

**NORTH CAROLINA DIVISION OF
AIR QUALITY**

Initial Title V Air Permit Review

Permit Issue Date:

Region: Washington Regional Office
County: Martin
NC Facility ID: 5900069
Inspector's Name: Betsy Huddleston
Date of Last Inspection: 09/11/2003
Compliance Code: W/In Violation W/regard To Proc Compliance

Facility Data			Permit Applicability (this application only)
Applicant (Facility's Name): Weyerhaeuser Company - Plymouth Facility Address: Weyerhaeuser Company - Plymouth Ken Trowbridge Road Plymouth, NC 27962 SIC: 2611 / Pulp Mills NAICS: 322121 / Paper (except Newsprint) Mills Facility Classification: Before: Title V After: Title V Fee Classification: Before: Title V After: Title V			SIP: NSPS: NESHAP: PSD: PSD Avoidance: NC Toxics: 112(r): Other:
Contact Data			Application Data
Facility Contact	Authorized Contact	Technical Contact	Application Number: 590069A5.A Date Received: 08/09/1996 Application Type: Modification Application Schedule: Title V - Initial Existing Permit Data Existing Permit Number: 04291/R28 Existing Permit Issue Date: 09/04/2001 Existing Permit Expiration Date: 02/28/2006
Diane Hardison Environmental Engineer (252) 793-8611 P O Box 787 Plymouth NC, 27962	Jack Bray Vice President Post Office Box 787 Plymouth NC, 27962	Diane Hardison Environmental Engineer (252) 793-8611 P O Box 787 Plymouth NC, 27962	
Review Engineer: Charlie Yirka Review Engineer's Signature: _____ Date: _____		Comments / Recommendations: Issue 04291/R29 Permit Issue Date: Permit Expiration Date:	

I. Introduction

The U.S. Environmental Protection Agency (EPA) has given final approval to North Carolina's Title V operating permits program effective on October 1, 2001. This EPA approval triggered the requirements for Title V facilities to submit permit applications to the Division of Air Quality. Title V facilities are required to obtain an operating permit which addresses all applicable regulations under the State Implementation Plan, Federal Implementation Plan, and other provisions of the Clean Air Act (CAA). The Title V Operating Permit will define all of the facility's obligations under the CAA.

This Initial Title V Air Permit application Review intends to convey all pertinent emissions data, rules, policies, and engineering assumptions used to construct the DRAFT Title V operating permit. The primary source of information used to construct the DRAFT permit is the above referenced air permit application.

II. Background Information

The DRAFT Title V operating permit replaces an existing Air Quality Construction and Operation Permit No. 04291/R28 which was issued on 09/04/2001 and is currently scheduled to expire on March 31, 2008.

Pursuant to 15A NCAC 2Q .0506, Weyerhaeuser Company-Plymouth submitted its initial Title V application for the Plymouth Plant to the Division of Air Quality on August 9, 1996. The application was considered complete for processing on October 8, 1996. **The draft permit was noticed to the public pursuant to 15A NCAC 2Q .0521 on XX, XX, 2003.** Based on all of the submitted information in the Title V application, a DRAFT permit was completed. The DRAFT permit is required to go to public notice pursuant to 15A NCAC 2Q .0521. The Weyerhaeuser Company – Plymouth facility is subject to the Title V program due to potential emissions exceeding the major source thresholds as summarized below:

- particulate matter - 1542 tons/year
- sulfur dioxide - 3310 tons/year
- volatile organic compounds - 993 tons/year
- nitrogen oxides - 4378 tons/year
- carbon monoxide - 2455 tons/year.

In addition, total potential emissions of hazardous air pollutants, notably methanol (745,559 pounds/year), hydrogen chloride (35,146 pounds/year), and formaldehyde (17,708 pounds/year), exceed 25 tons per year

III. Facility Description

The Weyerhaeuser Company – Plymouth pulp and paper manufacturing facility is located on West Main Street Extension on the Roanoke River west of the town of Plymouth, N.C just in side the Martin County line. The mill is an integrated pulp and paper complex that produces bleached fluff pulp, linerboard, fine paper and corrugated medium. The facility also has a recycle fiber operation. There are five paper machines. The pulp and paper mill is a bleached Kraft mill. The total pulp generating capacity of the mill is 2410 bone dry tons per day of unbleached pulp. The mill operates many processes that support the pulp and paper producing processes, including a woodyard, a wastewater treatment plant, and an old corrugated cardboard (OCC) recycling facility, carpenter and maintenance shops, and various boilers for producing electricity and steam. Three noncondensable gas (NCG) collection and treatment systems, one for low volume, high concentration gases (LVHC), one for sour off gas (SOG) and one for high, volume, low concentration gases (HVLC), combust odorous and toxic offgas streams from the mill's processes. The facility also operates a chlorine dioxide generation process.

IV. Statement of Compliance

The DAQ has reviewed the compliance status of this facility. During the last inspection performed in September 2003, the facility appeared to be operating in compliance with all permit conditions with the exception of a couple of bagfilters where it appears a required internal inspection was not completed. The applicant has certified compliance with all applicable requirements including a Schedule of Compliance for the No. 1 Hog Fuel fired Boiler in an effort to minimize NOx emissions. The facility is subject to two NESHAP requirements: Subpart S (National Emission Standards for Hazardous Air Pollutants from the Pulp and Paper) and Subpart MM (National Emission Standards for Hazardous Air Pollutants for Chemical Recovery Combustion Sources at Kraft, Soda, Sulfite, and Stand-Alone Semicemical Pulp Mills). The applicant is not fully in compliance with either requirement but has indicated that the units will meet the requirements by the specified compliance dates. The applicant has also certified that the facility will be in compliance with any applicable requirements taking effect during the term of the permit and will meet such requirements on a timely basis.

V. Summary of Emission Sources and Control Devices

The following tables contain a summary of all permitted emission sources and associated air pollution control devices:

Emission Source ID No.	Emission Source Description	Control Device ID No.	Control Device Description
Fiberline Operations			

Emission Source ID No.	Emission Source Description	Control Device ID No.	Control Device Description		
No. 6 Fiberline rated at 800 bone dry tons per day					
ES-06-05-2000	No. 6 Fiberline Chip Silo B	NA	NA		
ES-06-05-3000	No. 6 Fiberline Chip Silo C	NA	NA		
ES-06-10-2380 NSPS Subpart BB MACT Subpart S (Future)	No. 6 Fiberline Chip Bin Relief Condenser	ES-65-25-0310 or ES-64-25-0290	HVLC Collection System to No. 2 or No. 1 Hog Fuel Boiler MACT Required by April 17, 2006		
ES-06-21-1200 NSPS Subpart BB MACT Subpart S (Future)	No. 6 Fiberline Digester Blow Tanks				
ES-06-21-1100 NSPS Subpart BB MACT Subpart S (Future)	No. 6 Fiberline Pressure Diffuser Filtrate Tank				
ES-06-22-1080 NSPS Subpart BB MACT Subpart S (Future)	No. 6 Fiberline Secondary Knotters				
ES-06-22-1280 MACT Subpart S (Future)	No. 6 Fiberline Quartenary Screen				
ES-06-22-1100 MACT Subpart S (Future)	No. 6 Fiberline Screen Dilution Tanks				
ES-06-23-1200 MACT Subpart S (Future)	No. 6 Fiberline Decker Hoods				
ES-06-23-1220 MACT Subpart S (Future)	No. 6 Fiberline Decker Filtrate Tank				
ES-06-10-2420 NSPS Subpart BB MACT Subpart S	No. 6 Fiberline Digester Flash Condenser			ES-59-25-0190 or CD-14-55-2020 and ES-14-60-3000	LVHC Collection System to Riley Boiler or LVHC White Liquor Scrubber (80 gallons per minute minimum white liquor injection

Emission Source ID No.	Emission Source Description	Control Device ID No.	Control Device Description
			rate) followed by the No. 5 Lime Kiln
ES-06-10-1200	No. 6 Digester Sand Separator Dumpster	NA	NA
FS-002	No. 6 & 7 Fiberline Building Fugitives	NA	NA
No. 6 Bleach Plant			
ES-06-31-1000 PSD BACT	No. 6 1st Stage O2 Surge Tank	NA	NA
FS-003 PSD BACT	No. 6 Bleach Plant Building Fugitives	NA	NA
ES-06-32-2300 PSD BACT	No. 28 High Density Tank	NA	NA
ES-06-32-2340 PSD BACT	No. 29 High Density Tank	NA	NA
ES-06-32-2380 PSD BACT	No. 30 High Density Tank	NA	NA
ES-06-32-2460 PSD BACT	No. 6 2C Washer	NA	NA
ES-06-32-2060 MACT Subpart S (Future) PSD BACT	No. 6 Oxygen Delignification 2nd Stage O2 Reactor Blow Tube	NA	MACT Required by April 17, 2006
ES-06-32-2100 MACT Subpart S (Future) PSD BACT	No. 6 Oxygen Delignification 2nd Stage Wash Tower	NA	MACT Required by April 17, 2006
ES-06-32-2120 MACT Subpart S (Future) PSD BACT	No. 6 Oxygen Delignification 2A/2B Filtrate Tanks	NA	MACT Required by April 17, 2006
ES-06-33-3060 MACT Subpart S PSD BACT	Bleaching Tower - Stage D (3rd)	CD-06-35-8100	No. 6 BP White Liquor Scrubber (45 gallons per minute minimum scrubbing rate)

Emission Source ID No.	Emission Source Description	Control Device ID No.	Control Device Description
ES-06-35-5060 MACT Subpart S PSD BACT	Bleaching Tower - Stage Dp (5th)	CD-06-35-8100	caustic wetting rate)
ES-06-35-5080 MACT Subpart S PSD BACT	5th Stage Filtrate Tank	CD-06-35-8100	
ES-06-32-2480 PSD BACT	No. 6 2C Washer Filtrate Tank	CD-06-35-8100	
ES-06-34-4080 PSD BACT	Bleaching Tower - Stage Eo (4th)	CD-06-35-8100	
ES-06-34-4100 PSD BACT	4th Stage Filtrate Tank	CD-06-35-8100	
ES-08-67-1400 PSD BACT	Bleach Plant Acid Sewer	CD-06-35-8100	
No. 7 Fiberline rated at 1,250 bone dry tons per day			
ES-07-05-1000	No. 7 Fiberline Chip Silo – A	NA	NA
ES-07-05-2000	No. 7 Fiberline Chip Silo – B	NA	NA
ES-07-10-2380 NSPS Subpart BB MACT Subpart S (Future)	No. 7 Fiberline Chip Bin Relief Condenser	ES-65-25-0310 or ES-64-25-0290	HVLC Collection System to No. 2 or No. 1 Hog Fuel Boiler MACT Required by April 17, 2006
ES-07-21-1200 NSPS Subpart BB MACT Subpart S (Future)	No. 7 Fiberline Digester Blow Tank		
ES-07-21-1100 NSPS Subpart BB MACT Subpart S (Future)	No. 7 Fiberline Digester Pressure Diffuser Filtrate Tank		
ES-07-22-1080 NSPS Subpart BB MACT Subpart S (Future)	No. 7 Fiberline Secondary Knotters		

Emission Source ID No.	Emission Source Description	Control Device ID No.	Control Device Description
ES-07-22-1280 MACT Subpart S (Future)	No. 7 Fiberline Quaternary Screens		
ES-07-22-1100 MACT Subpart S (Future)	No. 7 Fiberline Screen Dilution Tanks		
ES-07-23-1200 MACT Subpart S (Future)	No. 7 Fiberline Decker Hoods		
ES-07-23-1220 MACT Subpart S (Future)	No. 7 Fiberline		
ES-07-10-2420 NSPS Subpart BB MACT Subpart S	No. 7 Digester Flash Condenser	CD-14-55-2020 and ES-14-60-3000 or ES-59-25-0190	LVHC Collection System to Riley Boiler or LVHC White Liquor Scrubber followed by the No. 5 Lime Kiln
ES-07-10-1200	No. 7 Digester Sand Separator Dumpster	NA	NA
No. 7 Bleach Plant			
ES-07-31-1000 PSD BACT	No. 7 1st Stage O2 Surge Tank	NA	NA
ES-07-33-3000 PSD BACT	No. 7 3rd Stage Feed Tank	NA	NA
FS-004 PSD BACT	No. 7 Bleach Plant Building Fugitives	NA	NA
ES-07-31-1140 MACT Subpart S (Future) PSD BACT	No. 7 Oxygen Delignification 1st Stage O2 Reactor Blow Tube	NA	MACT Required by April 17, 2006
ES-07-31-1180 MACT Subpart S (Future) PSD BACT	No. 7 Oxygen Delignification 1st Stage Wash Tower	NA	

Emission Source ID No.	Emission Source Description	Control Device ID No.	Control Device Description
ES-07-31-1200 MACT Subpart S (Future) PSD BACT	No. 7 Oxygen Delignification 1A/1B Filtrate Tank	NA	
ES-07-33-3080 MACT Subpart S PSD BACT	Bleaching Tower – Stage D (3rd)	CD-07-36-8000	No. 7 BP White Liquor Scrubber (105 gallons per minute minimum caustic wetting rate)
ES-07-35-5060 MACT Subpart S and PSD BACT	Bleaching Tower – Stage D (5th)		
ES-07-35-5080 MACT Subpart S PSD BACT	5th Stage Filtrate Tank		
ES-07-34-4080 PSD BACT	Bleaching Tower – Stage Eop (4th)		
ES-07-34-4100 PSD BACT	4th Stage Filtrate Tank		
ES-07-36-6040 PSD BACT	Bleaching Tower – Stage P (6th)		
ES-07-36-6060 PSD BACT	6th Stage Filtrate Tank		
ES-08-67-1400 PSD BACT	No. 6 Bleach Plant Blend Box (Sump)		
ES-08-50-3140 PSD BACT	10% Sulfuric Acid Day Tank		
ES-08-67-1200 PSD BACT	Base Effluent Neutralization Tank		
ES-08-67-1300 PSD BACT	Acid Effluent Neutralization Tank		
ES-08-70-1000 PSD BACT	No. 6 & 7 White Liquor Oxidation Tank		
No. 6 & 7 Fiberline Common Facilities			
ES-08-52-1060	(R8/R10) Chlorine Dioxide Generator (16,425 tons per year capacity)	CD-08-52-1860	White Liquor Scrubber (70 gallons per minute)

Emission Source ID No.	Emission Source Description	Control Device ID No.	Control Device Description
ES-08-52-1760, ES-08-52-1770, and ES-08-52-1780	Three Chlorine Dioxide Storage Tanks		minimum caustic wetting rate)
ES-08-50-3020	Sulfuric Acid Storage Tank (24,000 gallon capacity)	NA	NA
ES-08-50-1100 NSPS Subpart Kb	Methanol Storage Tank (350,000 gallon capacity)	CD-08-50-1100	Vapor Balance System
ES-08-61-1020 MACT Subpart S	Turpentine Decanter Weir	ES-59-25-0190 or CD-14-55-2020 and ES-14-60-3000	LVHC Collection System to Riley Boiler or LVHC White Liquor Scrubber followed by the No. 5 Lime Kiln
ES-08-61-1080 MACT Subpart S NSPS Subpart Kb	Turpentine Tank (32, 000 gallons capacity)		
ES-08-61-1000 MACT Subpart S	Turpentine Decanter Tank		
ES-08-61-1040 MACT Subpart S	Turpentine Underflow Tank		
ES-08-61-1100	Turpentine Railcar Loading***	NA	NA
ES-08-70-0900	White Liquor Surge Tank	NA	NA
ES-08-40-1000	No. 32 High Density Pulp Tank	NA	NA
ES-05-30-1300	No. 5 Hot Water Tank/Evaporator Condensate	NA	NA
ES-08-65-1060	No. 6 & 7 Spill Collection Tank	NA	NA
ES-08-66-1000	No. 6 & 7 Screen Rejects Tank	CD-65-25-0310 or CD-64-25-0290	HVLC Collection System to No. 2 or No. 1 Hog Fuel Boiler
Chemical Recovery			
Evaporator Operations			
ES-09-20-0320 MACT Subpart S	No. 6 Black Liquor Evaporator System	ES-59-25-0190 or CD-14-55-2020 and ES-14-60-3000	LVHC Collection System to Riley Boiler or LVHC White Liquor Scrubber followed by the No. 5 Lime Kiln
ES-09-35-0200 MACT Subpart S	Concentrator Hotwell		

Emission Source ID No.	Emission Source Description	Control Device ID No.	Control Device Description
ES-09-25-0510 MACT Subpart S NSPS Subpart BB	No. 7 Black Liquor Evaporator System		
ES-09-05-0210	South Weak Black Liquor Storage Tank	NA	NA
ES-09-05-0200	East 18% Liquor Tank (Hardwood)	NA	NA
ES-09-05-0100	West 18% Liquor Tank (Hardwood)	NA	NA
ES-09-05-0150	18% Liquor Mix Tank (West)	NA	NA
ES-09-19-0020	East Liquor Heater	NA	NA
ES-09-19-0030	West Liquor Heater	NA	NA
ES-09-20-0070	No. 6 Evaporator Soap Skim Tank	NA	NA
ES-09-25-0140	No. 7 Evaporator Soap Skimmer Tank	NA	NA
ES-09-25-0340	Diverter Tank	NA	NA
ES-09-25-0540	No. 7 Evaporator Boilout Tank	NA	NA
ES-09-10-0050	Soap Tank (@ 18% Tanks)	NA	NA
ES-09-30-0030	Soap Collection Tank	NA	NA
ES-09-10-0150	No. 1 Soap Storage Tank	NA	NA
ES-09-10-0300	No. 2 Soap Storage Tank	NA	NA
ES-09-10-0350	No. 3 Soap Storage Tank	NA	NA
ES-09-10-0400	No. 4 Soap Storage Tank	NA	NA
ES-09-30-0010	North 48% Black Liquor Storage Tank	NA	NA
ES-09-30-0020	South 48% Black Liquor Storage Tank	NA	NA
ES-09-40-0010	East 65% Liquor Storage Tank	NA	NA
ES-09-40-0020	West 65% Liquor Storage Tank	NA	NA
ES-09-95-0010	East Emergency Saveall Tank	NA	NA
ES-09-95-0015	West Emergency Saveall Tank	NA	NA
ES-09-20-0310	Saveall Tank (No. 6 Evaporator)	NA	NA
ES-09-95-0009	NE Saveall Tank	NA	NA
Recovery Boiler Operations			
ES-10-25-0110 MACT Subpart MM (Future)	No. 5 Recovery Boiler firing black liquor solids and distillate oil (130 tons per hour of black liquor solids and/or low sulfur No. 2 fuel oil)	CD-10-45-0220 and CD-10-45-0010	North and South Electrostatic Precipitators (169,164 square feet of collecting plate area each)

