chloroform (67-66-3)	5.95E+00		
		cresol (1319-77-3)			1.04E+01
		formaldehyde (50-00-0)			4.67E-01
		n-hexane (110-54-3)		4.30E+03	
		hydrogen sulfide (7783-06-4)		3.43E+00	
		methylene chloride (75-09-2)	5.98E+02		1.76E-01
		methyl ethyl ketone (78-93-3)		1.14E+02	2.26E+01
		methyl mercaptan (74-93-1)			7.92E-02
		phenol (108-95-2)			1.41E+00
		vinyl chloride (75-01-4)	2.94E+03		
G24092	Hardwood Brownstock High Density Storage	acetaldehyde (75-07-0)			1.71E-01
		benzene (71-43-2)	2.91E-01		
		chloroform (67-66-3)	3.55E+02		
		n-hexane (110-54-3)		3.75E+00	
		hydrogen sulfide (7783-06-4)		4.78E-01	
		methyl ethyl ketone (78-93-3)		4.83E+00	9.39E-01
		methyl mercaptan (74-93-1)			3.26E-03
		phenol (108-95-2)			4.99E-01
G24094	Pine Brownstock High Density Storage	acetaldehyde (75-07-0)			1.71E-01
		benzene (71-43-2)	2.91E-01		
		chloroform (67-66-3)	3.55E+02		
		n-hexane (110-54-3)		3.75E+00	
		hydrogen sulfide (7783-06-4)		4.78E-01	
		methyl ethyl ketone (78-93-3)		4.83E+00	9.39E-01
		methyl mercaptan (74-93-1)			3.26E-03
		phenol (108-95-2)			4.99E-01
G11025 G11045	No. 4 Power Boiler Flyash Transfer Silo Utility Boiler Flyash Handling System Main Flyash Silo	arsenic and inorganic arsenic compounds	1.32E-01		
		beryllium (7440-41-7)	2.31E-01		
		cadmium (7440-43-9)	9.14E-03		
		manganese and compounds		1.24E-01	
		nickel metal (7440-02-0)		3.09E+00	

Table 2.2 H.1 Toxic Air Pollutant Emission Limits

Permit ID No.	Emission Source Description	Toxic Air Pollutant (CAS No.)	Emission Limit		
			(lb/yr)	(lb/day)	(lb/hr)
G16082	WTP Aeration and Digestion Basins	acetaldehyde (75-07-0)			3.70E+01
		ammonia (7664-41-7)			1.85E-01
		cresol (1319-77-3)			7.19E-02
		formaldehyde (50-00-0)			2.04E-01
		methyl ethyl ketone (78-93-3)		6.26E+02	1.22E+02
		phenol (108-95-2)			2.58E-02
I-G23066.c	Coal Handling Fugitives	arsenic and inorganic arsenic compounds	5.34E-06		
		beryllium (7440-41-7)	9.43E-06		
		cadmium (7440-43-9)	3.70E-07		
		manganese and compounds		4.81E-03	
		nickel metal (7440-02-0)		2.05E-04	

State Enforceable Only Requirement

2. 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:

Table 2.2 H.2 – TPER Limitations

Pollutant (CAS Number)	Carcinogens (lb/yr)	Chronic Toxicants (lb/day)	Acute Systemic Toxicants (lb/hr)	Acute Irritants (lb/hr)
Benzyl Chloride (100-44-7)			0.13	
Chlorobenzene (108-90-7)		46		
Di(2-ethylhexyl)phthalate (117-81-7)		0.63		
Ethylene dibromide (106-93-4)	27			
Ethylene dichloride (107-06-2)	260			
Hexachlorodibenzo-p-dioxin (57653-85-7)	0.0051			
Methyl chloroform (71-55-6)		250		64
Methyl isobutyl ketone (108-10-1)		52		7.6
Perchloroethylene (127-18-4)	13,000			

Table 2.2 H.2 – TPER Limitations

Pollutant (CAS Number)	Carcinogens (lb/yr)	Chronic Toxicants (lb/day)	Acute Systemic Toxicants (lb/hr)	Acute Irritants (lb/hr)
Pentachlorophenol (87-86-5)		0.063	0.0064	
Polychlorinated Biphenyls (1336-36-3)	5.6			
Styrene (100-42-5)			2.7	
Tetrachlordibenzo-p-dioxin (1746-01-6)	0.00020			
1,1,2,2-Tetrachloroethane (79-34-5)	430			
Toluene (108-88-3)		98		14.4
Trichloroethylene (79-01-6)	4000			
Trichlorofluoromethane (75-69-4)			140	
Xylene (1330-20-7)		57		16.4

I. Best Available Retrofit Control Technology

State Enforceable Only Requirement:

1. 15A NCAC 02D .0543 BEST AVAILABLE RETROFIT CONTROL TECHNOLOGY

Based on the review of Permit Application 4400159.06E, and with the consideration of comments received from interested parties, the DAQ has determined that Best Available Retrofit Technology (BART) for the following emission sources subject to the requirements contained in 15A NCAC 02D .0543 "Best Available Retrofit Technology" is no additional controls.