Emission Source ID No.	Emission Source Description	Control Device ID No.	Control Device Description
NSPS Subpart BB PSD BACT			operating in parallel MACT Required by March 13, 2004
ES-10-45-0450	No. 5 Precipitator Mix Tank	NA	NA
ES-10-08-0010	Salt Cake Mix Tank	CD-14-05-0750	Ducon Alkaline Scrubber (South) (377 gallons per minute minimum liquid injection rate)
Smelt Dissolving/Green Liquor Clarification Operations			
ES-14-05-0050 MACT Subpart MM (Future)	North Smelt Tank	CD-14-05-0700	Ducon Alkaline Scrubber (North) (377 gallons per minute minimum caustic solution injection rate) MACT Required by March 13, 2004

ES-14-05-0300 MACT Subpart MM (Future)	South Smelt Tank	CD-14-05-0750	Ducon Alkaline Scrubber (South) (377 gallons per minute minimum caustic solution injection rate) MACT Required by March 13, 2004
ES-14-10-0400	No. 3 Green Liquor Clarifier	NA	NA
ES-14-10-0050	No. 4 Green Liquor Clarifier	NA	NA
ES-14-10-0750	No. 3 Green Liquor Storage Tank	NA	NA
ES-14-15-0450	Weak Wash Storage Tank	NA	NA
ES-14-15-0600	Dregs Surge Tank	NA	NA
ES-14-15-0800	Dregs Filter	NA	NA
ES-14-15-0900	Dregs Filter Vacuum System	NA	NA
ES-14-15-DREGS	Dregs Dumpster	NA	NA
Slaking/Causticizing Operations			
ES-14-20-2020	East Lime Slaker	CD-14-20-2035	East Slaker Wet Scrubber (K2) (45 gallons per minute minimum liquid injection rate)
ES-14-20-2040	No. 1 East Causticizing Line		
ES-14-20-2050	No. 2 East Causticizing Line		
ES-14-20-2060	No.3 East Causticizing Line		
ES-14-20-2085	West Lime Slaker	CD-14-20-2100	West Slaker Wet Scrubber (K3) (45 gallons per minute minimum liquid injection rate)
ES-14-20-2105	No. 1 West Causticizing Line		
ES-14-20-2115	No. 2 West Causticizing Line		
ES-14-20-2125	No. 3 West Causticizing Line		
ES-14-20-GRITS	Slaker (Grits) Dumpster	NA	NA
ES-14-20-2150	Slaker Scrubber Water Collection Tank	NA	NA
ES-14-25-0450	No. 3 White Liquor Clarifier	NA	NA
ES-14-25-0800	No. 4 White Liquor Clarifier	NA	NA
ES-14-25-0150	Synthetic Liquor Mix Tank	NA	NA
ES-14-25-0050	Hydrosulfide Storage Tank	NA	NA
Lime Mud Filters and Lime Kiln Operations			
ES-14-30-0310	Lime Mud Mix Tank	NA	NA
ES-14-30-0350	No. 2 Lime Mud Wash Tank	NA	NA
ES-14-30-0700	No. 3 Lime Mud Wash Tank	NA	NA
ES-14-30-1450	Lime Mud Storage Tank	NA	NA

ES-14-30-6060	Lime Mud Filtrate Tank	NA	NA
ES-14-30-5040 and ES-14-30-6040	Two Lime Mud Filter Vacuum Systems	NA	NA
ES-14-70-2020	Scrubber Water Clarifier	NA	NA
ES-14-70-2045	Lime Kiln Scrubber Water Standpipe	NA	NA
ES-14-30-5000	East Lime Mud Filter – Hood Exhaust	CD-14-30-6025	Lime Mud Scrubber/ Mist Eliminator (48 gallons per minute minimum liquid injection rate)
ES-14-30-6000	West Lime Mud Filter - Hood Exhaust		
ES-14-60-3000 MACT Subpart S Control Device MACT Subpart MM (Future) NSPS Subpart BB PSD BACT	No. 5 Lime Kiln firing residual oil, LVHC gases, and stripper off gases (500 tons per day of reburned lime capacity and 185 million Btu per hour No. 6 oil burner maximum heat input)	CD-14-70-2012	Venturi Scrubber (800 gallons per minute minimum liquid injection rate)
ES-14-60-3015	Lime Crusher	CD-14-70-2012 or CD-14-65-1075	Venturi (800 gallons per minute minimum liquid injection rate) or Lime Dust Baghouse (1,608 square feet of filter area)
ES-14-65-1030	Reburned Lime Bin	CD-14-65-1075	Lime Dust Baghouse (1,608 square feet of filter area)
ES-14-65-1000	Lime Conveyor		
ES-14-65-1020	Reburned Lime Bucket Elevator		
ES-14-65-1080	Fresh Lime Bin	CD-14-65-1082	Lime Dust Baghouse (360 square feet of filter area)
Miscellany			
ES-09-20-0250	Combined Condensate Tank	NA	NA
ES-09-25-1000 MACT Subpart S	Condensate Stripper Feed Tank	ES-59-25-0190 or CD-14-55-2020 and ES-14-60-3000	LVHC Collection System to Riley Boiler or LVHC White Liquor Scrubber followed by the No. 5 Lime Kiln
ES-09-25-1050 MACT Subpart S NSPS Subpart BB	Condensate Stripper Reflux Condenser	CD-14-60-3000 or CD-59-25-0190	SOG Collection System to the No. 5 Lime Kiln or Riley Boiler
Power Operations			
No. 1 Hog Fuel Boiler			
ES-64-25-0290	No. 1 Hog Fuel Boiler firing hog fuel, residual oil, coal, used oil,	CD-64-45-0100, CD-64-45-0230,	Primary and Secondary Multicyclones (570

<p>NSPS Subpart D NESHAP Subpart E PSD BACT MACT Subpart S Control Device</p>	<p>sludge, and HVLC gases (320 million BTU/hr maximum heat input when firing coal/ hog fuel; 701 million BTU/hr maximum heat input when firing hog fuel/coal; 1,021 million BTU/hr maximum heat input when firing a combination of all fuels; 617 million BTU/hr maximum heat input when firing No. 6 fuel oil alone)</p>	<p>CD-64-60-0120, CD-64-60-0420, CD-64-60-0720</p>	<p>nine-inch cones and 1,224 nine-inch cones, respectively) operating in series followed by the No. 1 Hog Fuel Boiler West Electroscrubber, No. 1 Hog Fuel Boiler Central Electroscrubber, and No. 1 Hog Fuel Boiler East Electroscrubber operating in parallel</p>
<p>ES-64-60-0180</p>	<p>No. 1 HFB West De-Entrainment Vessel</p>	<p>CD-64-60-0900</p>	<p>No. 1 E.S. De-Entrainment Baghouse West (1,058 square feet of filter area)</p>
<p>ES-64-60-0480</p>	<p>No. 1 HFB Central De-Entrainment Vessel</p>	<p>CD-64-60-0910</p>	<p>No. 1 E.S. De-Entrainment Baghouse Central (1,058 square feet of filter area)</p>
<p>ES-64-60-0780</p>	<p>No. 1 HFB East De-Entrainment Vessel</p>	<p>CD-64-60-0920</p>	<p>No. 1 E.S. De-Entrainment Baghouse East (1,058 square feet of filter area)</p>
<p>No. 2 Hog Fuel Boiler</p>			
<p>ES-65-25-0310 NSPS Subpart D NESHAP Subpart E PSD BACT NSPS Subpart BB MACT Subpart S Control Device (Future)</p>	<p>No. 2 Hog Fuel Boiler firing hog fuel, residual oil, coal, used oil, sludge, and HVLC gases (889 million BTU/hr maximum heat input when firing a combination of all fuels; 800 million BTU/hr firing No. 6 fuel oil alone)</p>	<p>CD-65-45-0100, CD-65-60-0120, CD-65-60-0410, CD-65-60-0610</p>	<p>Multicyclone (356 nine-inch cones) followed by the No. 2 Hog Fuel Boiler North Electroscrubber, No. 2 Hog Fuel Boiler Central Electroscrubber, and No. 2 Hog Fuel Boiler South Electroscrubber operating in parallel MACT Required by April 17, 2006</p>
<p>ES-65-60-0150</p>	<p>No. 2 HFB North De-Entrainment Vessel</p>	<p>CD-65-60-0800</p>	<p>No. 2 E.S. De-Entrainment Baghouse North (1,058 square feet of filter area)</p>
<p>ES-65-60-0430</p>	<p>No. 2 HFB Central De-Entrainment Vessel</p>	<p>CD-65-60-0820</p>	<p>No. 2 E.S. De-Entrainment Baghouse Central (1,058 square feet of filter area)</p>
<p>ES-65-60-0630</p>	<p>No. 2 HFB South De-Entrainment Vessel</p>	<p>CD-65-60-0840</p>	<p>No. 2 E.S. De-Entrainment Baghouse South (1,058 square feet of filter area)</p>

Riley Boiler			
ES-59-25-0190 PSD BACT MACT Subpart S Control Device	Riley Boiler firing coal, residual oil, LVHC gases, and stripper off gases (624 million Btu per hour maximum heat input rate)	CD-59-45-0100, CD-59-45-0150, CD-59-67-1000	North ESP and South ESP (82,080 square feet of collecting plate area) operating in parallel followed by the Wet Spray Tower Scrubber (5,976 gallons per minute minimum caustic solution injection rate)
No. 1 Package Boiler			
ES-66-25-2050 NSPS Subpart Db	No. 1 Package Boiler firing distillate oil (360 million Btu per hour nominal heat input)	NA	NA
Boiler Fuel Storage and Handling			
ES-64-08-0700	No. 1 Hog Fuel Boiler Coal Bin	CD-64-08-0700	Bin Vent Filter (75 square feet of filter area)
ES-65-08-0100	No. 2 HF Boiler North Coal Bin	CD-65-08-0100	Bin Vent Filter (39 square feet of filter area)
ES-65-08-0180	No. 2 HF Boiler South Coal Bin	CD-65-08-0180	Bin Vent Filter (39 square feet of filter area)
FS-007	No. 1 and No. 2 Hog Fuel Conveying	NA	NA
FS-008	Boiler Coal Conveying Systems	NA	NA
FS-009	Coal Unloading and Crushing Operations	NA	NA
FS-011	Hogged Fuel Storage Pile at Boilers***	NA	NA
ES-10-04-0220 and ES-52-05-1040	Two No. 2 Fuel Oil Storage Tanks (300,000 and 350,000 gallons capacity each)	NA	NA
Boiler Ash Storage and Handling, Miscellany			
ES-64-60-0180	No. 1 HF Ash Silo	CD-64-50-0160 and CD-64-50-0170	No. 1 HF Ash Silo West Bag Filter and No. 1 HF Ash Silo East Bag Filter (84 square feet of filter area each)
ES-64-60-0960	No. 1 HF Scrubber Ash Silo	CD-64-60-0961 and CD-64-60-0962	No. 1 HF Scrubber Ash Silo West Bag Filter and No. 1 HF Scrubber Ash Silo West Bag Filter (105 square feet of filter area each)
ES-65-60-0190	No. 2 HF Ash Silo	CD-65-50-0170 and	No. 2 HF Ash Silo East

		CD-65-50-0180	Bag Filter and No. 2 HF Ash Silo West Bag Filter (105 square feet of filter area each)
ES-65-60-0860	No. 2 HF Scrubber Ash Silo	CD-65-60-0870 and CD-65-60-0880	No. 2 HF Scrubber Ash Silo East Bag Filter and No. 2 HF Scrubber Ash Silo West Bag Filter (84 square feet of filter area each)
ES-59-50-0320	Riley Boiler Ash Silo	CD-59-50-0420	Baghouse (9 bags with 8.9 square feet of filter area each)
ES-59-50-0310	Riley Boiler Ash Transport System	CD-59-50-0310	Baghouse (374 square feet of filter area)
ES-64-50-0150	No. 1 HF Ash Transport Steam Exhauster	CD-64-50-0150	No. 1 HF Steam Exhauster Air Washer
ES-65-50-0160	No. 2 HF Ash Transport Steam Exhauster	CD-65-50-0160	No. 2 HF Steam Exhauster Air Washer
ES-53-20-0450	Demineralizer 98% H2SO4 Tank (29,500 gallon capacity)	NA	NA
ES-53-20-0470	Acid Neutralization Tank	NA	NA
Papermaking Operations			
NC1 Paper Line			
ES-31-02-1100	NC1 Starch Silo and Makedown Tank	CD-31-02-1120	Silo Bag Filter (300 square feet of filter area minimum)
ES-31-STOCKTANKS	NC1 High Density Stock Tanks	NA	NA
ES-31-IN-VACPUMPS	NC1 Inside Vacuum Pumps	NA	NA
ES-31-OUT-VACPUMPS	NC1 Outside Vacuum Pumps	NA	NA
ES-31-FANS	NC1 Vacuum Fans	NA	NA
ES-31-HOODS	NC1 Dryer Hoods	NA	NA
ES-31-93-0100	NC1 Building Roof Vents	NA	NA
ES-32-93-0100	NC2 Building Roof Vents	NA	NA
NC2 Paper Line			
ES-32-25-0240 and ES-32-25-0200	NC2 White Water Tanks	NA	NA
ES-32-STOCKTANKS	NC2 Stock Tanks	NA	NA
ES-32-IO-	NC2 Inside/Outside Vacuum Pumps	NA	NA

VACPUMPS			
ES-32-HOODS	NC2 Dryer Hoods	NA	NA
NC3 Paper Line			
ES-33-STOCKTANKS	NC3 Stock Tanks	NA	NA
NC 4 & 5 Paper Line			
ES-44-07-2020	NC4 Wet End Starch Silo and Slurry Makedown Tank (Alkaline)	CD-44-07-2025	Vent Bag Filter (300 square feet of filter area)
ES-45-07-2020	NC5 Wet End Starch Silo and Slurry Makedown Tank (Alkaline)	CD-45-07-2025	Vent Bag Filter (300 square feet of filter area)
ES-44-02-1900	NC4 Size Press Starch Silo and Slurry Makedown Tank	CD-44-02-1880	Vent Bag Filters (300 square feet of filter area)
ES-45-02-1120	NC5 Size Press Starch Silo and Slurry Makedown Tank	CD-45-02-1100	Vent Bag Filters (300 square feet of filter area)
ES-49-70	Fine Paper Sheet Trim Collector & Broke Operations	CD-49-70-0800 and CD-49-70-1920	No. 10 Sheeter Cyclone and No. 11 Sheeter Cyclone operating in parallel (190 and 192 inches in diameter, respectively)
ES-49-70-0180	Broke Pulper Dust Collection System	CD-49-70-2180	Rotoclone (35 square feet of collection area)
ES-FP-STOCKTANKS	NC4 and NC5 Stock Tanks	NA	NA
ES-44-HOODS	NC4 Dryer Hoods	NA	NA
ES-45-HOODS	NC5 Dryer Hoods	NA	NA
ES-44-IO-VACPUMPS	NC4 Inside/Outside Vacuum Pumps	NA	NA
ES-45-IO-VACPUMPS	NC5 Inside/Outside Vacuum Pumps	NA	NA
ES-44-93-0100	NC4 Building Vents	NA	NA
ES-45-93-0100	NC5 Building Vents	NA	NA
Secondary Fiber Processes			
No. 1 Secondary Fiber Process			
ES-29-10-0090 and ES-29-10-0190	No. 1 & No. 2 Pulper Tanks	NA	NA
ES-29-50-1020	No. 1 White Water Tank	NA	NA
ES-29-45-0100 and ES-29-45-0105	No. 1 Line Deckers (North & South)	NA	NA
ES-29-50-3400	No. 1 Clarified White Water Tank	NA	NA
No. 2 Secondary Fiber Process			

ES-29-10-2000	No. 3 Pulper Tank	NA	NA
ES-29-45-2000	Stock Thickener (Inside Building)	NA	NA
ES-29-50-3800	No. 2 Clarified White Water Tank	NA	NA
ES-29-50-2000	No. 2 White Water Tank (Inside Building)	NA	NA
Common Facilities			
ES-29-35-3100	Sludge Collection Tank	NA	NA
ES-29-35-1940	Sidehills Screens Filtrate Standpipe	NA	NA
FS-017	Building Roof Vents	NA	NA
Woodyard Operations:			
ES-00-30-1000	No. 1 Chip Pile*	NA	NA
ES-00-30-2000	No. 2 Chip Pile*	NA	NA
ES-00-30-3000	No. 3 Chip Pile*	NA	NA
ES-00-30-4000	No. 4 Chip Pile*	NA	NA
ES-00-50-3280	Hogged Bark Fuel Storage Pile*	NA	NA
ES-00-50-0100	Unhogged Bark Fuel Storage Pile*	NA	NA
ES-00-15-0100	Slasher Deck	NA	NA
ES-00-20-0180	Two Debarking Drums	NA	NA
ES-00-20-0580	Two Chippers	NA	NA
FS-013	Chip Handling & Transfer System (In Woodyard)	NA	NA
FS-012	Chip Conveying (To Pulping)	NA	NA
ES-00-35-1000	Screen House	NA	NA
ES-00-50-0100	Bark Hog	NA	NA
FS-010	Hog Fuel Handling and Transfer (In Woodyard)	NA	NA
FS-021	Hog Fuel Handling and Transfer (To Boiler Area)	NA	NA
Wastewater Treatment Operations			
ES-73-05-6000	Paper and Bleach Plant Sewer Ditch	NA	NA
ES-73-05-2000	Pulp Mill Channel/Pulp Mill Sewer	NA	NA
ES-73-05-6000	Pulp Mill Sewer Ditch/Pulp Mill Sewer	NA	NA
ES-73-10-5030	No. 1 Lift Station & Receiving Pond	NA	NA
ES-73-05-5200	Fiberline Lift Station	NA	NA
ES-73-20-1080	Sludge Press, Feed Tank A	NA	NA
ES-73-20-1120	Sludge Press, Feed Tank B	NA	NA

ES-73-10-1000	No. 1 Settling Pond	NA	NA
ES-73-10-2000	No. 2 Settling Pond	NA	NA
ES-73-10-2510	No. 2 Lift Station	NA	NA
ES-73-10-3000	Aeration Basin	NA	NA
ES-73-10-3920	Riffler	NA	NA
ES-73-10-4000	No. 1 Retention Pond	NA	NA
ES-73-10-4500	No. 2 Retention Pond	NA	NA
ES-73-10-5030	No. 3 Lift Station	NA	NA
ES-73-05-7080	Ammonium Hydroxide Tank	NA	NA
FS-019	Building Fugitives (Sludge Dewatering)	NA	NA
ES-73-25-0040	SSDF Sludge Holding Tank (60,000 gallon capacity)	NA	NA
ES-73-25-0070	SSDF Sludge Feed Tank (1,070,000 gallon capacity)	NA	NA
ES-73-25-0690 and ES-73-25-0700	SSDF Building Fugitives (300 tons/day at 40% solids)	NA	NA
ES-73-25-1100 and ES-73-25-1120	SSDF Filtrate/Leachate Sump (3,888 cubic feet capacity)	NA	NA
ES-73-25-1110	SSDF Wastewater Sump (446.4 cubic feet capacity)	NA	NA
ES-73-25-0150	SSDF Lime (Calcium Oxide) Silo	CD-73-25-0160	Baghouse (295 square feet of filter area)
ES-73-25-0400, ES-73-25-0550, ES-73-25-1040, ES-73-25-1060, and ES-73-25-1080	SSDF Sludge Conveying System	NA	NA
FS-018	Site-Wide Sumps	NA	NA
Maintenance and Utility Operations			
ES-94-15-0451, ES-94-15-0452, ES-94-15-0453, and ES-94-15-0454	Carpenter Shop Woodworking Operations	CD-94-15-0450	Cyclone
ES-94-55-0105	Carpenter Shop Painting Operations	CD-94-55-0105	Paint Spray Booth
FS-022	Site-Wide Painting Operations**	NA	NA
FS-023	Site-Wide Maintenance Cleaners**	NA	NA
ES-53-15-0125	Filter Plant Chlorine Vaporizer	NA	NA
Landfill Operations			
ES-73-30	No. 1 Landfill	NA	NA

ES-73-35	No. 2 Landfill	NA	NA
ES-73-40	No. 3 Landfill (95 acres)	NA	NA

* These emission sources have no applicable requirements under the North Carolina SIP, but their emissions are greater than the thresholds under 15A NCAC 2Q .0503(8); these sources are permitted pursuant to 15A NCAC 2Q .0508(z) but are not listed in Section 2.1 of the permit.

** These emission sources are not listed in Section 2.1 of the permit but are subject to the multiple-source requirements of 15A NCAC 2D .0958 listed in Section 2.2 of the permit.

Note: All capacity descriptions listed above are approximate and are not regulatory limits.

VI. Emission Source-by-Source Evaluation

A. No. 6 & 7 Fiberline :

No. 6 Fiberline Chip Silos B and C (ID Nos. ES-06-05-2000 and ES-06-05-3000) and
No. 7 Fiberline Chip Silos A and B (ID Nos. ES-07-05-1000 and ES-07-05-2000)

Boiler Fuel Storage and Handling:

No. 1 and No. 2 Hog Fuel Conveying (ID No. FS-007)
Boiler Coal Conveying Systems (ID No. FS-008) and
Coal Unloading and Crushing Operations (ID No. FS-009)

Woodyard Operations:

Slasher Deck (ID No. ES-00-15-0100),
Two Debarking Drums (ID No. ES-00-20-0180),
Two Chippers (ID No. ES-00-20-0580),
Chip Handling & Transfer System (In Woodyard) (ID No. FS-013),
Chip Conveying (To Pulping) (ID No. FS-012),
Screen House (ID No. ES-00-35-1000),
Bark Hog (ID No. ES-00-50-0100),
Hog Fuel Handling and Transfer (In Woodyard) (ID No. FS-010), and
Hog Fuel Handling and Transfer (To Boiler Area) (ID No. FS-021)

Wastewater Treatment Operations:

SSDF Sludge Conveying System (ID No. ES-73-25-0400, ES-73-25-0550, ES-73-25-1040, ES-73-25-1060, and ES-73-25-1080)

1. Regulatory Analysis

The following provides a summary of limits and/or standards for the emission source(s) described above. A review of the information in the application was performed to ensure the appropriate limits and associated calculations used to show compliance were correct.

Regulated Pollutant	Limits/Standards	Applicable Regulation
Particulate Matter	$E = 4.10(P)^{0.67}$ Where E = allowable emission rate in pounds per hour P = process weight input in tons per hour (up to 30 tons per hr) $E = 55(P)^{0.11} - 40$ Where E = allowable emission rate in pounds per hour P = process weight input in tons per hour (greater than 30 tons per hr)	15A NCAC 2D .0515
Visible Emissions	20 percent opacity	15A NCAC 2D .0521

1. 15A NCAC 2D .0515: PARTICULATES FROM MISCELLANEOUS INDUSTRIAL PROCESSES

- a. Emissions of particulate matter from this source shall not exceed an allowable emission rate as calculated by the following equation: [15A NCAC 2D .0515(a)]

$$E = 4.10 \times P^{0.67} \quad \text{Where } E = \text{allowable emission rate in pounds per hour}$$

P = process weight in tons per hour

$$E = 55(P)^{0.11} - 40$$

Where E = allowable emission rate in pounds per hour

P = process weight input in tons per hour (greater than 30 tons per hr)

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

Testing [15A NCAC 2D .0501 (c)(3)]

- 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 2D .0515.

Monitoring/Recordkeeping [15A NCAC 2Q .0508(f)]

- c. The Permittee shall maintain production records which specify the amounts and types of materials processed and shall make these records available to a DAQ authorized representative upon request. The Permittee shall be deemed in noncompliance with 15A NCAC 2D .0515 if the production records are not maintained or the types of materials are not monitored.

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

- a. Visible emissions from these sources shall not be more than 20 percent opacity when averaged over a six-minute period. However, six-minute averaging periods may exceed 20 percent not more than once in any hour and not more than four times in any 24-hour period. In no event shall the six-minute average exceed 87 percent opacity. [15A NCAC 2D .0521 (d)]

Testing [15A NCAC 2D .0501(c)(8)]

- b. If emissions testing is required, the testing shall be performed in accordance with 15A NCAC 2D .0501(c)(8) and General Condition JJ. If the results of this test are above the limit given in Section 2.1 A. 2. a. above, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0521.

Monitoring [15A NCAC 2Q .0508(f)]

- c. To assure compliance, once a week the Permittee shall observe the emission points of the sources for any visible emissions above normal. The Permittee shall establish A_{normal} for the source in the first 30 days following the effective date of the permit. If visible emissions from any source are observed to be above normal, the Permittee shall either:
- i. take appropriate action to correct the above-normal emissions within the monitoring period and record the action taken as provided in the recordkeeping requirements below, or
 - ii. demonstrate that the percent opacity from the emission points of the emission source in accordance with 15A NCAC 2D .0501(c)(8) is below the limit given 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 2D .0521.

Recordkeeping [15A NCAC 2Q .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 2D .0521 if these records are not maintained.

Reporting [15A NCAC 2Q .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.

B. Boiler Ash Storage and Handling, Miscellany:

No. 1 HF Ash Transport Steam Exhauster (ID No. ES-64-50-0150) with associated No. 1 HF Steam Exhauster Air Washer (ID No. CD-64-50-0150) and No. 2 HF Ash Transport Steam Exhauster (ID No. ES-65-50-0160) with associated No. 2 HF Steam Exhauster Air Washer (ID No. CD-65-50-0160)

Lime Mud Filters and Lime Kiln Operations:

Lime Crusher (ID No. ES-14-60-3015) with associated Venturi Scrubber (ID No. CD-14-70-2012) and Lime Dust Baghouse (ID No. CD-14-65-1075) operating in parallel

1. Regulatory Analysis

The following provides a summary of limits and/or standards for the emission source(s) described above. A review of the information in the application was performed to ensure the appropriate limits and associated calculations used to show compliance were correct.

Regulated Pollutant	Limits/Standards	Applicable Regulation
Particulate Matter	$E = 4.10(P)^{0.67}$ Where E = allowable emission rate in pounds per hour P = process weight input in tons per hour (up to 30 tons per hr) $E = 55(P)^{0.11} - 40$ Where E = allowable emission rate in pounds per hour P = process weight input in tons per hour (greater than 30 tons per hr)	15A NCAC 2D .0515
Visible Emissions	20 percent opacity	15A NCAC 2D .0521

1. 15A NCAC 2D .0515: PARTICULATES FROM MISCELLANEOUS INDUSTRIAL PROCESSES

- a. Emissions of particulate matter from this source shall not exceed an allowable emission rate as calculated by the following equation: [15A NCAC 2D .0515(a)]

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

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

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

Testing [15A NCAC 2D .0501 (c)(3)]

- b. If emissions testing is required, the testing shall be performed in accordance with General Condition JJ. If the results of this test are above the limit given in Section 2.1 B.1.a. above, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0515.

Monitoring [15A NCAC 2Q.0508(f)]

- c. Particulate matter emissions from the No. 1 HF Ash Transport Steam Exhauster (ID No. ES-64-50-0150) shall be controlled by the No. 1 HF Steam Exhauster Air Washer (ID No. CD-64-50-0150) and the No. 2 HF Ash Transport Steam Exhauster (ID No. ES-65-50-0160) shall be controlled by the No. 2 HF Steam Exhauster Air Washer (ID No. CD-65-50-0160). To assure 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 is no manufacturer's inspection and maintenance recommendations, as a minimum, the inspection and maintenance requirement shall include the following:
 - i. annual visual inspection of spray nozzles to detect clogging or corrosion damage of nozzles and perform maintenance and repair when necessary to assure proper operation of the scrubber;
 - ii. annual inspection, cleaning, and calibration of all associated instrumentation.The Permittee shall be deemed in noncompliance with 15A NCAC 2D .0515 if the air washers are not inspected and maintained.
- d. Particulate matter emissions from the Lime Crusher (ID No. ES-14-60-3015) shall be controlled by the Venturi Scrubber (ID No. CD-14-70-2012). To assure 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 is no manufacturer's inspection and maintenance recommendations, as a minimum, the inspection and maintenance requirement shall include the following:
 - i. The Permittee shall monitor scrubbant flow rate and pressure drop on the Venturi Scrubber (ID No. CD- 14-70-2012). Scrubbant flow rate shall be maintained at a minimum of 800 gallons per minute and the pressure drop across the venturi shall be maintained in the range of 1.5 to 5.0 inches of water pressure.
 - ii. an annual internal inspection of the scrubber system that entails inspection of spray nozzles, packing material, chemical feed system (if so equipped), and the cleaning/calibration of all associated instrumentation.The Permittee shall be deemed in noncompliance with 15A NCAC 2D .0515 if the venturi scrubber is not inspected and maintained or the prescribed pressure drop is not maintained.

Recordkeeping [15A NCAC 2Q .0508(f)]

- e. The results of inspection and maintenance shall be maintained in a logbook (written or electronic format) on-site and made available to an authorized representative upon request. The logbook shall record the following:
 - i. the date and time of each recorded action;
 - ii. the results of each inspection;
 - iii. the results of any maintenance performed on the scrubber; and
 - iv. any variance from manufacturer's recommendations, if any, and corrections made.The Permittee shall be deemed in noncompliance with 15A NCAC 2D .0515 if these records are not maintained.

Reporting [15A NCAC 2Q .0508(f)]

- f. The Permittee shall submit the results of any maintenance performed on the venturi scrubber 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 2D .0521: CONTROL OF VISIBLE EMISSIONS

- a. Visible emissions from these sources shall not be more than 20 percent opacity when averaged over a six-minute period. However, six-minute averaging periods may exceed 20 percent not more than once in any

hour and not more than four times in any 24-hour period. In no event shall the six-minute average exceed 87 percent opacity. [15A NCAC 2D .0521 (d)]

Testing [15A NCAC 2D .0501(c)(8)]

- b. If emissions testing is required, the testing shall be performed in accordance with 15A NCAC 2D .0501(c)(8) and General Condition JJ. If the results of this test are above the limit given in Section 2.1 B.2. a. above, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0521.

Monitoring [15A NCAC 2Q .0508(f)]

- c. To assure compliance, once a week the Permittee shall observe the emission points of the sources for any visible emissions above normal. The Permittee shall establish Anormal@ for the source in the first 30 days following the effective date of the permit. If visible emissions from any source are observed to be above normal, the Permittee shall either:
- i. take appropriate action to correct the above-normal emissions within the monitoring period and record the action taken as provided in the recordkeeping requirements below, or
 - ii. demonstrate that the percent opacity from the emission points of the emission source in accordance with 15A NCAC 2D .0501(c)(8) is below the limit given 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 2D .0521.

Recordkeeping [15A NCAC 2Q .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 2D .0521 if these records are not maintained.

Reporting [15A NCAC 2Q .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.

C. Lime Mud Filters and Lime Kiln Operations:

Lime Crusher (ID No. ES-14-60-3015) with associated Venturi Scrubber (ID No. CD-14-70-2012) and Lime Dust Baghouse (ID No. CD-14-65-1075) operating in parallel;

Reburned Lime Bin (ID No. ES-14-65-1030);

Lime Conveyor (ID No. ES-14-65-1000) and Reburned Lime Bucket Elevator (ID No. ES-14-65-1020) with associated Lime Dust Baghouse (ID No. CD-14-65-1075);

Fresh Lime Bin (ID No. ES-14-65-1080) with associated Lime Dust Baghouse (ID No. CD-14-65-1082)

No. 1 Hog Fuel Boiler:

No. 1 HFB West De-Entrainment Vessel (ID No. ES-64-60-0180) with associated No. 1 E.S. De-Entrainment Baghouse West (ID No. CD-64-60-0900);

No. 1 HFB Central De-Entrainment Vessel (ID No. ES-64-60-0480) with associated No. 1 E.S. De-Entrainment Baghouse Central (ID No. CD-64-60-0910);

No. 1 HFB East De-Entrainment Vessel (ID No. ES-64-60-0780) with associated No. 1 E.S. De-Entrainment Baghouse East (ID No. CD-64-60-0920)

No. 2 Hog Fuel Boiler:

No. 2 HFB North De-Entrainment Vessel (ID No. ES-65-60-0150) with associated No. 2 E.S. De-Entrainment Baghouse North (ID No. CD-65-60-0800);

No. 2 HFB Central De-Entrainment Vessel (ID No. ES-65-60-0430) with associated No. 2 E.S. De-Entrainment Baghouse Central (ID No. CD-65-60-0820);

No. 2 HFB South De-Entrainment Vessel (ID No. ES-65-60-0630) with associated No. 2 E.S. De-Entrainment Baghouse South (ID No. CD-65-60-0840)

Boiler Fuel Storage and Handling:

No. 1 Hog Fuel Boiler Coal Bin (ID No. ES-64-08-0700) with associated Bin Vent Filter (ID No. CD-64-08-0700);

No. 2 HF Boiler North Coal Bin (ID No. ES-65-08-0100) with associated Bin Vent Filter (ID No. CD-65-08-0100);

No. 2 HF Boiler South Coal Bin (ID No. ES-65-08-0180) with associated Bin Vent Filter (ID No. CD-65-08-0180)

Boiler Ash Storage and Handling, Miscellany:

No. 1 HF Ash Silo (ID No. ES-64-60-0180) with associated No. 1 HF Ash Silo West Bag Filter (ID No. CD-64-50-0160) and No. 1 HF Ash Silo East Bag Filter (ID No. CD-64-50-0170) operating in parallel;

No. 1 HF Scrubber Ash Silo (ID No. ES-64-60-0960) with associated No. 1 HF Scrubber Ash Silo West Bag Filter (ID No. CD-64-60-0961) and No. 1 HF Scrubber Ash Silo West Bag Filter (ID No. CD-64-60-0962) operating in parallel;

No. 2 HF Ash Silo (ID No. ES-65-60-0190) with associated No. 2 HF Ash Silo East Bag Filter (ID No. CD-65-50-0170) and No. 2 HF Ash Silo West Bag Filter (ID No. CD-65-50-0180) operating in parallel;

No. 2 HF Scrubber Ash Silo (ID No. ES-65-60-0860) with associated No. 2 HF Scrubber Ash Silo East Bag Filter (ID No. CD-65-60-0870) and No. 2 HF Scrubber Ash Silo West Bag Filter (ID No. CD-65-60-0880) operating in parallel;

Riley Boiler Ash Silo (ID No. ES-59-50-0320) with associated Baghouse (ID No. CD-59-50-0420); and Riley Boiler Ash Transport System (ID No. ES-59-50-0310) with associated Baghouse (ID No. CD-59-50-0310)

NC1 Paper Line:

NC1 Starch Silo and Makedown Tank (ID No. ES-31-02-1100) with associated Silo Bag Filter (ID No. CD-31-02-1120)

NC4 & 5 Paper Line:

NC4 Wet End Starch Silo and Slurry Makedown Tank (Alkaline) (ID No. ES-44-07-2020) with associated Vent Bag Filter (ID No. CD-44-07-2025);

NC5 Wet End Starch Silo and Slurry Makedown Tank (Alkaline) (ID No. ES-45-07-2020) with associated Vent Bag Filter (ID No. CD-45-07-2025);

NC4 Size Press Starch Silo and Slurry Makedown Tank (ID No. ES-44-02-1900) with associated Vent Bag Filter (ID No. CD-44-02-1880);

NC5 Size Press Starch Silo and Slurry Makedown Tank (ID No. ES-45-02-1120) with associated Vent Bag Filter (ID No. CD-45-02-1100)

NC 4 & 5 Paper Line:

Fine Paper Sheet Trim Collector & Broke Operations (ID No. ES-49-70) with associated No. 10 Sheeter Cyclone (ID No. CD-49-70-0800) and No. 11 Sheeter Cyclone (ID No. CD-49-70-1920) operating in parallel;

Broke Pulper Dust Collection System (ID No. ES-49-70-0180) with associated Rotoclone (ID No. CD-49-70-2180)

Wastewater Treatment Operations:

SSDF Lime (Calcium Oxide) Silo (ID No. ES-73-25-0150) with associated Baghouse (ID No. CD-73-25-0160)

1. Regulatory Analysis

The following provides a summary of limits and/or standards for the emission source(s) described above. A review of the information in the application was performed to ensure the appropriate limits and associated calculations used to show compliance were correct.

Regulated Pollutant	Limits/Standards	Applicable Regulation
Particulate Matter	$E = 4.10(P)^{0.67}$ Where E = allowable emission rate in pounds per hour	15A NCAC 2D .0515

	<p>P = process weight input in tons per hour (up to 30 tons per hr)</p> $E = 55(P)^{0.11} - 40$ <p>Where E = allowable emission rate in pounds per hour</p> <p>P = process weight input in tons per hour (greater than 30 tons per hr)</p>	
Visible Emissions	20 percent opacity	15A NCAC 2D .0521

1. 15A NCAC 2D .0515: PARTICULATES FROM MISCELLANEOUS INDUSTRIAL PROCESSES

- a. Emissions of particulate matter from this source shall not exceed an allowable emission rate as calculated by the following equation: [15A NCAC 2D .0515(a)]

$$E = 4.10 \times P^{0.67} \quad \text{Where } E = \text{allowable emission rate in pounds per hour}$$

$$P = \text{process weight in tons per hour}$$

$$E = 55(P)^{0.11} - 40$$

Where E = allowable emission rate in pounds per hour
P = process weight input in tons per hour (greater than 30 tons per hr)

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

Testing [15A NCAC 2D .0501 (c)(3)]

- b. If emissions testing is required, the testing shall be performed in accordance with General Condition JJ. If the results of this test are above the limit given in Section 2.1 C.1.a. above, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0515.