Emission Source	Description
G08020	No. 10 Recovery Furnace
G08021	No. 11 Recovery Furnace
G08022a	Black Liquor Oxidation System
G08023	No. 10 Smelt Dissolving Tank
G08024	No. 11 Smelt Dissolving Tank

J. Facility-wide SO_2 Emission Sources

1. 15A NCAC 02D .0501(c): COMPLIANCE WITH NATIONAL AMBIENT AIR QUALITY STANDARDS

a. Pursuant to 15A NCAC 02D .0501(c), when controls more stringent than named in the applicable emission standards in Section .0500 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. To this end, the Permittee submitted Permit Application No. 4400159.18E, which included a modeling demonstration showing compliance with the 1-hour SO_2 NAAQS using the emission limits included in Table 2.2 J.1 below.

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

b. The Permittee shall be subject to the emission limitations for SO_2 in Table 2.2 J.1 below.

Table 2.2 J.1
SO_2 Emission Limitations

ID No.	Source Description	Allowable Emission Rate, lb/hr
G08020	No. 10 Recovery Furnace – black liquor solids (BLS) - normal operation	28.0
G08020	No. 10 Recovery Furnace – ultra low sulfur diesel (ULSD) - startup and shutdown	0.54
G08021	No. 11 Recovery Furnace - BLS - normal operation	28.0
G08021	No. 11 Recovery Furnace - ULSD - startup and shutdown.	0.54
G08023	No. 10 Smelt Dissolving Tank	0.42
G08024	No. 11 Smelt Dissolving Tank	0.42
G09028	No. 4 Lime Kiln	6.28
G09029	No. 5 Lime Kiln	10.47
G11039	Riley Coal Boiler	61.32
G11040	No. 4 Power Boiler	82.22
G11042	Riley Bark Boiler	68.00
I-G12077	Calendar natural gas and/or propane hot oil heaters	0.012
16-CU-001	1850 hp Backup Diesel Generator (Engine)	0.022
I-G23066.f-ire	200 hp Fire Control Generator #1 (Engine)	2.43E-03
I-G23066.f-ire	200 hp Fire Control Generator #2 (Engine)	2.43E-03
I-G23066.f-gen	64 hp Lime Kiln Emergency Generator (Engine)	7.77E-04
I-G23066.f-gen	227 hp Lime Kiln Emergency Generator (Engine)	2.75E-03
I-G23066.f-rec	100 kW Recovery Furnace Emergency Generator (Engine)	1.42E-03
G08022a	Black Liquor Oxidation System	2.50
G11050	No. 1 Natural Gas Package Boiler	0.13
G11051	No. 2 Natural Gas Package Boiler	0.13

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

c. To ensure the emission limitations in Table 2.2 J.1 will not be exceeded, the Permittee shall be subject to the following requirements:

i. For the Nos. 10 and 11 Recovery Furnaces **(ID Nos. G08020 and G08021)**, during startup and shutdown, and normal operation as needed, fire only fuel oil with a maximum sulfur content of 15 ppm (ULSD).

ii. For the Nos. 10 and 11 Smelt Dissolving Tanks **(ID Nos. G08023 and G08024)**, meet the scrubber monitoring, recordkeeping and reporting requirements in Section 2.1 N.3.d through N.3.g.

iii. For the No. 4 and No. 5 Lime Kilns **(ID Nos. G09028 and G09029)** meet the following requirements:
   (A) SO_2 emissions shall be continuously controlled by the scrubbers identified in Section 2.2 D and;
   (B) Shall meet the scrubber monitoring, recordkeeping and reporting requirements associated with the Nos. 4 and 5 Lime Kilns in Section 2.2 D.1.f through D.1.r, above.

iv. For the black liquor oxidation system **(ID No. G08022a)**, meet the scrubber monitoring and recordkeeping requirements at Section 2.1 M.1.d through M.1.e. The Permittee shall maintain a 3-hour block average for each scrubber parameter at or above the levels shown in Section 2.1 M.1.e.