Monitoring [15A NCAC 2Q.0508(f)]

Particulate matter emissions from those sources listed above shall be controlled by bagfilters, bin vent filters, and cyclones. To assure 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 is no manufacturer's inspection and maintenance recommendations, as a minimum, the inspection and maintenance requirement shall include the following:

- i. a monthly visual inspection of the system ductwork and material collection units 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 2D .0515 if the ductwork and bagfilters 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 filters; and
- iv. any variance from manufacturer's recommendations, if any, and corrections made.

The Permittee shall be deemed in noncompliance with 15A NCAC 2D .0515 if these records are not maintained.

Reporting [15A NCAC 2Q .0508(f)]

- e. The Permittee shall submit the results of any maintenance performed on the bagfilters, bin vent filters, and 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 2D .0521: CONTROL OF VISIBLE EMISSIONS

- a. Visible emissions from these sources shall not be more than 20 percent opacity when averaged over a six-minute period. However, six-minute averaging periods may exceed 20 percent not more than once in any hour and not more than four times in any 24-hour period. In no event shall the six-minute average exceed 87 percent opacity. [15A NCAC 2D .0521 (d)]

Testing [15A NCAC 2D .0501(c)(8)]

- b. If emissions testing is required, the testing shall be performed in accordance with 15A NCAC 2D .0501(c)(8) and General Condition JJ. If the results of this test are above the limit given in Section 2.1 C.2.a. above, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0521.

Monitoring [15A NCAC 2Q .0508(f)]

- c. To assure compliance, once a week the Permittee shall observe the emission points of the sources for any visible emissions above normal. The Permittee shall establish a normal for the source in the first 30 days following the effective date of the permit. If visible emissions from any source are observed to be above normal, the Permittee shall either:
 - i. take appropriate action to correct the above-normal emissions within the monitoring period and record the action taken as provided in the recordkeeping requirements below, or
 - ii. demonstrate that the percent opacity from the emission points of the emission source in accordance with 15A NCAC 2D .0501(c)(8) is below the limit given 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 2D .0521.

Recordkeeping [15A NCAC 2Q .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 2D .0521 if these records are not maintained.

Reporting [15A NCAC 2Q .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.

D. No. 6 Bleach Plant:

**Bleaching Tower - Stage D (3rd) (ID No. ES-06-33-3060),
Bleaching Tower - Stage Dp (5th) (ID No. ES-06-35-5060), and
5th Stage Filtrate Tank (ID No. ES-06-35-5080) all with associated No. 6 BP White
Liquor Scrubber (ID No. CD-06-35-8100)**

No. 7 Bleach Plant:

**Bleaching Tower - Stage D (3rd) (ID No. ES-07-33-3080),
Bleaching Tower - Stage D (5th) (ID No. ES-07-35-5060), and
5th Stage Filtrate Tank (ID No. ES-07-35-5080) all with associated
No. 7 BP White Liquor Scrubber (ID No. CD-07-36-8000)**

1. Regulatory Analysis

The following provides a summary of limits and/or standards for the emission source(s) described above. A review of the information in the application was performed to ensure the appropriate limits and associated calculations used to show compliance were correct.

Regulated Pollutant	Limits/Standards	Applicable Regulation
Particulate Matter	$E = 4.10(P)^{0.67}$ Where E = allowable emission rate in pounds per hour P = process weight input in tons per hour (up to 30 tons per hr) $E = 55(P)^{0.11} - 40$ Where E = allowable emission rate in pounds per hour P = process weight input in tons per hour (greater than 30 tons per hr)	15A NCAC 2D .0515
Visible Emissions	20 percent opacity	15A NCAC 2D .0521
Carbon Monoxide	See Section 2.2 (C)	15A NCAC 2D. 0530
Hazardous Air Pollutants	See Section 2.2 (A)	15A NCAC 2D .1111 (40 CFR 63, Subpart S)
Toxic Air Pollutants	See Section 2.2 (I) – State-Enforceable Only	15A NCAC 2D .1100

1. 15A NCAC 2D .0515: PARTICULATES FROM MISCELLANEOUS INDUSTRIAL PROCESSES

- a. Emissions of particulate matter from these sources shall not exceed an allowable emission rate as calculated by the following equation: [15A NCAC 2D .0515(a)]

$$E = 4.10 \times P^{0.67} \quad \text{Where } E = \text{allowable emission rate in pounds per hour}$$

$$P = \text{process weight in tons per hour}$$

$$E = 55(P)^{0.11} - 40$$

Where E = allowable emission rate in pounds per hour
P = process weight input in tons per hour (greater than 30 tons per hr)

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

Testing [15A NCAC 2D .0501 (c)(3)]

- b. If emissions testing is required, the testing shall be performed in accordance with General Condition JJ. If the results of this test are above the limit given in Section 2.1 D.1.a. above, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0515.

Monitoring/Recordkeeping [15A NCAC 2Q .0508(f)]

- c. The Permittee shall maintain production records which specify the amounts and types of materials processed and shall make these records available to a DAQ authorized representative upon request. The

Permittee shall be deemed in noncompliance with 15A NCAC 2D .0515 if the production records are not maintained or the types of materials are not monitored.

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

- a. Visible emissions from these sources shall not be more than 20 percent opacity when averaged over a six-minute period. However, six-minute averaging periods may exceed 20 percent not more than once in any hour and not more than four times in any 24-hour period. In no event shall the six-minute average exceed 87 percent opacity. [15A NCAC 2D .0521 (d)]

Testing [15A NCAC 2D .0501(c)(8)]

- b. If emissions testing is required, the testing shall be performed in accordance with 15A NCAC 2D .0501(c)(8) and General Condition JJ. If the results of this test are above the limit given in Section 2.1 D.2.a. above, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0521.

Monitoring [15A NCAC 2Q .0508(f)]

- c. To assure compliance, once a week the Permittee shall observe the emission points of the sources for any visible emissions above normal. The Permittee shall establish a normal for the source in the first 30 days following the effective date of the permit. If visible emissions from any source are observed to be above normal, the Permittee shall either:
- take appropriate action to correct the above-normal emissions within the monitoring period and record the action taken as provided in the recordkeeping requirements below, or
 - demonstrate that the percent opacity from the emission points of the emission source in accordance with 15A NCAC 2D .0501(c)(8) is below the limit given 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 2D .0521.

Recordkeeping [15A NCAC 2Q .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:
- the date and time of each recorded action;
 - 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
 - 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 2Q .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.

E. No. 6 Bleach Plant:

**No. 6 2C Washer Filtrate Tank (ID No. ES-06-32-2480),
Bleaching Tower - Stage Eo (4th) (ID No. ES-06-34-4080),
4th Stage Filtrate Tank (ID No. ES-06-34-4100), and
Bleach Plant Acid Sewer (ID No. ES-08-67-1400) all with associated No. 6 BP White
Liquor Scrubber (ID No. CD-06-35-8100)**

No. 7 Bleach Plant:

**Bleaching Tower - Stage Eop (4th) (ID No. ES-07-34-4080),
4th Stage Filtrate Tank (ID No. ES-07-34-4100),
Bleaching Tower - Stage P (6th) (ID No. ES-07-36-6040),**

**6th Stage Filtrate Tank (ID No. ES-07-36-6060),
 No. 6 Bleach Plant Blend Box (Sump) (ID No. ES-08-67-1400),
 10% Sulfuric Acid Day Tank (ID No. ES-08-50-3140),
 Base Effluent Neutralization Tank (ID No. ES-08-67-1200),
 Acid Effluent Neutralization Tank (ID No. ES-08-67-1300), and
 No. 6 & 7 White Liquor Oxidation Tank (ID No. ES-08-70-1000) all with associated
 No. 7 BP White Liquor Scrubber (ID No. CD-07-36-8000)**

1. Regulatory Analysis

The following provides a summary of limits and/or standards for the emission source(s) described above. A review of the information in the application was performed to ensure the appropriate limits and associated calculations used to show compliance were correct.

Regulated Pollutant	Limits/Standards	Applicable Regulation
Particulate Matter	$E = 4.10(P)^{0.67}$ Where E = allowable emission rate in pounds per hour P = process weight input in tons per hour (up to 30 tons per hr) $E = 55(P)^{0.11} - 40$ Where E = allowable emission rate in pounds per hour P = process weight input in tons per hour (greater than 30 tons per hr)	15A NCAC 2D .0515
Visible Emissions	20 percent opacity	15A NCAC 2D .0521
Carbon Monoxide	See Section 2.2 (B)	15A NCAC 2D. 0530
NC Toxic Air Pollutants	See Section 2.2 (A) – State-Enforceable Only	15A NCAC 2D .1100

1. 15A NCAC 2D .0515: PARTICULATES FROM MISCELLANEOUS INDUSTRIAL PROCESSES

- a. Emissions of particulate matter from these sources shall not exceed an allowable emission rate as calculated by the following equation: [15A NCAC 2D .0515(a)]

$$E = 4.10 \times P^{0.67} \quad \text{Where } E = \text{allowable emission rate in pounds per hour}$$

$$P = \text{process weight in tons per hour}$$

$$E = 55(P)^{0.11} - 40$$

Where E = allowable emission rate in pounds per hour
 P = process weight input in tons per hour (greater than 30 tons per hr)

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

Testing [15A NCAC 2D .0501 (c)(3)]

- b. If emissions testing is required, the testing shall be performed in accordance with General Condition JJ. If the results of this test are above the limit given in Section 2.1 E.1.a. above, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0515.

Monitoring/Recordkeeping [15A NCAC 2Q .0508(f)]

- c. The Permittee shall maintain production records which specify the amounts and types of materials processed and shall make these records available to a DAQ authorized representative upon request. The Permittee shall be deemed in noncompliance with 15A NCAC 2D .0515 if the production records are not maintained or the types of materials are not monitored.

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

- a. Visible emissions from these sources shall not be more than 20 percent opacity when averaged over a six-minute period. However, six-minute averaging periods may exceed 20 percent not more than once in any hour and not more than four times in any 24-hour period. In no event shall the six-minute average exceed 87 percent opacity. [15A NCAC 2D .0521 (d)]

Testing [15A NCAC 2D .0501(c)(8)]

- b. If emissions testing is required, the testing shall be performed in accordance with 15A NCAC 2D .0501(c)(8) and General Condition JJ. If the results of this test are above the limit given in Section 2.1 E.2.a. above, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0521.

Monitoring [15A NCAC 2Q .0508(f)]

- c. To assure compliance, once a month the Permittee shall observe the emission points of the sources for any visible emissions above normal. The Permittee shall establish ~~A~~normal for the source in the first 30 days following the effective date of the permit. If visible emissions from any source are observed to be above normal, the Permittee shall either:
 - i. take appropriate action to correct the above-normal emissions within the monitoring period and record the action taken as provided in the recordkeeping requirements below, or
 - ii. demonstrate that the percent opacity from the emission points of the emission source in accordance with 15A NCAC 2D .0501(c)(8) is below the limit given 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 2D .0521.

Recordkeeping [15A NCAC 2Q .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 2D .0521 if these records are not maintained.

Reporting [15A NCAC 2Q .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.

F. No. 6 & 7 Fiberline Common Facilities:

(R8/R10) Chlorine Dioxide Generator (16,425 tons per year capacity) (ID No. ES-08-52-1060) and

Three Chlorine Dioxide Storage Tanks (ID No. ES-08-52-1760, ES-08-52-1770, and ES-08-52-1780) all with associated ClO₂ White Liquor Scrubber (ID No. CD-08-52-1860)

Slaking/Causticizing Operations:

**East Lime Slaker (ID No. ES-14-20-2020),
No. 1 East Causticizing Line (ID No. ES-14-20-2040),
No. 2 East Causticizing Line (ID No. ES-14-20-2050),
No. 3 East Causticizing Line (ID No. ES-14-20-2060) all with associated East Slaker Wet Scrubber (K2) (ID No. CD-14-20-2035); and
West Lime Slaker (ID No. ES-14-20-2085),
No. 1 West Causticizing Line (ID No. ES-14-20-2105),
No. 2 West Causticizing Line (ID No. ES-14-20-2115),
No. 3 West Causticizing Line (ID No. ES-14-20-2125) all with associated West Slaker Wet Scrubber (K3) (ID No. CD-14-20-2100)**

1. Regulatory Analysis

The following provides a summary of limits and/or standards for the emission source(s) described above. A review of the information in the application was performed to ensure the appropriate limits and associated calculations used to show compliance were correct.

Regulated Pollutant	Limits/Standards	Applicable Regulation
Particulate Matter	$E = 4.10(P)^{0.67}$ Where E = allowable emission rate in pounds per hour P = process weight input in tons per hour (up to 30 tons per hr) $E = 55(P)^{0.11} - 40$ Where E = allowable emission rate in pounds per hour P = process weight input in tons per hour (greater than 30 tons per hr)	15A NCAC 2D .0515
Visible Emissions	20 percent opacity	15A NCAC 2D .0521
NC Toxic Air Pollutants	See Section 2.2 (A) – State-Enforceable Only	15A NCAC 2D .1100

1. 15A NCAC 2D .0515: PARTICULATES FROM MISCELLANEOUS INDUSTRIAL PROCESSES

- a. Emissions of particulate matter from these sources shall not exceed an allowable emission rate as calculated by the following equation: [15A NCAC 2D .0515(a)]

$$E = 4.10 \times P^{0.67} \quad \text{Where } E = \text{allowable emission rate in pounds per hour}$$

$$P = \text{process weight in tons per hour}$$

$$E = 55(P)^{0.11} - 40$$

Where E = allowable emission rate in pounds per hour
P = process weight input in tons per hour (greater than 30 tons per hr)

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

Testing [15A NCAC 2D .0501 (c)(3)]

- b. If emissions testing is required, the testing shall be performed in accordance with General Condition JJ. If the results of this test are above the limit given in Section 2.1 F.1.a. above, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0515.

Monitoring/Recordkeeping [15A NCAC 2Q .0508(f)]

For the ClO₂ White Liquor Scrubber:

- c. The Permittee shall maintain production records which specify the amounts and types of materials processed and shall make these records available to a DAQ authorized representative upon request. The Permittee shall be deemed in noncompliance with 15A NCAC 2D .0515 if the production records are not maintained or the types of materials are not monitored.

For the Slaker Wet Scrubbers:

- d. Particulate matter emissions from the Slakers and Causticizing Lines shall be controlled by the East Slaker Wet Scrubber (K2) (ID No. CD-14-20-2035) and West Slaker Wet Scrubber (K3) (ID No. CD-14-20-2100). To assure 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 is no manufacturer's inspection and maintenance recommendations, as a minimum, the inspection and maintenance requirement shall include the following:

- i. The Permittee shall monitor scrubbing flow rates and pressure drops on the scrubbers (ID Nos. CD-14-20-2035 and CD-14-20-2100).
- ii. an annual internal inspection of the scrubber system that entails inspection of spray nozzles, packing material, chemical feed system (if so equipped), and the cleaning/calibration of all associated instrumentation.

The Permittee shall be deemed in noncompliance with 15A NCAC 2D .0515 if the scrubbers are not inspected and maintained.

Recordkeeping [15A NCAC 2Q .0508(f)]

- e. The results of inspection and maintenance shall be maintained in a logbook (written or electronic format) on-site and made available to an authorized representative upon request. The logbook shall record the following:

- i. the date and time of each recorded action;
- ii. the results of each inspection;
- iii. the results of any maintenance performed on the scrubbers; and
- iv. any variance from manufacturer's recommendations, if any, and corrections made.

The Permittee shall be deemed in noncompliance with 15A NCAC 2D .0515 if these records are not maintained.

Reporting [15A NCAC 2Q .0508(f)]

- f. The Permittee shall submit the results of any maintenance performed on the scrubbers within 30 days of a written request by the DAQ.
- g. The Permittee shall submit a summary report of monitoring and recordkeeping activities postmarked on or before January 30 of each calendar year for the preceding six-month period between July and December and July 30 of each calendar year for the preceding six-month period between January and June. All instances of deviations from the requirements of this permit must be clearly identified.

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

- a. Visible emissions from these sources shall not be more than 20 percent opacity when averaged over a six-minute period. However, six-minute averaging periods may exceed 20 percent not more than once in any hour and not more than four times in any 24-hour period. In no event shall the six-minute average exceed 87 percent opacity. [15A NCAC 2D .0521 (d)]

Testing [15A NCAC 2D .0501(c)(8)]

- b. If emissions testing is required, the testing shall be performed in accordance with 15A NCAC 2D .0501(c)(8) and General Condition JJ. If the results of this test are above the limit given in Section 2.1 F.2.a. above, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0521.

Monitoring [15A NCAC 2Q .0508(f)]

- c. To assure compliance, once a month the Permittee shall observe the emission points of the sources for any visible emissions above normal. The Permittee shall establish Anormal@ for the source in the first 30 days following the effective date of the permit. If visible emissions from any source are observed to be above normal, the Permittee shall either:
 - i. take appropriate action to correct the above-normal emissions within the monitoring period and record the action taken as provided in the recordkeeping requirements below, or
 - ii. demonstrate that the percent opacity from the emission points of the emission source in accordance with 15A NCAC 2D .0501(c)(8) is below the limit given 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 2D .0521.

Recordkeeping [15A NCAC 2Q .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 2D .0521 if these records are not maintained.

Reporting [15A NCAC 2Q .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.

G. No. 6 & 7 Fiberline Common Facilities:

Methanol Storage Tank (ID No. ES-08-50-1100) with associated Vapor Balance System (ID No. CD-08-50-1100)

Turpentine Tank (ID No. ES-08-61-1080)

Boiler Fuel Storage and Handling:

Two No. 2 Fuel Oil Storage Tanks (ID Nos. ES-10-04-0220 and ES-52-05-1040)

1. Regulatory Analysis

The following provides a summary of limits and/or standards for the emission source(s) described above. A review of the information in the application was performed to ensure the appropriate limits and associated calculations used to show compliance were correct.

Regulated Pollutant	Limits/Standards	Applicable Regulation
Volatile Organic Compounds	Permittee must maintain records of the capacity and dimensions of storage tanks.	15A NCAC 2D .0524 (40 CFR 60, Subpart Kb)

1. **15A NCAC 2D .0524: NSPS 40 CFR 60 Subpart Kb**

Recordkeeping [15A NCAC 2D .0501(c)(8)]

- a. To ensure compliance, the Permittee shall maintain records showing the dimensions for the tanks and maintain records of the capacity and dimensions of the storage tanks and an analysis showing the capacity of each storage vessel in written or electronic format on-site. The Permittee shall keep these records readily accessible for authorized representatives of DAQ.

Reporting [15A NCAC 2Q .0508(f)]

- b. No reporting is required for volatile organic compound emissions from the Diesel Tanks (ID Nos. ES-10-04-0220 and ES-52-05-1040) (ID No. 4030-100), Turpentine Tank (ID No. ES-08-61-1080) and the Methanol Tank (ID No. ES-08-50-1100).

H. Recovery Boiler Operations:

No. 5 Recovery Boiler (ID No. ES-10-25-0110) firing black liquor solids and distillate oil with associated North and South Electrostatic Precipitators (ID No. CD-10-45-0220 and CD-10-45-0010, respectively) operating in parallel

1. Regulatory Analysis

The following provides a summary of limits and/or standards for the emission source(s) described above. A review of the information in the application was performed to ensure the appropriate limits and associated calculations used to show compliance were correct.

Regulated Pollutant	Limits/Standards	Applicable Regulation
Sulfur Dioxide	2.3 pounds per million Btu heat input	15A NCAC 2D .0516
Visible Emissions	Visible emissions shall not be more than 35 percent opacity	15A NCAC 2D .0524 (40 CFR 60, Subpart BB)
Particulate Matter	0.10 g/dscm (0.044 gr/dscf) corrected to 8 percent oxygen.	
Total Reduced Sulfur (TRS)	5 ppm by volume on a dry basis, corrected to 8 percent oxygen.	
Carbon Monoxide	800 ppm by volume on a dry basis (24-hour block average), corrected to 8 percent oxygen.	
Nitrogen Oxides	110 ppm by volume on a dry basis (24-hour block average), corrected to 8 percent oxygen when firing black liquor solids.	
Sulfur Dioxide	16 ppm by volume on a dry basis (24-hour block average), corrected to 8 percent oxygen, and No. 2 distillate oil firing shall not exceed 0.05 percent by weight.	
Sulfuric Acid Mist	10.16 lb/hr when combusting black liquor solids.	
Hazardous Air Pollutants	See Section (B)	15A NCAC 2D .1111 (40 CFR 63, Subpart MM)
NC Toxic Air Pollutants	See Section 2.2 (I) – State-Enforceable Only	15A NCAC 2D .1100

1. 15A NCAC 2D .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. [15A NCAC 2D .0516]

Testing [15A NCAC 2D .0501(c)(4)]

- 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 H.1.a. above, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0516.

Monitoring/Recordkeeping/Reporting [15A NCAC 2Q .0508(f)]

- c. To assure compliance, the Permittee shall monitor the sulfur and heat content of the fuel oil by using fuel oil supplier certification per shipment received as required by Section 2.1 H.3.c. below.
- d. The Permittee shall submit a summary report of the fuel oil supplier certifications as required by Section 2.1 H.3.d. below.

2. 15A NCAC 2D .0524: NSPS 40 CFR SUBPART BB

- a. The Permittee shall comply with all applicable provisions, including the notification, testing, reporting, recordkeeping, and monitoring requirements contained in Environmental Management Commission Standard 15A NCAC 2D .0524 "New Source Performance Standards (NSPS) as promulgated in 40 CFR Part 60 Subpart BB, including Subpart A "General Provisions." [15A NCAC 2D .0524]

Emissions Limitations [15A NCAC 2D .0524]

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

Testing [15A NCAC 2Q .0508(f)]

- c. Under the provisions of NCGS 143-215.108, the Permittee shall demonstrate compliance with the emission limit(s) above by testing the Recovery Boiler (ID No. ES-10-25-0110) 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 Section 3 - 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 two years. If the results of this or any test is above the limit given in Section 2.1 H.2.a. above, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0524.

Monitoring [15A NCAC 2Q .0508(f)]

- d. Particulate matter emissions from the Recovery Boiler shall be controlled by the North and South Electrostatic Precipitators (ID No. CD-10-45-0220 and CD-10-45-0010, respectively) operating in parallel. To ensure that optimum control efficiency is maintained, the Permittee shall monitor the following parameters daily for values outside the normal operating range in each field or section:
 - i. primary voltage,
 - ii. secondary voltage,
 - iii. primary current,
 - iv. secondary current, and
 - v. spark 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. The Permittee shall establish "normal" for these parameters in the first 30 days following the effective date of the permit.
- e. 40 CFR § 60.284(a)(1) - Permittee shall calibrate, maintain, and operate a continuous monitoring system to monitor and record the opacity of the gases discharged into the atmosphere from any recovery furnace. The span of this system shall be set at 70 percent opacity
- f. 40 CFR § 60.284(a)(2) - The Permittee shall calibrate, maintain, and operate a continuous monitoring system to monitor and record the concentration of TRS emissions on a dry basis and the percent of oxygen by volume on a dry basis in the gases discharged into the atmosphere. These systems shall be located downstream of the control device(s) and the spans of these continuous monitoring system(s) shall be set:
 - i. At a TRS concentration of 30 ppm for the TRS continuous monitoring system.
 - ii. At 25 percent oxygen for the continuous oxygen monitoring system.

Recordkeeping [15A NCAC 2Q .0508(f)]

- g. The results of the electrostatic precipitator monitoring shall be maintained in a logbook (written or electronic form) 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 normal range of values for each parameter, and
 - iii. the values of each parameter.

The Permittee shall be deemed in noncompliance with 15A NCAC 2D .0524 if these parameters are not monitored or these records are not maintained.

Reporting/ Recordkeeping [15A NCAC 2Q .0508(f)]

- h. 40 CFR § 60.284(d) –reporting of excess emissions.
- i. The Permittee shall submit a summary report of the monitoring and recordkeeping activities postmarked on or before January 30 of each calendar year for the preceding six-month period between July and December and July 30 of each calendar year for the preceding six-month period between January and June. All instances of deviations from the requirements of this permit must be clearly identified.

3. 15A NCAC 2D .0530: Prevention of Significant Deterioration

- a. Emissions from Recovery Boiler (ID No. ES-10-25-0110) that are discharged from this source into the atmosphere shall not exceed the following BACT emission limits:
 - i. Carbon monoxide emissions of 800 ppm by volume on a dry basis (24-hour block average), corrected to 8 percent oxygen.
 - ii. Nitrogen Oxides emissions 110 ppm by volume on a dry basis (24-hour block average), corrected to 8 percent oxygen when firing black liquor solids.
 - iii. Sulfur dioxide emissions 16 ppm by volume on a dry basis (24-hour block average), corrected to 8 percent oxygen when firing black liquor solids.
 - iv. The sulfur content of No. 2 distillate oil firing in the No. 5 Recovery Boiler 0.05 percent by weight.
 - v. Sulfuric acid mist emissions 10.16 lb/hr when combusting black liquor solids.

Testing [15A NCAC 2D .0501(c)(8)]

- b. Under the provisions of NCGS 143-215.108, the Permittee shall demonstrate compliance with the emission limit(s) above for carbon monoxide, nitrogen oxides, sulfur dioxide, and sulfuric acid mist by testing the Recovery Boiler (ID No. ES-10-25-0110) 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 Section 3 - 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 two years. If the results of this or any test is above the limit given in Section 2.1 H.3.a. above, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0524.

Monitoring/Recordkeeping [15A NCAC 2Q .0508(f)]

- c. The maximum sulfur content of any distillate oil received and burned in the boiler shall not exceed 0.05 percent by weight (as SO₂). The Permittee shall be deemed in noncompliance with 15A NCAC 2D .0516 if the sulfur content exceeds this limit.
 - i. To assure compliance, the sulfur content of fuel oil burned in the Recovery Boiler (ID No. ES-10-25-0110) should be equal to or less than 0.05%. The Permittee shall monitor the sulfur content of fuel oil by maintaining fuel oil supplier certifications. The results of the fuel oil supplier certifications shall be recorded in written or electronic format on a quarterly basis and include the following:
 - (A) the name of the fuel oil supplier;
 - (B) the maximum sulfur content of the fuel oil received during the quarter;
 - (C) the method used to determine the maximum content of the fuel oil; and
 - (D) a certified statement signed by the responsible official that the records of fuel oil supplier certifications represent all of the fuel oil fired during the reporting period.

- ii. To assure compliance, the amount of black liquor solids fired in the No. 5 Recovery Boiler shall not exceed 130 tons per hour. The Permittee shall monitor the firing rate of black liquor solids in the No. 5 Recovery Boiler. The firing rates shall be maintained in written or electronic format on-site and made available to an authorized representative upon request. The records shall include the following:
 - (A) the date and time of each recorded action; and
 - (B) the black liquor solids firing rate.

Reporting [15A NCAC 2Q .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, due by January 30 of each calendar year for the preceding three-month period between October and December, April 30 of each calendar year for the preceding three-month period between January and March, July 30 of each calendar year for the preceding three-month period between April and June, and October 30 for the calendar year for the preceding three-month period between July and September.

I. Smelt Dissolving/Green Liquor Clarification Operations:

North Smelt Tank (ID No. ES-14-05-0050) with associated Ducon Alkaline Scrubber (North) (ID No. CD-14-05-0700) and South Smelt Tank (ID No. ES-14-05-0300) with associated Ducon Alkaline Scrubber (South) (ID No. CD-14-05-0750)

1. Regulatory Analysis

The following provides a summary of limits and/or standards for the emission source(s) described above. A review of the information in the application was performed to ensure the appropriate limits and associated calculations used to show compliance were correct.

Regulated Pollutant	Limits/Standards	Applicable Regulation
Particulate Matter	0.6 pounds per equivalent ton of air-dried pulp.	15A NCAC 2D .0508
Visible Emissions	20 percent opacity	15A NCAC 2D .0521
Total Reduced Sulfur	0.032 pounds per ton of black liquor solids (dry weight) from any smelt dissolving tank.	15A NCAC 2D .0528
NC Toxic Air Pollutants	See Section 2.2 (I) – State-Enforceable Only	15A NCAC 2D .1100
Hazardous Air Pollutants	See Section 2.2(B)	15A NCAC 2D .1111 (40 CFR 63, Subpart MM)

1. 15A NCAC 2D .0508: PARTICULATES FROM PULP AND PAPER MILLS

- a. Emissions from the production of pulp and paper that are discharged from these sources into the atmosphere shall not exceed 0.6 pounds of particulate matter per equivalent tons of air dried pulp. [15A NCAC 2D .0508(a)]

Testing [15A NCAC 2D .0501(c)(4)]

- 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 I.1.a. above, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0508.

Monitoring/Recordkeeping [15A NCAC 2Q .0508(f)]

- c. Particulate matter emissions from the North Smelt Tank (ID No. ES-14-05-0050) and South Smelt Tank (ID No. ES-14-05-0300) shall be controlled by the Ducon Alkaline Scrubber (North) (ID No. CD-14-05-0700) and Ducon Alkaline Scrubber (South) (ID No. CD-14-05-0750). The Permittee shall install, operate, and maintain a caustic scrubbing liquid flowmeter to monitor each scrubber's Rod box and Spray header flow. To ensure compliance and the effective operation of the scrubbers, the Permittee shall monitor and record, once per day, scrubbing liquid flow rates. The scrubbing liquid flow rate shall be maintained at a minimum of 50 gpm or above for each Rod box and 75 gpm for each Spray header. 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. 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 Permittee shall be deemed in noncompliance with 15A NCAC 2D .0508 if the scrubbing liquid flow rate is not maintained above the above prescribed limit or if these records are not maintained.
- d. If the scrubber liquid flow rate readings recorded as required in Section 2.1. I.1.c., above, are observed to be outside the allowable 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 2D .0508 if the inspections, cleaning, and repairs are not performed.
- e. 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 allowable operating range for the scrubbers(s); and
 - iii. corrective actions taken.The Permittee shall be deemed in noncompliance with 15A NCAC 2D .0508 if these records are not maintained.

Reporting [15A NCAC 2Q .0508(f)]

- 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.

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

- a. Visible emissions from the North Smelt Tank (ID No. ES-14-05-0050) and South Smelt Tank (ID No. ES-14-05-0300) shall not be more than 20 percent opacity when averaged over a six-minute period. However, six-minute averaging periods may exceed 20 percent not more than once in any hour and not more than four times in any 24-hour period. In no event shall the six-minute average exceed 87 percent opacity. [15A NCAC 2D .0521 (c)]

Testing [15A NCAC 2D .0501(c)(8)]

- b. If emissions testing is required, the testing shall be performed in accordance with 15A NCAC 2D .0501(c)(8) and General Condition JJ. If the results of this test are above the limit given in 2.1 I.2.a. above, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0521.

Monitoring [15A NCAC 2Q .0508(f)]

- c. To assure compliance, once a month the Permittee shall observe the emission points of the sources for any visible emissions above normal. The Permittee shall establish Anormal@for the source in the first 30 days

following the effective date of the permit. If visible emissions from any source are observed to be above normal, the Permittee shall either:

- i. take appropriate action to correct the above-normal emissions within the monitoring period and record the action taken as provided in the recordkeeping requirements below, or
- ii. demonstrate that the percent opacity from the emission points of the emission source in accordance with 15A NCAC 2D .0501(c)(8) is below the limit given 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 2D .0521.

Recordkeeping [15A NCAC 2Q .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 2D .0521 if these records are not maintained.

Reporting [15A NCAC 2Q .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 2D .0528: TOTAL REDUCED SULFUR FROM KRAFT PULP MILLS

- a. The emissions of total reduced sulfur shall not exceed 0.032 pounds per ton of black liquor solids (dry weight) from any smelt dissolving tank. [15A NCAC 2D .0528]

Testing [15A NCAC 2D .0501(c)(4)]

- 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 I.3. a. above, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0528

Monitoring/Recordkeeping/Reporting [15A NCAC 2Q .0508(f)]

- c. To assure compliance, the Permittee shall follow the monitoring, recordkeeping, and reporting requirements per Specific Conditions 2.1 I.1.c-f.

J. Lime Mud Filters and Lime Kiln Operations:

No. 5 Lime Kiln (ID No. ES-14-60-3000) firing residual oil, LVHC gases, and stripper off gases with associated Venturi Scrubber (ID No. CD-14-70-2012)

- 1. Regulatory Analysis

The following provides a summary of limits and/or standards for the emission source(s) described above. A review of the information in the application was performed to ensure the appropriate limits and associated calculations used to show compliance were correct.

Regulated Pollutant	Limits/Standards	Applicable Regulation
Sulfur Dioxide	2.3 pounds per million Btu heat input	15A NCAC 2D .0516
Visible Emissions	20 percent opacity	15A NCAC 2D .0521

Regulated Pollutant	Limits/Standards	Applicable Regulation
Particulate Matter	0.30 g/dscm (0.13 gr/dscf) corrected to 10 percent oxygen.	15A NCAC 2D .0524 (40 CFR 60, Subpart BB)
Total Reduced Sulfur	See Section 2.2 (F) , POS – No. 5 Lime Kiln Operation	15A NCAC 2D .0524 (40 CFR 60, Subpart BB)
Carbon Monoxide	14.6 lb/hr while combusting LVHC/SOG NCG gases.	15A NCAC 2D .0530
Particulate Matter	?? tons per year of particulate matter 500 bone dry tons of reburned lime (as CaO) per day.	Avoidance of 15A NCAC 2D .0530
Toxic Air Pollutants	See Section 2.2 (I) – State-Enforceable Only	15A NCAC 2D .1100
Hazardous Air Pollutants	Future applicable regulation with compliance required by March 13, 2004	15A NCAC 2D .1111 (40 CFR 63, Subpart MM)

1. 15A NCAC 2D .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. [15A NCAC 2D .0516]

Testing [15A NCAC 2D .0501(c)(4)]

- 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 J.1.a. above, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0516.

Monitoring/Recordkeeping [15A NCAC 2Q .0508(f)]

- c. The maximum sulfur content of any residual oil received and burned in the kiln shall not exceed 2.1 percent by weight (as SO₂). The Permittee shall be deemed in noncompliance with 15A NCAC 2D .0516 if the sulfur content of the fuel oil exceeds this limit.
- d. To assure compliance, the Permittee shall monitor the sulfur and heat content of the fuel oil by using fuel oil supplier certification per month. The results of the fuel oil supplier certifications shall be recorded in a logbook (written or electronic format) on a quarterly basis and include the following information:
 - i. the name of the fuel oil supplier;
 - ii. the maximum sulfur content of the fuel oil received during the quarter;
 - iii. the method used to determine the maximum sulfur content of the fuel oil; and
 - iv. a certified statement signed by the responsible official that the records of fuel oil supplier certification submitted represent all of the fuel oil fired during the period.

The Permittee shall be deemed in noncompliance with 15A NCAC 2D .0516 if the sulfur and heat content of the oil is not monitored and recorded.

Reporting [15A NCAC 2Q .0508(f)]

- e. The Permittee shall submit a summary report of the fuel oil supplier certifications postmarked on or before January 30 of each calendar year for the preceding six-month period between July and December and July 30 of each calendar year for the preceding six-month period between January and June. All instances of deviations from the requirements of this permit must be clearly identified.

3. 15A NCAC 2D .0521: CONTROL OF VISIBLE EMISSIONS

- a. Visible emissions from the No. 5 Lime Kiln (**ID No. ES-14-60-3000**) shall not be more than 20 percent opacity when averaged over a six-minute period. However, six-minute averaging periods may exceed 20

percent not more than once in any hour and not more than four times in any 24-hour period. In no event shall the six-minute average exceed 87 percent opacity. [15A NCAC 2D .0521 (c)]

Testing [15A NCAC 2D .0501(c)(8)]

- b. If emissions testing is required, the testing shall be performed in accordance with 15A NCAC 2D .0501(c)(8) and General Condition JJ. If the results of this test are above the limit given in Section 2.1 J.3.a. above, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0521.

Monitoring [15A NCAC 2Q .0508(f)]

- c. To assure compliance, once a day the Permittee shall observe the emission points of this source 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 emission source(s) is not operating, a record of this fact along with the corresponding date and time shall substitute for the daily observation. The Permittee shall establish a normal for the source in the first 30 days following the effective date of the permit. If visible emissions from this source are observed to be above normal, the Permittee shall either:
- take appropriate action to correct the above-normal emissions within the monitoring period and record the action taken as provided in the recordkeeping requirements below, or
 - demonstrate that the percent opacity from the emission points of the emission source in accordance with 15A NCAC 2D .0501(c)(8) is below the limit given in Section 2.1 J.3.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 to be in noncompliance with 15A NCAC 2D .0521.