v. For the engines identified in Table 2.2 J.1, fire only fuel with a maximum sulfur content of 15 ppm (ULSD).
vi. For the Natural gas and/or Propane Heaters installed on the Calendar Section of the No. 19 Paper Machine, and Nos. 1 and 2 Natural Gas Package Boilers **(ID Nos. I-G12077, G11050, and G11051)**, fire only natural gas or propane.
vii. For Riley Bark, Riley Coal and the No. 4 Power Boilers **(ID Nos. G11042, G11039 and G11040)**, meet the following requirements. These requirements do not apply when firing only natural gas.
(A) SO_2 emissions shall be continuously controlled by wet scrubbers as indicated in Table 2.2 J.2.
(B) Perform inspections and maintenance of the scrubbers as recommended by the manufacturer.
(C) Install, operate, and maintain continuous monitoring systems (CMS) for scrubbing liquid pH and scrubbing liquid flowrate as required by Table 2.2 J.2.
(D) Each CMS shall meet the requirements of 40 CFR 63.7525(d) through (g) and 63.7535, except that, in lieu of 40 CFR 63.7525(d)(4), the Permittee shall determine for each required parameter in Table 2.2 J.2 the 3-hour block average.
(E) The Permittee shall maintain the 3-hour block average for each parameter indicated in Table 2.2 J.2 at or above the levels confirmed or re-established by the most recent performance test approved by DAQ that demonstrate compliance with the corresponding emission limits at all times, except as allowed at Section 2.2 J.1.e. The operating parameter values confirmed or re-established by the results of the most recently conducted performance test approved by DAQ at the time of permit issuance are shown in Table 2.2 J.2 below, except as allowed at Section 2.2 J.1.e, below. The 3-hour block average of all recorded readings shall be calculated after every 3 hours of operation as the average of the evenly spaced recorded readings in the previous 3 operating hours (excluding periods described in 40 CFR 63.7535(b) through (d).

The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0501 if these requirements are not met.

Table 2.2 J.2

Source ID No.	Source Description	Control Device ID No.	Description	Minimum Scrubber Recirculation Flow, gpm	Minimum Scrubber Liquid pH	Date of Performance Test*
G11039	Riley Coal Boiler	11-CD-005-02	wet caustic scrubber	3,819	5.7	11/20/2018
G11040	No. 4 Power Boiler	11-CD-006-03	wet caustic scrubber	4,395	6	12/18/2018
G11042	Riley Bark Boiler	11-CD-016-02	venturi-type wet scrubber	1,084	6.1	12/19/2018 flow 11/1/2019 pH

* Date upon which the operating parameter values are based, is the most recently conducted performance test approved by DAQ at the time of permit issuance.

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

d. Under the provisions of NCGS 143-215.108, the Permittee shall demonstrate compliance with the emission limits in Table 2.2 J.1 above on an annual basis by testing the sources in Table 2.2 J.3 below in accordance with General Condition JJ. Testing shall be conducted under operating scenarios representing worst case SO_2 emission rates. Annual performance tests must be completed no more than 13 months after the previous performance test, unless an alternate date is approved by the DAQ. Exceptions to annual testing requirements are as follows:
i. For the Nos. 4 and 5 Lime Kilns **(ID Nos. G09028 and G09029)**, if the results of a test are less than 50 percent of the emission limit in Table 2.2 J.1, above, the Permittee shall be required to stack test only once every five years following the previous stack test for that source. The Permittee shall conduct an SO_2 performance test within 180 days after resumption of normal operations following modifications to the lime kiln scrubbers.
ii. For Riley Bark, Riley Coal and the No. 4 Power Boilers **(ID Nos. G11042, G11039 and G11040)**, if the results of a test are less than 80 percent of the emission limit in Table 2.2 J.1, above, the Permittee shall be required to stack test only once every five years following the previous stack test for that source.

If the results of a test are above the limit given in Table 2.2 J.1 above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0501.

Table 2.2 J.3

ID No.	Source Description
G08020	No. 10 Recovery Furnace - BLS - normal operation
G08021	No. 11 Recovery Furnace - BLS - normal operation
G09028	No. 4 Lime Kiln
G09029	No. 5 Lime Kiln
G11039	Riley Coal Boiler
G11040	No. 4 Power Boiler
G11042	Riley Bark Boiler

e. The parametric values confirmed or re-established from the most recent performance test approved by DAQ do not apply during performance testing.

f. If, during performance testing, the parameter values are not adhered to and are more stringent (i.e, the minimum flow and/or pH is greater), the Permittee shall submit a request to revise the value(s) in the permit at the same time the test report required pursuant to General Condition JJ.4 is submitted. The permit revision will be processed pursuant to 15A NCAC 02Q .0514. If, during performance testing, the parameter values are not adhered to and are less stringent, the Permittee may request to revise the value(s) in the permit pursuant to 15A NCAC 02Q .0515. If a permit revision is required per 02Q .0514 and is not submitted, the Permittee shall be deemed in noncompliance with 02D .0501.