Recordkeeping [15A NCAC 2Q .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:
- the date and time of each recorded action;
 - 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
 - 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 2Q .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 2D .0524: NSPS 40 CFR SUBPART BB

- a. The Permittee shall comply with all applicable provisions, including the notification, testing, reporting, recordkeeping, and monitoring requirements contained in Environmental Management Commission Standard 15A NCAC 2D .0524 "New Source Performance Standards (NSPS) as promulgated in 40 CFR Part 60 Subpart BB, including Subpart A "General Provisions." [15A NCAC 2D .0524]

Emissions Limitations [15A NCAC 2D .0524]

- b. Per 40 CFR Part 60, Subpart BB, emissions from the Lime Kiln shall not exceed:
- 0.30 g/dscm (0.13 gr/dscf) of particulate matter corrected to 10 percent oxygen. [40 CFR Part 60, Subpart 60.282(a)(3)(i)]. or
 - 8 ppm of TRS by volume on a dry basis, corrected to 10 percent oxygen based on a 12-hour average [40 CFR Part 60, Subpart 60.283(a)(5) and 60.284(c)]. (**See Section 2.2 F.**)

Testing [15A NCAC 2D .0501(c)(8)]

- c. Under the provisions of NCGS 143-215.108, the Permittee shall demonstrate compliance with the particulate emission limitation by testing No. 5 Lime Kiln (ID No. ES-14-60-3000) once every permit cycle

(i.e., 5 years) using EPA Method 5 contained in 40 CFR 60, Appendix in accordance with a testing protocol approved by the DAQ. Details of the emissions testing and reporting requirements can be found in Section 3 - 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 two years. If the results of this or any test is above the limit given in Section 2.1 H.3.a. above, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0524.

Monitoring [15A NCAC 2Q .0508(f)]

- d. Particulate matter emissions from the Lime Kiln shall be controlled by the Venturi Scrubber (**ID No. CD-14-70-2012**). To assure 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 is no manufacturer's inspection and maintenance recommendations, as a minimum, the inspection and maintenance requirement shall include the following:
- i. The Permittee shall monitor daily the scrubbant flow rate and pressure drop on the venturi scrubber (ID No. CD- 14-70-2012). Scrubbant flow rate shall be maintained at a minimum of 800 gallons per minute and the pressure drop across the venturi shall be maintained in the range of 1.5 to 5.0 inches of water pressure.
 - ii. an annual internal inspection of the scrubber system that entails inspection of spray nozzles, packing material, chemical feed system (if so equipped), and the cleaning/calibration of all associated instrumentation.

The Permittee shall be deemed in noncompliance with 15A NCAC 2D .0524 if the venturi scrubber is not inspected and maintained or the prescribed pressure drop is not maintained.

Recordkeeping [15A NCAC 2Q .0508(f)]

- e. The results of inspection and maintenance shall be maintained in a logbook (written or electronic format) on-site and made available to an authorized representative upon request. The logbook shall record the following:
- i. the date and time of each recorded action;
 - ii. the results of each inspection;
 - iii. the results of any maintenance performed on the scrubber; and
 - iv. any variance from manufacturer's recommendations, if any, and corrections made.
- The Permittee shall be deemed in noncompliance with 15A NCAC 2D .0524 if these records are not maintained.

Reporting [15A NCAC 2Q .0508(f)]

- f. The Permittee shall submit the results of any maintenance performed on the venturi scrubber 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. 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. The Permittee shall establish "normal" for these parameters in the first 30 days following the effective date of the permit.
- h. 40 CFR § 60.284(a)(2) - The Permittee shall calibrate, maintain, and operate a continuous monitoring system to monitor and record the concentration of TRS emissions on a dry basis and the percent of oxygen by volume on a dry basis in the gases discharged into the atmosphere. These systems shall be located downstream of the control device(s) and the spans of these continuous monitoring system(s) shall be set:
- i. At a TRS concentration of 30 ppm for the TRS continuous monitoring system.
 - ii. At 25 percent oxygen for the continuous oxygen monitoring system.

Recordkeeping [15A NCAC 2Q .0508(f)]

- i. The results of the venturi scrubber monitoring shall be maintained in a logbook (written or electronic form) 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 normal range of values for flow and pressure, and
- iii. the values of each parameter.

The Permittee shall be deemed in noncompliance with 15A NCAC 2D .0508 if these parameters are not monitored or these records are not maintained.

Reporting/ Recordkeeping [15A NCAC 2Q .0508(f)]

- j. 40 CFR § 60.284(d) –reporting of excess emissions.
- k. 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 2D .0530: Prevention of Significant Deterioration

- a. Emissions from the Lime Kiln that are discharged from this source into the atmosphere shall not exceed the following BACT emission limits:
 - i. Carbon monoxide emissions shall not exceed the BACT emission limit of 14.6 lb/hr while combusting LVHC/SOG NCG gases.

Testing [15A NCAC 2D .0501(c)(4)]

- 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 J.5.a. above, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0530.
- c. Under the provisions of NCGS 143-215.108, the Permittee shall demonstrate compliance with the above emission limitations by testing once every permit cycle (i.e., 5 years) in accordance with a testing protocol approved by the DAQ. Details of the emissions testing and reporting requirements can be found in Section 3 - 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 J.5.a. above, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0530.

The performance test for carbon monoxide shall be conducted using a 24-hour averaging period.

- d. **Monitoring/Recordkeeping** [15A NCAC 2Q .0508(f)]
The Permittee shall follow standard operating procedures to ensure reasonable precautions are taken to minimize carbon monoxide generation.

Reporting

- e. 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, due and postmarked on or before January 30 of each calendar year for the preceding three-month period between October and December, April 30 of each calendar year for the preceding three-month period between January and March, July 30 of each calendar year for the preceding three-month period between April and June, and October 30 for the calendar year for the preceding three-month period between July and September. All instances of deviations from the requirements of this permit must be clearly identified.

**6. 15A NCAC 2Q. 0317: AVOIDANCE CONDITIONS for
15A NCAC 2D. 0530: PREVENTION OF SIGNIFICANT DETERIORATION**

- a. In order to avoid applicability of 15A NCAC 2D .0530 (g) for major sources and major modifications, the Lime Kiln, shall discharge into the atmosphere less 15 tons of particulate (PM10) per consecutive twelve month period:

Testing [15A NCAC 2D .0501(c)(8)]

- b. If emissions testing is required, the testing shall be performed in accordance with 15A General Condition JJ. If the results of this test are above the limits given in Section 2.1 J.6.a. above, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0530.

Monitoring/ Recordkeeping [15A NCAC 2Q .0508(f)]

- c. To ensure that emissions are less than the above-specified limits, the Permittee shall not operate the No. 5 lime kiln shall at a production rate in excess of 500 bone dry tons of reburned lime (as CaO) per day.. The Permittee shall be deemed in noncompliance with 15A NCAC 2D .0530 if the amount of production rate exceeds this limit.
- d. To ensure compliance, the Permittee shall maintain records as follows
 - i. the Permittee shall record and maintain records of the amounts (in bone dry tons) of reburned lime burned in the Lime Kiln during each day, and;
 - ii. the record of the amounts reburned lime (in bone dry tons) burned during each day shall be made available to an authorized representative of DAQ upon request. The Permittee shall be deemed in noncompliance with 15A NCAC 2D .0530 if the amounts of bone dry tons of reburned lime during each day are not recorded.

Reporting [15A NCAC 2Q .0508(f)]

- e. 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, due and postmarked on or before January 30 of each calendar year for the preceding three-month period between October and December, April 30 of each calendar year for the preceding three-month period between January and March, July 30 of each calendar year for the preceding three-month period between April and June, and October 30 for the calendar year for the preceding three-month period between July and September. The report shall contain the following:
 - i. the monthly quantities of burned lime in the kiln for the previous 14 months. The total quantities burned must be calculated for each of the 12-month periods over the previous 14 months; and
 - ii. All instances of deviations from the requirements of this permit must be clearly identified.

K. No. 1 Hog Fuel Boiler:

No. 1 Hog Fuel Boiler (ID No. ES-64-25-0290) firing hog fuel, residual oil, coal, used oil, sludge, and HVLC gases with associated Primary Multicyclone (ID No. CD-64-45-0100) and Secondary Multicyclone (ID No. CD-64-45-0230) operating in series followed by the No. 1 Hog Fuel Boiler West Electroscrubber (ID No. CD-64-60-0120), No. 1 Hog Fuel Boiler Central Electroscrubber (ID No. CD-64-60-0420), and No. 1 Hog Fuel Boiler East Electroscrubber (ID No. CD-64-60-0720) operating in parallel

1. Regulatory Analysis

The following provides a summary of limits and/or standards for the emission source(s) described above. A review of the information in the application was performed to ensure the appropriate limits and associated calculations used to show compliance were correct.

Regulated Pollutant	Limits/Standards	Applicable Regulation
Particulate	<i>AOS - firing residual oil ,coal, used oil, sludge, only</i> 0.43 pounds per million Btu heat input	15A NCAC 2D .0503(c)
Particulate	<i>POS - firing wood only or firing wood in combination with other fuels</i> [(0.22)(Qw) + (0.43)(Qo)] pounds per million Btu (Qw + Qo)	15A NCAC 2D .0504

Need calcs showing allowables

	<p>where: Qw = actual wood heat input rate in Btu/hr Qo = actual other fuels heat input rate in Btu/hr</p>	
<p>Nitrogen Oxides</p>	<p>when burning only coal 1.8 pounds per million Btu heat input</p>	<p>15A NCAC 2D .0519</p> <div style="border: 1px solid black; padding: 10px; width: fit-content; margin: 20px auto;"> <p>Rule consistent with utility model</p> </div>
	<p>when burning only oil 0.8 pounds per million Btu heat input</p>	
	<p>when burning both coal and oil (not wood or other fuels)</p> $E = [(Ec)(Qc) + (Eo)(Qo)]/Qt$ <p>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 Qt = Qc + Qo</p>	
<p>Nitrogen Oxides</p>	<p>Emissions of nitrogen oxides, expressed as nitrogen dioxide, shall not exceed:</p> <ol style="list-style-type: none"> i. 0.3 pounds per million Btu heat input when firing liquid fossil fuel or liquid fossil fuel and wood residue; ii. 0.7 pounds per million Btu heat input when firing solid fossil fuel or solid fossil fuel and wood residue; or iii. the amount determined by proration using the following formula when combusting solid and liquid fossil fuels: $PS_{NOx} = [y(0.3) + z(0.7)]/(y + z)$ <p>Where:</p> <p>PS_{NOx} = the prorated standard for nitrogen oxides when burning a mixture of fossil fuels simultaneously, in pounds per million Btu heat input derived from all fossil fuels fired or from all fossil fuels and wood residue fired</p> <p>y = the percentage of total heat input derived from liquid fossil fuel</p> <p>z = the percentage of total heat input derived from solid fossil fuel.</p>	<p>15A NCAC 2D .0524 (40 CFR 60, Subpart D)</p>
<p>Visible Emissions</p>	<p>Visible emissions from the emission point shall not exhibit greater than 20 percent opacity when averaged over a six-minute period, except for one six-minute period per hour of not more than 27 percent opacity.</p>	<p>15A NCAC 2D .0524 (40 CFR 60, Subpart D)</p>

Particulate Matter	Emissions of particulate matter shall not exceed 0.10 pounds per million Btu heat input derived from fossil fuel or fossil fuel and wood residue.	15A NCAC 2D .0524 (40 CFR 60, Subpart D)
Sulfur Dioxide	Emissions of sulfur dioxide shall not exceed: <ul style="list-style-type: none"> i. 0.8 pounds per million Btu heat input derived from liquid fossil fuel or liquid fossil fuel and wood residue; ii. 1.2 pounds per million Btu heat input derived from solid fossil fuel or solid fossil fuel and wood residue; or iii. the amount determined by proration using the following formula when combusting solid and liquid fossil fuels: $PS_{SO_2} = [y(0.8) + z(1.2)]/(y + z)$ Where: PS_{SO_2} = the prorated standard for sulfur dioxide when burning a mixture of fuels simultaneously, in pounds per million Btu heat input derived from all fossil fuels fired or from all fossil fuels and wood residue fired y = the percentage of total heat input derived from liquid fossil fuel z = the percentage of total heat input derived from solid fossil fuel. 	15A NCAC 2D .0524 (40 CFR 60, Subpart D)
Total Reduced Sulfur	See 2.2	15A NCAC 2D .0524 (40 CFR 60, Subpart BB)
Carbon Monoxide	Carbon monoxide emissions shall not exceed the BACT emission limit of 1,646 lb/hr when combusting HVLC NCG gases.	15A NCAC 2D .0530
Criteria Compounds	No. 1 Hog Fuel Boiler is permitted to fire, separately or in combination, No. 6 fuel oil, hog fuel, coal, dewatered sludges, used oils, and HVLC gases at the following rates:	Avoidance of 15A NCAC 2D .0530
Name the pollutants. What are the tpy limits here?	<ul style="list-style-type: none"> i. 835 million BTU/hr maximum heat input from hog fuel alone or in combination. ii. 320 million BTU/hr maximum heat input attributable from coal in combination with hog fuel. iii. 701 million BTU/hr is the maximum heat input attributable from hog fuel in combination with coal. iv. 1,021 million BTU/hr maximum heat input from combination firing of all fuels. v. 617 million BTU/hr maximum heat input from No. 6 fuel oil alone. 	
	Annual coal usage in the No. 1 Hog Fuel Boiler shall not exceed 52,560 tons.	Avoidance of 15A NCAC 2D .0530
Particulate Matter Less Than 10 Microns in Diameter	See Section 2.2 (G)	Avoidance of 15A NCAC 2D .0530

Mercury	See Section 2.2 (G)	Avoidance of 15A NCAC 2D .0530
Mercury	See Section 2.2 (G)	15A NCAC 2D .1110 (40 CFR 61, Subpart E)
Toxic Air Pollutants	See Section 2.2 (A) – State-Enforceable Only	15A NCAC 2D .1100

1. 15A NCAC 2D .0503: PARTICULATES FROM FUEL BURNING INDIRECT HEAT EXCHANGERS

- a. Emissions of particulate matter from the combustion of residual oil, coal, waste oil, sludge, and HVLC gases that are discharged from this source into the atmosphere shall not exceed **0.152 pounds** per million Btu heat input. [15A NCAC 2D .0503(a)]

Testing [15A NCAC 2D .0501(c)(3)]

- b. If emissions testing is required, the testing shall be performed in accordance General Condition JJ. If the results of this test are above the limit given in Section 2.1 K.1.a. above, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0503.

Monitoring/Recordkeeping/Reporting [15A NCAC 2D .0508(f)]

- c. To assure compliance with the particulate emission limitation detailed above, the Permittee shall follow the monitoring, recordkeeping, and reporting procedures as outlined in Section 2.1 K.4.i-j. and m.ii. for determining compliance with the particulate emission limitation(s). The Permittee shall be deemed in noncompliance with 2D .0503 if these requirements are not met.

2. 15A NCAC 2D .0504: PARTICULATES FROM WOODBURNING INDIRECT HEAT EXCHANGERS

- a. Emissions of particulate matter from this source shall not exceed an allowable emission rate as calculated by the following equation: [15A NCAC 2D .0504]

$$E = \frac{[(0.22)(Q_w) + (XX)(Q_o)]}{(Q_w + Q_o)} \text{ pounds per million Btu}$$

where: Q_w = actual hog wood fuel heat input rate in Btu/hr

Q_o = actual firing residual oil, coal, and used oil heat input rate in Btu/hr

Testing [15A NCAC 2D .0501(c)(3)]

- b. If emissions testing is required, the testing shall be performed in accordance with and General Condition JJ. If the results of this test are above the limit given in Section 2.1 K.1.a. above, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0504.

Monitoring/Recordkeeping/Reporting [15A NCAC 2D .0508(f)]

- c. To assure compliance with the particulate emission limitation detailed above, the Permittee shall follow the monitoring, recordkeeping, and reporting procedures as outlined in Section 2.1 K.1. for determining compliance with the particulate emission limitation(s). The Permittee shall be deemed in noncompliance with 2D .0504 if these requirements are not met.

3. 15A NCAC 2D .0519: CONTROL OF NITROGEN OXIDES EMISSIONS

- a. Emissions of nitrogen oxides from these sources when burning coal and oil (used oil) shall be calculated by the following equation [15A NCAC 2D .0519]:

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

where: E = emission limit for combined burning of coal and oil in **pounds per million Btu**
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
Qt = Qc + Qo

Testing [15A NCAC 2D .0501(c)(7)]

- b. If emissions testing is required, the testing shall be performed in accordance with 15A NCAC 2D .0501(c)(7) and 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 2D .0519.

- c. **Monitoring/Recordkeeping** [15A NCAC 2Q .0508(f)]

The Permittee shall assure compliance with 15A NCAC 2D .0519 by determining nitrogen oxide emissions in pounds per million Btu using a continuous emissions monitoring (CEM) system meeting the requirements of 40 CFR Part 75 except that unbiased values may be used (missing data shall be filled in accordance with 40 CFR Part 75). Compliance with this emission standard shall be determined by averaging hourly continuous emission monitoring system values over a 24-hour block period beginning at midnight. To compute the 24-hour block average, the average hourly values (missing data shall be filled in accordance with 40 CFR Part 75) shall be summed, and the sum shall be divided by 24. The minimum number of data points, equally spaced, required to determine a valid hour value shall be determined by 40 CFR Part 75.

For monitoring purposes, the following emission limits will apply:

- i. When only coal is burned, the emission limit shall be **1.8 pounds per million Btu heat input**.
- ii. When only oil is burned, the emission limit shall be **0.8 pounds per million Btu heat input**.
- iii. When oil is burned other than for startup and for periods greater than 24 hours, the emission limit shall be calculated in accordance with the equation in Section 2.1 K.3.a. above.

If any 24-hour block average exceeds the emission limit or records are not maintained, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0519.

- d. The Permittee shall maintain records of monthly coal and oil consumption (written or electronic form) and shall submit such records within 30 days of a request by DAQ. The Permittee shall be deemed in noncompliance with 15A NCAC 2D .0519 if these records are not maintained.

Reporting [15A NCAC 2Q .0508(f)]

- e. The Permittee shall submit the continuous emissions monitoring system data showing the 24-hour daily block values for periods of **excess nitrogen oxide emissions** no later than 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.

- f. **CEMs Monitor Availability** - The Permittee shall submit the nitrogen oxide CEM systems monitor downtime reports, including monitor availability values (as calculated for 40 CFR Part 75) for the last hour of the reporting period, no later than 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.