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

g. In addition to any recordkeeping requirements in Section 2.2 J.1.c, above, the following requirements shall apply:
   i. The results of inspection and maintenance on the scrubbers installed on the Riley Coal, Riley Bark, and No. 4 Power Boilers **(ID Nos. G11039, G11042 and G11040)** 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:
      (A) the date and time of each recorded action;
      (B) the results of each inspection;
      (C) the results of any maintenance performed on any control device; and
      (D) any variance from manufacturer's recommendations, if any, and corrections made.
   ii. Records of all scrubber monitoring data and calculated averages for the parameters in Table 2.2 J.2.
   iii. For the Nos. 10 and 11 **(ID Nos. G08020 and G08021)** Recovery Furnaces:
      (A) record date, time and duration of all start up and shutdowns; and
      (B) keep fuel supplier certification records for all fuel oil fired during all start up and shutdowns. The certifications shall meet the requirements of 40 CFR 60.48c(f).
   iv. For the engines identified in Table 2.2 J.1, keep fuel supplier certification records for all fuel oil fired. The certifications shall meet the requirements of 40 CFR 60.48c(f).
   v. For the scrubber on the Black Liquor Oxidation System (ID No. G08022a), maintain records of the 3-hour block averages for the monitoring parameters in Section 2.1 M.1.e.

   The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0501 if these records are not maintained.

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

h. Within 30 days of a request from the DAQ, the Permittee shall submit a report of any maintenance and repairs performed on any control device.

i. In addition to any reporting required in Section 2.2 J.1.c above, the Permittee shall submit a summary report of the monitoring and recordkeeping activities given in Sections 2.2 J.1.c through g above postmarked on or before January 30 of each calendar year for the preceding six-month period between July and December and July 30 of each calendar year for the preceding six-month period between January and June. All instances of deviations from the requirements of this permit must be clearly identified.

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

Emission Source ID No.	Emission Source Description[1,2]
I-G01001	Chip Unloading
I-G03008	Brownstock Washing B Other Units
I-G06015	Methanol Storage
I-G07017	Evaporator Other Units
I-G08020-1	Saltcake Mix Tank #10 RF
I-G08021-1	Saltcake Mix Tank #11 RF
I-G08074	Chloride Removal Process (CRP)
I-G09030	Lime Kiln Scrubber Sump Tanks
I-G09033	Lime Kiln Area Other Sources
I-G10036.10-TK-010	Causticizer (Center)
I-G10036.10-TK-009	Causticizer (East)
I-G10036.10-TK-025	Causticizer (South)
I-G10036.10-TK-011	Causticizer (West)
I-G10036.10-TK-026	Causticizer (North)
I-G10036.10-TK-015	White Liquor Clarifier (West)
I-G10036.10-TK-018	White Liquor Clarifier (EIMCO)
I-G10036.10-TK-012	White Liquor Clarifier (South)
I-G10036.10a	White Liquor Pressure Disc Filter
I-G10091	Lime Mud Washers and Storage
I-G11043	Bark Storage and Handling
I-G11046	Cooling Towers
I-G11047	Power Boilers Other Units
I-G11079	No. 4 Power Boiler Flyash Storage Silo (180,000 gallons)
I-11-CU-006-01	Urea Solution Storage Tanks for SNCR System
I-G12052	No. 20 Paper Machine Trim System
I-G13053	Paper Machine Additives Area
I-G16057	Backup Lime Dewatering System
I-G16080	WTP Low Lift and Splitter Box
I-G16083	WTP Secondary Clarifiers
I-G16084	WTP Sludge Presses and Pile
I-G16085	WTP Other Sources
I-G20075	Main Turpentine Tank
I-G21062	Tall Oil Finishing Plant
I-G21063	Tall Oil Manufacturing Plant
I-G21076	MQB Storage Tank
I-G23064	Liquid Chemical Storage
I-G23065	Bleached Stock Storage
I-G23066.a	Sewer Lines
I-G23066.b	Truck Traffic Fugitives
I-G23066.c	Coal Handling Fugitives
I-G23066.d	Water Treatment

Emission Source ID No.	Emission Source Description[1,2]
I-G23066.f-ire **MACT ZZZZ**	Two 200 horsepower, diesel generators used in the fire control system
I-G23066.f-gen **MACT ZZZZ**	One 64 horsepower and one 227 horsepower diesel engine used to turn the lime kiln in the event of sudden power loss
I-G23066.f-rec **MACT ZZZZ**	One 100-kW, diesel generator used for emergency breakdowns of the recovery furnaces in the event of sudden power loss
I-G23066.g	Propane Vaporizer
I-G23066.h	Paint Shop Activities
I-G23066.i	Maintenance Shop Activities
I-G23066.j	Carpentry Shop Activities
I-G23067	Parts Washers
I-G24093	Pre-Bleach B Other Sources
I-G02307	Ultra-Low Sulfur No. 2 Fuel Oil Storage Tank (1,300 gallons capacity)
I-RB Bunker	Riley Bark Coal Bunker
I-PG Bunker	Peter G Coal Bunker
I-RC Bunker	Riley Coal Bunker
I-G12077 **MACT DDDDD**	Two natural gas and/or propane hot oil heaters (maximum heat input of 3.9 million Btu per hour each) installed on the calendar section of the No. 19 Paper Machine

[1] Because an activity is insignificant does not mean that the activity is exempted from an applicable requirement (Federal or State) or that the Permittee is exempted from demonstrating compliance with any applicable requirement.

[2] When applicable, emissions from stationary source activities identified above shall be included in determining compliance with the permit requirements for toxic air pollutants under 15A NCAC 02D .1100 “Control of Toxic Air Pollutants” or 02Q .0711 “Emission Rates Requiring a Permit.”

SECTION 4 - GENERAL CONDITIONS (version 6.0, 01/07/2022)

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

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

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

B. **Permit Availability** [15A NCAC 02Q .0507(k) and .0508(i)(9)(B)]
The Permittee shall have available at the facility a copy of this permit and shall retain for the duration of the permit term one complete copy of the application(s) and any information submitted in support of the application package. The permit and application shall be made available to an authorized representative of 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. **Title V Permit Modifications**
1. Administrative Permit Amendments [15A NCAC 02Q .0514]
The Permittee shall submit an application for an administrative permit amendment in accordance with 15A NCAC 02Q .0514.
2. Transfer in Ownership or Operation and Application Submittal Content [15A NCAC 02Q .0524 and 02Q .0505]
The Permittee shall submit an application for an ownership change in accordance with 15A NCAC 02Q.0524 and 02Q .0505.
3. Minor Permit Modifications [15A NCAC 02Q .0515]
The Permittee shall submit an application for a minor permit modification in accordance with 15A NCAC 02Q .0515.
4. Significant Permit Modifications [15A NCAC 02Q .0516]
The Permittee shall submit an application for a significant permit modification in accordance with 15A NCAC 02Q .0516.
5. Reopening for Cause [15A NCAC 02Q .0517]
The Permittee shall submit an application for reopening for cause in accordance with 15A NCAC 02Q .0517.

H. **Changes Not Requiring Permit Modifications**
1. Reporting Requirements [15A NCAC 02Q .0508(f)]
Any of the following that would result in new or increased emissions from the emission source(s) listed in Section 1 must be reported to the Regional Supervisor, DAQ:
   a. changes in the information submitted in the application;
   b. changes that modify equipment or processes; or
   c. changes in the quantity or quality of materials processed.

   If appropriate, modifications to the permit may then be made by the DAQ to reflect any necessary changes in the permit conditions. In no case are any new or increased emissions allowed that will cause a violation of the emission limitations specified herein.
2. Section 502(b)(10) Changes [15A NCAC 02Q .0523(a)]
   a. "Section 502(b)(10) changes" means changes that contravene an express permit term or condition. Such changes do not include changes that would violate applicable requirements or contravene federally enforceable permit terms and conditions that are monitoring (including test methods), recordkeeping, reporting, or compliance certification requirements.
   b. The Permittee may make Section 502(b)(10) changes without having the permit revised if:
      i. the changes are not a modification under Title I of the Federal Clean Air Act;
      ii. the changes do not cause the allowable emissions under the permit to be exceeded;
      iii. the Permittee notifies the Director and EPA with written notification at least seven days before the change is made; and
      iv. the Permittee shall attach the notice to the relevant permit.
   c. The written notification shall include:
      i. a description of the change;
      ii. the date on which the change will occur;
      iii. any change in emissions; and
      iv. any permit term or condition that is no longer applicable as a result of the change.
   d. Section 502(b)(10) changes shall be made in the permit the next time that the permit is revised or renewed, whichever comes first.
3. Off Permit Changes [15A NCAC 02Q .0523(b)]
The Permittee may make changes in the operation or emissions without revising the permit if:
   a. the change affects only insignificant activities and the activities remain insignificant after the change; or
   b. the change is not covered under any applicable requirement.

4. Emissions Trading [15A NCAC 02Q .0523(c)]
   To the extent that emissions trading is allowed under 15A NCAC 02D, including subsequently adopted maximum achievable control technology standards, emissions trading shall be allowed without permit revision pursuant to 15A NCAC 02Q .0523(c).

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

1. "Excess Emissions" - means an emission rate that exceeds any applicable emission limitation or standard allowed by any rule in Sections .0500, .0900, .1200, or .1400 of Subchapter 02D; or by a permit condition; or that exceeds an emission limit established in a permit issued under 15A NCAC 02Q .0700. *(Note: Definitions of excess emissions under 02D .1110 and 02D .1111 shall apply where defined by rule.)*
2. If a source is required to report excess emissions under NSPS (15A NCAC 02D .0524), NESHAPS (15A NCAC 02D .1110 or .1111), or the operating permit provides for periodic (e.g., quarterly) reporting of excess emissions, reporting shall be performed as prescribed therein.
3. If the source is not subject to NSPS (15A NCAC 02D .0524), NESHAPS (15A NCAC 02D .1110 or .1111), or these rules do NOT define "excess emissions," the Permittee shall report excess emissions in accordance with 15A NCAC 02D .0535 as follows:
   a. Pursuant to 15A NCAC 02D .0535, if excess emissions last for more than four hours resulting from a malfunction, a breakdown of process or control equipment, or any other abnormal condition, the owner or operator shall:
      i. notify the Regional Supervisor or Director of any such occurrence by 9:00 a.m. Eastern Time of the Division's next business day of becoming aware of the occurrence and provide:
         - name and location of the facility;
         - nature and cause of the malfunction or breakdown;
         - time when the malfunction or breakdown is first observed;
         - expected duration; and
         - estimated rate of emissions;
      ii. notify the Regional Supervisor or Director immediately when corrective measures have been accomplished; and
      iii. submit to the Regional Supervisor or Director within 15 days a written report as described in 15A NCAC 02D .0535(f)(3).