4. 15A NCAC 2D .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 2D .0524, "New Source

Performance Standards (NSPS) as promulgated in 40 CFR Part 60, Subpart D, including Subpart A "General Provisions." [15A NCAC 2D .0524]

- b. The following emission limits shall not be exceeded [15A NCAC 2D .0524]:

POLLUTANT	EMISSION LIMIT (pounds per million Btu)
sulfur dioxide	$\{y(0.8) + z(1.2)\} / \{y + z\}$
nitrogen oxides (expressed as NO ₂)	$\{y(0.3) + z(0.7)\} / \{y + z\}$
particulates	0.1
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

y = percentage of total heat input derived from liquid fossil fuel or liquid fossil fuel and wood residue
z = percentage of total heat input derived from solid fossil fuel or solid fossil fuel and wood residue

Testing [15A NCAC 2D .0501(c)(3)]

- 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 K.4.b. above, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0524.
- d. Under the provisions of North Carolina General Statutes 143-215.108 and in accordance with General Condition JJ, the Permittee shall demonstrate compliance by testing the No. 1 Hog Fuel Boiler (ID No. ES-64-25-0290) once every permit cycle (i.e., 5 years) for sulfur dioxide emissions and annually for particulate matter emissions using EPA Methods 1 through 5 and 6 contained in 40 CFR 60, Appendix A, or in accordance with a testing protocol approved by the DAQ.
If the result of any test is greater than the limit given in Section 2.1 K.4.b. above, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0524.

Monitoring/Recordkeeping [15A NCAC 2Q .0508(f)]

- e. The Permittee shall install, maintain, and operate continuous emissions monitoring systems (COMS or CEMS) for measuring the opacity of emissions, nitrogen oxide emissions, and either oxygen or carbon dioxide, meeting the requirements of 40 CFR Part 75.
- f. Compliance with the nitrogen oxide emission limits of Section 2.1 K.4.b. above, shall be determined by averaging hourly continuous emission monitoring system values over any three-hour (rolling) period. Missing data shall not be filled nor shall the data be bias adjusted in accordance with 40 CFR Part 75. The minimum number of data points, equally spaced, required to determine a valid hour value shall be determined by 40 CFR Part 75. If any three-hour average exceeds emission limits of Section 2.1 K.4.b. above (except during periods of startup, shutdown and malfunction) or records are not maintained, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0524. [40 CFR 60.8 and 60.45]
- g. In accordance with 40 CFR 60.45, a continuous monitoring system for measuring sulfur dioxide emissions is not required for a fossil fuel-fired steam generator that does not use a flue gas desulfurization device, if the owner or operator monitors sulfur dioxide emissions by fuel sampling and analysis. To ensure compliance, the Permittee shall determine the heating value and sulfur content of coal, oil, and hog fuel by fuel sampling and analysis performed by the Permittee or supplier, and the Permittee shall record fuel feed rates. Records shall be maintained in written or electronic format on-site and made available to an authorized representative upon request.

- h. Compliance with opacity limit of Section 2.1 K.4.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 2D .0524.
- i. Particulate matter emissions from the No. 1 Hog Fuel Boiler (ID No. ES-64-25-0290) shall be controlled by the Primary Multicyclone (ID No. CD-64-45-0100) and Secondary Multicyclone (ID No. CD-64-45-0230) operating in series and) shall be controlled by the No. 1 Hog Fuel Boiler West Electroscrubber (ID No. CD-64-60-0120), No. 1 Hog Fuel Boiler Central Electroscrubber (ID No. CD-64-60-0420), and No. 1 Hog Fuel Boiler East Electroscrubber (ID No. CD-64-60-0720) operating in parallel. To assure compliance, the Permittee shall perform inspections and maintenance, which shall include the following: To assure compliance, the Permittee shall perform inspections and maintenance, which shall include:
 - i. an annual internal inspection of one module of one Hog Fuel Boiler electroscrubber so that all six modules are inspected over a six-year cycle. As a minimum, the annual internal inspection will include inspection of spray nozzles, packing material, chemical feed system (if so equipped), and the cleaning/calibration of all associated instrumentation annually.
 - ii. an annual internal inspection of the multicyclone's structural integrity; and
 - iii. a monthly external visual inspection of the system ductwork, and material collection unit for leaks.The records shall include the following:
 - iv. the date and time of each recorded action;
 - v. the results of each inspection;
 - vi. a report of any maintenance performed on the multicyclone and electroscrubber; and corrections made.The results of inspection and maintenance shall be maintained in written or electronic format on-site and made available to an authorized representative upon request.
- j. To ensure that optimum control efficiency is maintained, the Permittee shall monitor the electroscrubber for following parameters daily for values outside the normal operating range in each field or section:
 - i. primary voltage,
 - ii. secondary voltage,
 - iii. primary current,
 - iv. secondary current, and
 - v. spark rate.The results of the electroscrubber monitoring shall be maintained in a log book (written or electronic form) on site and made available to an authorized representative upon request. The log book shall record the following:
 - i. the date and time of actions recorded,
 - ii. the normal range of values for each parameter, and
 - iii. the values of each parameter.The Permittee shall be deemed in noncompliance with 15A NCAC 2D .0524 if these parameters are not monitored or these records are not maintained.
- k. Pursuant to 40 CFR 60.7(b), the Permittee shall maintain records of the occurrence and duration of any startup, shutdown, or malfunction in the operation of this NSPS affected facility; any malfunctions of the air pollution control equipment; or any periods during which the continuous monitoring system is inoperative.
- l. The Permittee shall maintain a file of all measurements, including continuous monitoring system, monitoring device, and performance testing measurements; all continuous monitoring system performance evaluations; all continuous monitoring system or monitoring device calibration checks; adjustments and maintenance performed on these systems or devices; and all other information required by 40 CFR 60 recorded in a permanent form suitable for inspection in a manner consistent with the requirements of 40 CFR 60.7(f).
- m. **Reporting and Excess Emissions [15A NCAC 2Q .0508(f), 40 CFR 60.284(d), 40 CFR 60.7(c)(d)]**
 - i. The Permittee shall submit an excess emissions and monitoring systems performance report and/or a summary report form meeting the requirements of 40 CFR 60.7(c) and (d) by 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. Periods of excess emissions of nitrogen oxides that shall be reported are defined as any three-hour period during which the average emissions (arithmetic average of three contiguous one-hour periods) exceed the applicable standards as specified

under 40 CFR 60.44. Periods of excess emissions of opacity that shall be reported are defined as any six-minute period during which the average opacity of emissions exceeds 20 percent opacity, except that one six-minute average per hour of up to 27 percent opacity need not be reported.

If the total duration of excess emissions for the reporting period is less than 1 percent of the total operating time for the reporting period and CMS downtime for the reporting period is less than 5 percent of the total operating time for the reporting period, only the summary report form shall be submitted and the excess emission report need not be submitted unless requested by the Administrator.

If the total duration of excess emissions for the reporting period is 1 percent or greater of the total operating time for the reporting period or the total CMS downtime for the reporting period is 5 percent or greater of the total operating time for the reporting period, the summary report form and the excess emission report shall both be submitted.

The Permittee shall meet all applicable requirements set forth in the General Provisions of 40 CFR 60 Subpart A.

- ii. The Permittee shall submit a summary report of the monitoring and recordkeeping activities by 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.
- iii. The Permittee shall submit an annual fuel analysis report by January 30 of each calendar year for the preceding twelve-month period.

5. 15A NCAC 2D .0530: Prevention of Significant Deterioration

- a. Emissions from the Hog Fuel Fired Boiler No. 1 that are discharged from this source into the atmosphere shall not exceed the following BACT emission limits:
 - i. Carbon monoxide emissions shall not exceed the BACT emission limit of 1,646 lb/hr when combusting HVLC NCG gases.

Testing [15A NCAC 2D .0501(c)(4)]

- 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 H. 2 a. above, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0530.
- c. Under the provisions of NCGS 143-215.108, **the Permittee shall demonstrate compliance with the above emission limitations by testing once every permit cycle (i.e., 5 years)** in accordance with a testing protocol approved by the DAQ. Details of the emissions testing and reporting requirements can be found in Section 3 - 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 H. 2. a. above, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0524.

The performance test for carbon monoxide shall be conducted using a 24-hour averaging period.

- d. **Monitoring/Recordkeeping** [15A NCAC 2Q .0508(f)]
The Permittee shall follow standard operating procedures to ensure reasonable precautions are taken to minimize carbon monoxide generation.

Reporting

- e. 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, due and postmarked on or before January 30 of each calendar year for the preceding three-month period between October and December, April 30 of each calendar year for the preceding three-month period between January and March, July 30 of each calendar year for the preceding three-month period between April and

June, and October 30 for the calendar year for the preceding three-month period between July and September. All instances of deviations from the requirements of this permit must be clearly identified.

**6. 15A NCAC 2Q. 0317: AVOIDANCE CONDITIONS for
15A NCAC 2D. 0530: PREVENTION OF SIGNIFICANT DETERIORATION**

Are there associated emissions limits?

a. In order to avoid applicability of 15A NCAC 2D .0530 (g) for major sources and major modifications, the Hog Fuel Fired Boiler No. 1; the following theoretical firing rates and annual coal usage rate shall not be exceeded. [15A NCAC 2Q .0508(f)]

- i. 835 million BTU/hr maximum heat input from hog fuel alone or in combination,
- ii. 320 million BTU/hr maximum heat input attributable to coal in combination with hog fuel,
- iii. 701 million BTU/hr is the maximum heat input attributable from hog fuel in combination with coal,
- iv. 1,021 million BTU/hr maximum heat input from combination firing of all fuels,
- v. 617 million BTU/hr maximum heat input from No. 6 fuel oil alone, and
- vi. Annual coal usage in the No. 1 Hog Fuel Boiler shall not exceed 52,560 tons.

Testing [15A NCAC 2D .0501(c)(8)]

b. If emissions testing is required, the testing shall be performed in accordance with 15A General Condition JJ. If the results of this test are above the limits given in Section 2.1 K.6.a. above, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0530.

Monitoring/ Recordkeeping [15A NCAC 2Q .0508(f)]

c. Permittee shall monitor and record heating values and fuel feed rates and calculate the theoretical firing rate as described below:

i. In accordance with 40 CFR 60.45, a continuous monitoring system for measuring sulfur dioxide emissions is not required for a fossil fuel-fired steam generator that does not use a flue gas desulfurization device, if the owner or operator monitors sulfur dioxide emissions by fuel sampling and analysis. To ensure compliance, the Permittee shall determine the heating value and sulfur content of coal, oil, and hog fuel by fuel sampling and analysis performed by the Permittee or supplier, and the Permittee shall record fuel feed rates. Records shall be maintained in written or electronic format on-site and made available to an authorized representative upon request.

d. To ensure that **emissions** are less than the above-specified limits, the annual coal usage shall not exceed 52,560 tons per year . The Permittee shall be deemed in noncompliance with 15A NCAC 2D .0530 if the amount of production rate exceeds this limit.

e. To ensure compliance, the Permittee shall maintain records as follows

- i. the Permittee shall record and maintain records of the amount of coal fired in Hog Fuel boiler No. 1 during each day; and,
- ii. the record of the amounts fired each day shall be made available to an authorized representative of DAQ upon request. The Permittee shall be deemed in noncompliance with 15A NCAC 2D .0530 if the amounts of fuel burned during each day are not recorded.

Reporting [15A NCAC 2Q .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, due and postmarked on or before January 30 of each calendar year for the preceding three-month period between October and December, April 30 of each calendar year for the preceding three-month period between January and March, July 30 of each calendar year for the preceding three-month period between April and June, and October 30 for the calendar year for the preceding three-month period between July and September. The report shall contain the following:

- i. the monthly quantities of coal fired in the Hog Fuel Fired Boiler No. 1 for the previous 14 months. The total quantities burned must be calculated for each of the 12-month periods over the previous 14 months; and
- ii. All instances of deviations from the requirements of this permit must be clearly identified.

g. **State-Enforceable Only**

The Washington Regional Supervisor, 252-946-6481, of the Division of Air Quality, shall be contacted prior to placing the No. 1 Hog Fuel Boiler (ID No. ES-64-25-0290) on oil fire under malfunction conditions. Lack of sufficient quantities of wood waste, low sulfur coal (1.20 pounds of sulfur dioxide per million Btu input) or oil (0.80 pounds of sulfur dioxide per million Btu input) does not constitute a malfunction. Startup and shutdown periods shall be defined as cold startup or complete shutdown to cold conditions and are further limited to periods of time no greater than 12 hours in duration.

L. No. 2 Hog Fuel Boiler:

No. 2 Hog Fuel Boiler (ID No. ES-65-25-0310) firing hog fuel, residual oil, coal, used oil, sludge, and HVLC gases with associated Multicyclone (ID No. CD-65-45-0100) followed by the No. 2 Hog Fuel Boiler North Electroscrubber (ID No. CD-65-60-0120), No. 2 Hog Fuel Boiler Central Electroscrubber (ID No. CD-65-60-0410), and No. 2 Hog Fuel Boiler South Electroscrubber (ID No. CD-65-60-0610) operating in parallel

1. Regulatory Analysis

The following provides a summary of limits and/or standards for the emission source(s) described above. A review of the information in the application was performed to ensure the appropriate limits and associated calculations used to show compliance were correct.

Regulated Pollutant	Limits/Standards	Applicable Regulation
Particulate	<i>AOS No. 1 - firing residual oil, coal, used oil, sludge or other fuels only</i> 0.43 pounds per million Btu heat input	15A NCAC 2D .0503(c)
Particulate	<i>POS - firing wood only or firing wood in combination with other fuels</i> $[(0.22)(Q_w) + (0.43)(Q_o)] \text{ pounds per million Btu}$ $(Q_w + Q_o)$ where: Q_w = actual wood heat input rate in Btu/hr Q_o = actual other fuels heat input rate in Btu/hr	15A NCAC 2D .0504
Nitrogen Oxides	when burning only coal 1.8 pounds per million Btu heat input	15A NCAC 2D .0519 Rule consistent with utility model
	when burning only oil 0.8 pounds per million Btu heat input	

	<p>when burning both coal and oil (not wood or other fuels)</p> $E = [(Ec)(Qc) + (Eo)(Qo)]/Qt$ <p>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 Qt = Qc + Qo</p>	
Nitrogen Oxides	<p>Emissions of nitrogen oxides, expressed as nitrogen dioxide, shall not exceed:</p> <ol style="list-style-type: none"> i. 0.3 pounds per million Btu heat input when firing liquid fossil fuel or liquid fossil fuel and wood residue; ii. 0.7 pounds per million Btu heat input when firing solid fossil fuel or solid fossil fuel and wood residue; or iii. the amount determined by proration using the following formula when combusting solid and liquid fossil fuels: $PS_{NOx} = [y(0.3) + z(0.7)]/(y + z)$ <p>Where: PS_{NOx} = the prorated standard for nitrogen oxides when burning a mixture of fossil fuels simultaneously, in pounds per million Btu heat input derived from all fossil fuels fired or from all fossil fuels and wood residue fired y = the percentage of total heat input derived from liquid fossil fuel z = the percentage of total heat input derived from solid fossil fuel.</p> 	15A NCAC 2D .0524 (40 CFR 60, Subpart D)
Visible Emissions	<p>Visible emissions from the emission point shall not exhibit greater than 20 percent opacity when averaged over a six-minute period, except for one six-minute period per hour of not more than 27 percent opacity.</p>	15A NCAC 2D .0524 (40 CFR 60, Subpart D)
Particulate Matter	<p>Emissions of particulate matter shall not exceed 0.10 pounds per million Btu heat input derived from fossil fuel or fossil fuel and wood residue.</p>	15A NCAC 2D .0524 (40 CFR 60, Subpart D)
Sulfur Dioxide	<p>Emissions of sulfur dioxide shall not exceed:</p> <ol style="list-style-type: none"> i. 0.8 pounds per million Btu heat input derived from liquid fossil fuel or liquid fossil fuel and wood residue; ii. 1.2 pounds per million Btu heat input derived from solid fossil fuel or solid fossil fuel and wood residue; or iii. the amount determined by proration using the following formula when combusting solid and liquid fossil fuels: $PS_{SO2} = [y(0.8) + z(1.2)]/(y + z)$ <p>Where:</p> 	15A NCAC 2D .0524 (40 CFR 60, Subpart D)

	<p>PS_{SO_2} = the prorated standard for sulfur dioxide when burning a mixture of fuels simultaneously, in pounds per million Btu heat input derived from all fossil fuels fired or from all fossil fuels and wood residue fired</p> <p>y = the percentage of total heat input derived from liquid fossil fuel</p> <p>z = the percentage of total heat input derived from solid fossil fuel.</p>	
Total Reduced Sulfur	See 2.2 (E)	15A NCAC 2D .0524 (40 CFR 60, Subpart BB)
Carbon Monoxide	Carbon monoxide emissions shall not exceed the BACT emission limit of 1,433 lb/hr when combusting HVLC NCG gases.	15A NCAC 2D .0530
Criteria Compounds	<p>No. 2 Hog Fuel Boiler is permitted to fire, separately or in combination, No. 6 fuel oil, hog fuel, coal, dewatered sludges, used oils, and HVLC gases at the following rates:</p> <p>i. 889 million BTU/hr maximum heat input for any fuels combination.</p> <p>ii. 800 million BTU/hr maximum heat input from No. 6 fuel oil alone.</p>	Avoidance of 15A NCAC 2D .0530
	Emissions of nitrogen oxides shall not exceed 1,771 tons per consecutive 12 month period.	Avoidance of 15A NCAC 2D .0530
Particulate Matter Less Than 10 Microns in Diameter	See Section 2.2 (G)	Avoidance of 15A NCAC 2D .0530
Mercury	See Section 2.2 (G)	Avoidance of 15A NCAC 2D .0530
Mercury	See Section 2.2 (G)	15A NCAC 2D .1110 (40 CFR 61, Subpart E)
Toxic Air Pollutants	See Section 2.2 (A) – State-Enforceable Only	15A NCAC 2D .1100

Name the pollutants.
What are the tpy limits here?

1. 15A NCAC 2D .0503: PARTICULATES FROM FUEL BURNING INDIRECT HEAT EXCHANGERS

- a. Emissions of particulate matter from the combustion of hog fuel, residual oil, coal, used oil, sludge, and HVLC gases that are discharged from this source into the atmosphere shall not exceed **0.43 pounds** per million Btu heat input. [15A NCAC 2D .0503(a)]

Testing [15A NCAC 2D .0501(c)(3)]

- b. If emissions testing is required, the testing shall be performed in accordance General Condition JJ. If the results of this test are above the limit given in Section 2.1 C. 1. a. above, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0503.

Monitoring/Recordkeeping/Reporting [15A NCAC 2D .0508(f)]

- c. To assure compliance with the particulate emission limitation detailed above, the Permittee shall follow the monitoring, recordkeeping, and reporting procedures as outlined in Section 2.1 L.2. for determining compliance with the particulate emission limitation(s). The Permittee shall be deemed in noncompliance with 2D .0503 if these requirements are not met.

2. 15A NCAC 2D .0504: PARTICULATES FROM WOODBURNING INDIRECT HEAT EXCHANGERS

- a. Emissions of particulate matter from this source shall not exceed an allowable emission rate as calculated by the following equation: [15A NCAC 2D .0504]

$$E = \frac{[(0.22)(Q_w) + (XX)(Q_o)]}{(Q_w + Q_o)} \text{ pounds per million Btu}$$

where: Q_w = actual hog wood fuel heat input rate in Btu/hr
 Q_o = actual other fuels heat input rate in Btu/hr

Testing [15A NCAC 2D .0501(c)(3)]

- b. If emissions testing is required, the testing shall be performed in accordance with and General Condition JJ. 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 2D .0504.