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

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

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

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

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

J. **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 Enforcement Branch, EPA, Region 4, 61 Forsyth Street SW, Atlanta, GA 30303 or through the EPA CEDRI) postmarked on or before March 1 a compliance certification (for the preceding calendar year) by a responsible official with all terms and conditions in the permit (including emissions

limitations, standards, or work practices), except for conditions identified as being State-enforceable Only. It shall be the responsibility of the current owner to submit a compliance certification for the entire year regardless of who owned the facility during the year. The compliance certification shall comply with additional requirements as may be specified under Sections 114(a)(3) or 504(b) of the Federal Clean Air Act. The compliance certification shall specify:

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

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

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

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

1. Compliance with the terms and conditions of this permit shall be deemed compliance with applicable requirements, where such applicable requirements are included and specifically identified in the permit as of the date of permit issuance.
2. A permit shield shall not alter or affect:
   a. the power of the Commission, Secretary of the Department, or Governor under NCGS 143-215.3(a)(12), or EPA under Section 303 of the Federal Clean Air Act;
   b. the liability of an owner or operator of a facility for any violation of applicable requirements prior to the effective date of the permit or at the time of permit issuance;
   c. the applicable requirements under Title IV; or
   d. the ability of the Director or the EPA under Section 114 of the Federal Clean Air Act to obtain information to determine compliance of the facility with its permit.
3. A permit shield does not apply to any change made at a facility that does not require a permit or permit revision made under 15A NCAC 02Q .0523.
4. A permit shield does not extend to minor permit modifications made under 15A NCAC 02Q .0515.

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

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

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

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

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

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

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

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

1. Upon presentation of credentials and other documents as may be required by law, the Permittee shall allow the DAQ, or an authorized representative, to perform the following:
   a. enter the Permittee's premises where the permitted facility is located or emissions-related activity is conducted, or where records are kept under the conditions of the permit;

b. have access to and copy, at reasonable times, any records that are required to be kept under the conditions of the permit;
c. inspect at reasonable times and using reasonable safety practices any source, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under the permit; and
d. sample or monitor substances or parameters, using reasonable safety practices, for the purpose of assuring compliance with the permit or applicable requirements at reasonable times.

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

2. No person shall refuse entry or access to any authorized representative of the DAQ who requests entry for purposes of inspection, and who presents appropriate credentials, nor shall any person obstruct, hamper, or interfere with any such authorized representative while in the process of carrying out his official duties. Refusal of entry or access may constitute grounds for permit revocation and assessment of civil penalties.

W. **Annual Fee Payment** [15A NCAC 02Q .0508(i)(10)]
1. The Permittee shall pay all fees in accordance with 15A NCAC 02Q .0200.
2. Payment of fees may be by check or money order made payable to the N.C. Department of Environmental Quality. Annual permit fee payments shall refer to the permit number.
3. If, within 30 days after being billed, the Permittee fails to pay an annual fee, the Director may initiate action to terminate the permit under 15A NCAC 02Q .0519.

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

Y. **Confidential Information** [15A NCAC 02Q .0107 and 02Q .0508(i)(9)]
Whenever the Permittee submits information under a claim of confidentiality pursuant to 15A NCAC 02Q .0107, the Permittee may also submit a copy of all such information and claim directly to the EPA upon request. All requests for confidentiality must be in accordance with 15A NCAC 02Q .0107.

Z. **Construction and Operation Permits** [15A NCAC 02Q .0100 and .0300]
A construction and operating permit shall be obtained by the Permittee for any proposed new or modified facility or emission source which is not exempted from having a permit prior to the beginning of construction or modification, in accordance with all applicable provisions of 15A NCAC 02Q .0100 and .0300.

AA. **Standard Application Form and Required Information** [15A NCAC 02Q .0505 and .0507]
The Permittee shall submit applications and required information in accordance with the provisions of 15A NCAC 02Q .0505 and .0507.

BB. **Financial Responsibility and Compliance History [**15A NCAC 02Q .0507(d)(3)]
The DAQ may require an applicant to submit a statement of financial qualifications and/or a statement of substantial compliance history.

CC. **Refrigerant Requirements (Stratospheric Ozone and Climate Protection)** [15A NCAC 02Q .0501(d)]
1. If the Permittee has appliances or refrigeration equipment, including air conditioning equipment, which use Class I or II ozone-depleting substances such as chlorofluorocarbons and hydrochlorofluorocarbons listed as refrigerants in 40 CFR Part 82 Subpart A Appendices A and B, the Permittee shall service, repair, and maintain such equipment according to the work practices, personnel certification requirements, and certified recycling and recovery equipment specified in 40 CFR Part 82 Subpart F.
2. The Permittee shall not knowingly vent or otherwise release any Class I or II substance into the environment during the repair, servicing, maintenance, or disposal of any such device except as provided in 40 CFR Part 82 Subpart F.
3. The Permittee shall comply with all reporting and recordkeeping requirements of 40 CFR 82.166. Reports shall be submitted to the EPA or its designee as required.

DD. **Prevention of Accidental Releases - Section 112(r)** [15A NCAC 02Q .0508(h)]
If the Permittee is required to develop and register a Risk Management Plan with EPA pursuant to Section 112(r) of the Clean Air Act, then the Permittee is required to register this plan in accordance with 40 CFR Part 68.

EE. **National Emission Standards Asbestos – 40 CFR Part 61, Subpart M** [15A NCAC 02D .1110]
The Permittee shall comply with all applicable standards for demolition and renovation activities pursuant to the requirements of 40 CFR Part 61, Subpart M. The permittee shall not be required to obtain a modification of this permit in order to perform the referenced activities.

FF. **Title IV Allowances** [15A NCAC 02Q .0508(i)(1)]
This permit does not limit the number of Title IV allowances held by the Permittee, but the Permittee may not use allowances as a defense to noncompliance with any other applicable requirement. The Permittee's emissions may not exceed any allowances that the facility lawfully holds under Title IV of the Federal Clean Air Act.

GG. **Air Pollution Emergency Episode** [15A NCAC 02D .0300]
Should the Director of the DAQ declare an Air Pollution Emergency Episode, the Permittee will be required to operate in accordance with the Permittee's previously approved Emission Reduction Plan or, in the absence of an approved plan, with the appropriate requirements specified in 15A NCAC 02D .0300.

HH. **Registration of Air Pollution Sources** [15A NCAC 02D .0202]
The Director of the DAQ may require the Permittee to register a source of air pollution. If the Permittee is required to register a source of air pollution, this registration and required information will be in accordance with 15A NCAC 02D .0202(b).

II. **Ambient Air Quality Standards** [15A NCAC 02D .0501(c)]
In addition to any control or manner of operation necessary to meet emission standards specified in this permit, any source of air pollution shall be operated with such control or in such manner that the source shall not cause the ambient air quality standards in 15A NCAC 02D .0400 to be exceeded at any point beyond the premises on which the source is located. When controls more stringent than named in the applicable emission standards in this permit are required to prevent violation of the ambient air quality standards or are required to create an offset, the permit shall contain a condition requiring these controls.

JJ. **General Emissions Testing and Reporting Requirements** [15A NCAC 02Q .0508(i)(16)]
Emission compliance testing shall be by the procedures of Section .2600, except as may be otherwise required in Rules .0524, .1110, or .1111 of Subchapter 02D. If emissions testing is required by this permit or the DAQ or if the Permittee submits emissions testing to the DAQ to demonstrate compliance for emission sources subject to Rules .0524, .1110, or .1111, the Permittee shall provide and submit all notifications, conduct all testing, and submit all test reports in accordance with the requirements of 15A NCAC 02D .0524, .1110, or .1111, as applicable. Otherwise, if emissions testing is required by this permit or the DAQ or if the Permittee submits emissions testing to the DAQ to demonstrate compliance, the Permittee shall perform such testing in accordance with 15A NCAC 02D .2600 and follow the procedures outlined below:

1. The owner or operator of the source shall arrange for air emission testing protocols to be provided to the Director prior to air pollution testing. Testing protocols are not required to be pre-approved by the Director prior to air pollution testing. The Director shall review air emission testing protocols for pre-approval prior to testing if requested by the owner or operator at least **45 days** before conducting the test.
2. Any person proposing to conduct an emissions test to demonstrate compliance with an applicable standard shall notify the Director at least **15 days** before beginning the test so that the Director may at his option observe the test.
3. The owner or operator of the source shall arrange for controlling and measuring the production rates during the period of air testing. The owner or operator of the source shall ensure that the equipment or process being tested is operated at the production rate that best fulfills the purpose of the test. The individual conducting the emission test shall describe the procedures used to obtain accurate process data and include in the test report the average production rates determined during each testing period.
4. Two copies of the final air emission test report shall be submitted to the Director not later than **30 days** after sample collection unless otherwise specified in the specific conditions. The owner or operator may request an extension to submit the final test report. The Director shall approve an extension request if he finds that the extension request is a result of actions beyond the control of the owner or operator.
    a. The Director shall make the final determination regarding any testing procedure deviation and the validity of the compliance test. The Director may:

i. Allow deviations from a method specified under a rule in this Section if the owner or operator of the source being tested demonstrates to the satisfaction of the Director that the specified method is inappropriate for the source being tested.
ii. Prescribe alternate test procedures on an individual basis when he finds that the alternative method is necessary to secure more reliable test data.
iii. Prescribe or approve methods on an individual basis for sources or pollutants for which no test method is specified in 15A NCAC 02D .2600 if the methods can be demonstrated to determine compliance of permitted emission sources or pollutants.

b. The Director may authorize the DAQ to conduct independent tests of any source subject to a rule in 15A NCAC 02D to determine the compliance status of that source or to verify any test data submitted relating to that source. Any test conducted by the Division of Air Quality using the appropriate testing procedures described in 15A NCAC 02D .2600 has precedence over all other tests.

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

1. A permit shall be reopened and revised under the following circumstances:
   a. additional applicable requirements become applicable to a facility with remaining permit term of three or more years;
   b. additional requirements (including excess emission requirements) become applicable to a source covered by Title IV;
   c. the Director or EPA finds that the permit contains a material mistake or that inaccurate statements were made in establishing the emissions standards or other terms or conditions of the permit; or
   d. the Director or EPA determines that the permit must be revised or revoked to assure compliance with the applicable requirements.
2. Any permit reopening shall be completed or a revised permit issued within 18 months after the applicable requirement is promulgated. No reopening is required if the effective date of the requirement is after the expiration of the permit term unless the term of the permit was extended pursuant to 15A NCAC 02Q .0513(c).
3. Except for the state-enforceable only portion of the permit, the procedures set out in 15A NCAC 02Q .0507, .0521, or .0522 shall be followed to reissue the permit. If the State-enforceable only portion of the permit is reopened, the procedures in 15A NCAC 02Q .0300 shall be followed. The proceedings shall affect only those parts of the permit for which cause to reopen exists.
4. The Director shall notify the Permittee at least 60 days in advance of the date that the permit is to be reopened, except in cases of imminent threat to public health or safety the notification period may be less than 60 days.
5. Within 90 days, or 180 days if the EPA extends the response period, after receiving notification from the EPA that a permit needs to be terminated, modified, or revoked and reissued, the Director shall send to the EPA a proposed determination of termination, modification, or revocation and reissuance, as appropriate.

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

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

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

As required by 15A NCAC 02D .0540 "Particulates from Fugitive Dust Emission Sources," the Permittee shall not cause or allow fugitive dust emissions to cause or contribute to substantive complaints or excess visible emissions beyond the property boundary. If substantive complaints or excessive fugitive dust emissions from the facility are observed beyond the property boundaries for six minutes in any one hour (using Reference Method 22 in 40 CFR, Appendix A), the owner or operator may be required to submit a fugitive dust plan as described in 02D .0540(f).

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

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

1. For modifications made pursuant to 15A NCAC 02Q .0501(b)(2), the Permittee shall file a Title V Air Quality Permit Application for the air emission source(s) and associated air pollution control device(s) on or before 12 months after commencing operation.
2. For modifications made pursuant to 15A NCAC 02Q .0501(c)(2), the Permittee shall not begin operation of the air emission source(s) and associated air pollution control device(s) until a Title V Air Quality Permit Application is

filed and a construction and operation permit following the procedures of Section .0500 (except for Rule .0504 of this Section) is obtained.

3. For modifications made pursuant to 502(b)(10), in accordance with 15A NCAC 02Q .0523(a)(1)(C), the Permittee shall notify the Director and EPA (Air Permitting Branch, EPA, Region 4, 61 Forsyth Street SW, Atlanta, GA 30303 or through the EPA CEDRI) in writing at least seven days before the change is made.
   a. The written notification shall include:
      i. a description of the change at the facility;
      ii. the date on which the change will occur;
      iii. any change in emissions; and
      iv. any permit term or condition that is no longer applicable as a result of the change.
   b. In addition to this notification requirement, with the next significant modification or Air Quality Permit renewal, the Permittee shall submit a page "E5" of the application forms signed by the responsible official verifying that the application for the 502(b)(10) change/modification, is true, accurate, and complete. Further note that modifications made pursuant to 502(b)(10) do not relieve the Permittee from satisfying preconstruction requirements.

OO. **Third Party Participation and EPA Review** [15A NCAC 02Q .0521, .0522 and .0525(7)]
For permits modifications subject to 45-day review by the federal EPA, EPA's decision to not object to the proposed permit is considered final and binding on the EPA and absent a third party petition, the failure to object is the end of EPA's decision-making process with respect to the revisions to the permit. The time period available to submit a public petition pursuant to 15A NC