Monitoring/Recordkeeping/Reporting [15A NCAC 2D .0508(f)]

- c. To assure compliance with the particulate emission limitation detailed above, the Permittee shall follow the monitoring, recordkeeping, and reporting procedures as outlined in Section 2.1 L.2.a. for determining compliance with the particulate emission limitation(s). The Permittee shall be deemed in noncompliance with 2D .0504 if these requirements are not met.

3. 15A NCAC 2D .0519: CONTROL OF NITROGEN OXIDES EMISSIONS

- a. Emissions of nitrogen oxides from these sources when burning coal and oil (used oil) shall be calculated by the following equation [15A NCAC 2D .0519]:

$$E = [(E_c)(Q_c) + (E_o)(Q_o)]/Q_t$$

where: E = emission limit for combined burning of coal and oil in **pounds per million Btu**
 E_c = 1.8 pounds per million Btu heat input for coal only
 E_o = 0.8 pounds per million Btu heat input for oil only
 Q_c = coal heat input in Btu per hour
 Q_o = oil heat input in Btu per hour
 Q_t = $Q_c + Q_o$

Testing [15A NCAC 2D .0501(c)(7)]

- b. If emissions testing is required, the testing shall be performed in accordance with 15A NCAC 2D .0501(c)(7) and 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 2D .0519.

Monitoring/Recordkeeping [15A NCAC 2Q .0508(f)]

- c. The Permittee shall assure compliance with 15A NCAC 2D .0519 by determining nitrogen oxide emissions in pounds per million Btu using a continuous emissions monitoring (CEM) system meeting the requirements of 40 CFR Part 75 except that unbiased values may be used (missing data shall be filled in accordance with 40 CFR Part 75). Compliance with this emission standard shall be determined by

averaging hourly continuous emission monitoring system values over a 24-hour block period beginning at midnight. To compute the 24-hour block average, the average hourly values (missing data shall be filled in accordance with 40 CFR Part 75) shall be summed, and the sum shall be divided by 24. The minimum number of data points, equally spaced, required to determine a valid hour value shall be determined by 40 CFR Part 75.

For monitoring purposes, the following emission limits will apply:

- i. When only coal is burned, the emission limit shall be **1.8 pounds per million Btu heat input.**
- ii. When only oil is burned, the emission limit shall be **0.8 pounds per million Btu heat input.**
- iii. When oil is burned other than for startup and for periods greater than 24 hours, the emission limit shall be calculated in accordance with the equation in Section 2.1 L.3.a. above.

If any 24-hour block average exceeds the emission limit or records are not maintained, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0519.

- d. The Permittee shall maintain records of monthly coal and oil consumption (written or electronic form) and shall submit such records within 30 days of a request by DAQ. The Permittee shall be deemed in noncompliance with 15A NCAC 2D .0519 if these records are not maintained.

Reporting [15A NCAC 2Q .0508(f)]

- e. The Permittee shall submit the continuous emissions monitoring system data showing the 24-hour daily block values for periods of **excess nitrogen oxide emissions** no later than 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.
- f. CEMs Monitor Availability - The Permittee shall submit the nitrogen oxide CEM systems monitor downtime reports, including monitor availability values (as calculated for 40 CFR Part 75) for the last hour of the reporting period, no later than 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.

4. 15A NCAC 2D .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 2D .0524, "New Source Performance Standards (NSPS) as promulgated in 40 CFR Part 60, Subpart D, including Subpart A "General Provisions." [15A NCAC 2D .0524]
- b. The following emission limits shall not be exceeded [15A NCAC 2D .0524]:

POLLUTANT	EMISSION LIMIT (pounds per million Btu)
sulfur dioxide	$\{y(0.8)+z(1.2)\} / \{y + z\}$
nitrogen oxides (expressed as NO ₂)	$\{y(0.3) + z(0.7)\} / \{y + z\}$
particulates	0.1
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
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y = percentage of total heat input derived from liquid fossil fuel or liquid fossil fuel and wood residue
z = percentage of total heat input derived from solid fossil fuel or solid fossil fuel and wood residue

Testing [15A NCAC 2D .0501(c)(3)]

- 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 L.4.b. above, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0524.
- d. Under the provisions of North Carolina General Statutes 143-215.108 and in accordance with General Condition JJ, the Permittee shall demonstrate compliance by testing the No. 2 Hog Fuel Boiler (ID No. ES-64-25-0310) once every permit cycle (i.e., 5 years) for sulfur dioxide emissions and annually for particulate matter emissions using EPA Methods 1 through 5 and 6 contained in 40 CFR 60, Appendix A, or in accordance with a testing protocol approved by the DAQ.
If the result of any test is greater than the limit given in Section 2.1 L.4.b. above, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0524.

Monitoring/Recordkeeping [15A NCAC 2Q .0508(f)]

- e. The Permittee shall install, maintain, and operate continuous emissions monitoring systems (COMS or CEMS) for measuring the opacity of emissions, nitrogen oxide emissions, and either oxygen or carbon dioxide, meeting the requirements of 40 CFR Part 75.
- f. Compliance with the nitrogen oxide emission limits of Section 2.1 L.4.b. above, shall be determined by averaging hourly continuous emission monitoring system values over any three-hour (rolling) period. Missing data shall not be filled nor shall the data be bias adjusted in accordance with 40 CFR Part 75. The minimum number of data points, equally spaced, required to determine a valid hour value shall be determined by 40 CFR Part 75. If any three-hour average exceeds emission limits of Section 2.1 L.4.b. above (except during periods of startup, shutdown and malfunction) or records are not maintained, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0524. [40 CFR 60.8 and 60.45]
- g. In accordance with 40 CFR 60.45, a continuous monitoring system for measuring sulfur dioxide emissions is not required for a fossil fuel-fired steam generator that does not use a flue gas desulfurization device, if the owner or operator monitors sulfur dioxide emissions by fuel sampling and analysis. To ensure compliance, the Permittee shall determine the heating value and sulfur content of coal, oil, and hog fuel by fuel sampling and analysis performed by the Permittee or supplier, and the Permittee shall record fuel feed rates. Records shall be maintained in written or electronic format on-site and made available to an authorized representative upon request.
- h. Compliance with opacity limit of Section 2.1 L.4.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 2D .0524.
- i. Particulate matter emissions from the No. 2 Hog Fuel Boiler (ID No. ES-65-25-0310) shall be controlled by the No. 2 Hog Fuel Boiler North Electroscrubber (ID No. CD-65-60-0120), No. 2 Hog Fuel Boiler Central Electroscrubber (ID No. CD-65-60-0410), and No. 2 Hog Fuel Boiler South Electroscrubber (ID No. CD-65-60-0610) operating in parallel. To assure compliance, the Permittee shall perform inspections and maintenance, which shall include the following: To assure compliance, the Permittee shall perform inspections and maintenance, which shall include:
 - i. an annual internal inspection of one module of one Hog Fuel Boiler electroscrubber so that all six modules are inspected over a six-year cycle. As a minimum, the annual internal inspection will include inspection of spray nozzles, packing material, chemical feed system (if so equipped), and the cleaning/calibration of all associated instrumentation annually.
 - ii. an annual internal inspection of the multicyclone's structural integrity; and
 - iii. a monthly external visual inspection of the system ductwork, and material collection unit for leaks.The records shall include the following:
 - iv. the date and time of each recorded action;
 - v. the results of each inspection;
 - vi. a report of any maintenance performed on the multicyclone and electroscrubber; and corrections made.

The results of inspection and maintenance shall be maintained in written or electronic format on-site and made available to an authorized representative upon request.

- j. To ensure that optimum control efficiency is maintained, the Permittee shall monitor the electroscrubber for following parameters daily for values outside the normal operating range in each field or section:
 - i. primary voltage,
 - ii. secondary voltage,
 - iii. primary current,
 - iv. secondary current, and
 - v. spark rate.

The results of the electroscrubber monitoring shall be maintained in a log book (written or electronic form) on site and made available to an authorized representative upon request. The log book shall record the following:

- i. the date and time of actions recorded,
- ii. the normal range of values for each parameter, and
- iii. the values of each parameter.

The Permittee shall be deemed in noncompliance with 15A NCAC 2D .0524 if these parameters are not monitored or these records are not maintained.

- k. Pursuant to 40 CFR 60.7(b), the Permittee shall maintain records of the occurrence and duration of any startup, shutdown, or malfunction in the operation of this NSPS affected facility; any malfunctions of the air pollution control equipment; or any periods during which the continuous monitoring system is inoperative.
- l. The Permittee shall maintain a file of all measurements, including continuous monitoring system, monitoring device, and performance testing measurements; all continuous monitoring system performance evaluations; all continuous monitoring system or monitoring device calibration checks; adjustments and maintenance performed on these systems or devices; and all other information required by 40 CFR 60 recorded in a permanent form suitable for inspection in a manner consistent with the requirements of 40 CFR 60.7(f).

Reporting and Excess Emissions [15A NCAC 2Q .0508(f), 40 CFR 60.284(d), 40 CFR 60.7(c)(d)]

- m. The Permittee shall submit an excess emissions and monitoring systems performance report and/or a summary report form meeting the requirements of 40 CFR 60.7(c) and (d) by 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. Periods of excess emissions of nitrogen oxides that shall be reported are defined as any three-hour period during which the average emissions (arithmetic average of three contiguous one-hour periods) exceed the applicable standards as specified under 40 CFR 60.44. Periods of excess emissions of opacity that shall be reported are defined as any six-minute period during which the average opacity of emissions exceeds 20 percent opacity, except that one six-minute average per hour of up to 27 percent opacity need not be reported.

If the total duration of excess emissions for the reporting period is less than 1 percent of the total operating time for the reporting period and CMS downtime for the reporting period is less than 5 percent of the total operating time for the reporting period, only the summary report form shall be submitted and the excess emission report need not be submitted unless requested by the Administrator.

If the total duration of excess emissions for the reporting period is 1 percent or greater of the total operating time for the reporting period or the total CMS downtime for the reporting period is 5 percent or greater of the total operating time for the reporting period, the summary report form and the excess emission report shall both be submitted.

The Permittee shall meet all applicable requirements set forth in the General Provisions of 40 CFR 60 Subpart A.

- n. The Permittee shall submit a summary report of the monitoring and recordkeeping activities by January 30 of each calendar year for the preceding six-month period between July and December, and July 30 of each calendar year for the preceding six-month period between January and June. All instances of deviations from the requirements of this permit must be clearly identified.
- o. The Permittee shall submit an annual fuel analysis report by January 30 of each calendar year for the preceding twelve-month period.

5. 15A NCAC 2D .0530: Prevention of Significant Deterioration

- a. Emissions from the Hog Fuel Fired Boiler No. 1 that are discharged from this source into the atmosphere shall not exceed the following BACT emission limits:
 - i. Carbon monoxide emissions shall not exceed the BACT emission limit of 1,646 lb/hr when combusting HVLC NCG gases.

Testing [15A NCAC 2D .0501(c)(4)]

- 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.5.a. above, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0530.
- c. Under the provisions of NCGS 143-215.108, **the Permittee shall demonstrate compliance with the above emission limitations by testing once every permit cycle (i.e., 5 years)** in accordance with a testing protocol approved by the DAQ. Details of the emissions testing and reporting requirements can be found in Section 3 - 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 L.5.a. above, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0524.

The performance test for carbon monoxide shall be conducted using a 24-hour averaging period.

- d. **Monitoring/Recordkeeping** [15A NCAC 2Q .0508(f)]

The Permittee shall follow standard operating procedures to ensure reasonable precautions are taken to minimize carbon monoxide generation.

Reporting

- e. 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, due and postmarked on or before January 30 of each calendar year for the preceding three-month period between October and December, April 30 of each calendar year for the preceding three-month period between January and March, July 30 of each calendar year for the preceding three-month period between April and June, and October 30 for the calendar year for the preceding three-month period between July and September. All instances of deviations from the requirements of this permit must be clearly identified.

6. 15A NCAC 2Q. 0317: AVOIDANCE CONDITIONS for 15A NCAC 2D. 0530: PREVENTION OF SIGNIFICANT DETERIORATION

- a. In order to avoid applicability of 15A NCAC 2D .0530 (g) for major sources and major modifications, Emissions of nitrogen oxides shall not exceed 1,771 tons per consecutive 12 month period from the Hog Fuel Fired Boiler No. 2; and the following theoretical firing rates shall not be exceeded. [15A NCAC 2Q .0508(f)]
 - i. 889 million BTU/hr maximum heat input for any fuels combination.
 - ii. 800 million BTU/hr maximum heat input from No. 6 fuel oil alone.

Testing [15A NCAC 2D .0501(c)(8)]

- b. If emissions testing is required, the testing shall be performed in accordance with 15A General Condition JJ. If the results of this test are above the limits given in Section 2.1 L.6.a. above, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0530.

Monitoring/ Recordkeeping [15A NCAC 2Q .0508(f)]

- c. Permittee shall monitor and record heating values and fuel feed rates and calculate the theoretical firing rate as described below:
 - i. In accordance with 40 CFR 60.45, a continuous monitoring system for measuring sulfur dioxide emissions is not required for a fossil fuel-fired steam generator that does not use a flue gas desulfurization device, if the owner or operator monitors sulfur dioxide emissions by fuel sampling and

analysis. To ensure compliance, the Permittee shall determine the heating value and sulfur content of coal, oil, and hog fuel by fuel sampling and analysis performed by the Permittee or supplier, and the Permittee shall record fuel feed rates. Records shall be maintained in written or electronic format on-site and made available to an authorized representative upon request.

- ii. To assure compliance, the Permittee shall monitor and record heating values and fuel feed rates and calculate the theoretical firing rate.
- d. To ensure that nitrogen dioxide emissions are less than the above-specified limits, the annual emissions usage shall not exceed 1,771 tons per year, the Permittee shall calculate the total nitrogen oxides emissions for each month using the continuous monitor results as described above. The total amount of nitrogen oxides emissions shall be recorded monthly in written or electronic format maintained on-site and made available to an authorized representative upon request. The Permittee shall be deemed in noncompliance with 15A NCAC 2D .0530 if emissions exceeds this limit or records are not maintained.
- e. To ensure compliance, the Permittee shall maintain records of the amount of coal fired in Hog Fuel boiler No. 1 during each day; and,
 - ii. the record of the amounts of coal fired each day shall be made available to an authorized representative of DAQ upon request. The Permittee shall be deemed in noncompliance with 15A NCAC 2D .0530 if the amounts of fuel burned during each day are not recorded.

Why just coal not other fuels?

Reporting [15A NCAC 2Q .0508(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, due and postmarked on or before January 30 of each calendar year for the preceding three-month period between October and December, April 30 of each calendar year for the preceding three-month period between January and March, July 30 of each calendar year for the preceding three-month period between April and June, and October 30 for the calendar year for the preceding three-month period between July and September.. The report shall contain the following:

- i. the monthly quantities of coal fired in the Hog Fuel Fired Boiler No. 2 for the previous 14 months. The total quantities burned must be calculated for each of the 12-month periods over the previous 14 months;
- ii. the monthly emissions of nitrogen dioxide for each of the 12-month periods over the previous 14 months

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

g. **State-Enforceable Only**

What is the purpose/ authority?

The Washington Regional Supervisor, 252-946-6481, of the Division of Air Quality, shall be contacted prior to placing the No. 1 Hog Fuel Boiler (ID No. ES-64-25-0290) on oil fire under malfunction conditions. Lack of sufficient quantities of wood waste, low sulfur coal (1.20 pounds of sulfur dioxide per million Btu input) or oil (0.80 pounds of sulfur dioxide per million Btu input) does not constitute a malfunction. Startup and shutdown periods shall be defined as cold startup or complete shutdown to cold conditions and are further limited to periods of time no greater than 12 hours in duration.

M. Riley Boiler:

Riley Boiler (ID No. ES-59-25-0190) firing coal, residual oil, LVHC gases, and stripper off gases at 624 million Btu per hour maximum heat input with associated North ESP (ID No. CD-59-45-0100) and South ESP (ID No. CD-59-45-0150) operating in parallel followed by the Wet Spray Tower Scrubber (ID No. CD-59-67-1000)

1. Regulatory Analysis

The following provides a summary of limits and/or standards for the emission source(s) described above. A review of the information in the application was performed to ensure the appropriate limits and associated calculations used to show compliance were correct.

Regulated Pollutant	Limits/Standards	Applicable Regulation
Particulate Matter	0.205 pounds per million Btu heat input	15A NCAC 2D .0503
Sulfur Dioxide	2.3 pounds per million Btu heat input	15A NCAC 2D .0516
Nitrogen Oxides	(varies)	15A NCAC 2D .0519
Visible emissions	<p>Until the EPA approves the revised 15A NCAC 2D .0521 opacity rule for sources required to install, operate, and maintain continuous opacity monitoring systems (COMs), the following limits apply:</p> <p>Federal-only requirement</p> <p>20 percent opacity (except during startups) when averaged over a six-minute period. However, six-minute averaging periods may exceed 20 percent opacity if (i) no six-minute period exceeds 87 percent opacity, (ii) no more than one six-minute period exceeds 20 percent opacity in any hour, and (iii) no more than four six-minute periods exceed 20 percent opacity in any 24-hour period.</p> <p>State-only requirement</p> <p>20 percent opacity (excluding startups, shutdowns, maintenance periods when fuel is not being combusted, and malfunctions approved as such according to procedures approved under 15A NCAC 2D .0535) when averaged over a six-minute period except that: (1) no more than 10 six-minute periods shall exceed the opacity standard in any one day; and (2) the percent of excess emissions (defined as percentage of monitored operating time in a calendar quarter above the opacity limit) shall not exceed 0.8 percent of the total operating hours.</p>	<p>40 CFR 52 Subpart II</p> <p>15A NCAC 2D .0521</p>

Regulated Pollutant	Limits/Standards	Applicable Regulation
Visible emissions	<p>When the EPA approves the revised 15A NCAC 2D .0521 opacity rule for sources required to install, operate, and maintain continuous opacity monitoring systems (COMs), the following limit applies beginning on the date the final rule is published in the Federal Register:</p> <p>20 percent opacity (excluding startups, shutdowns, maintenance periods when fuel is not being combusted, and malfunctions approved as such according to procedures approved under 15A NCAC 2D .0535) when averaged over a six-minute period except that: (1) no more than 10 six-minute periods shall exceed the opacity standard in any one day; and (2) the percent of excess emissions (defined as percentage of monitored operating time in a calendar quarter above the opacity limit) shall not exceed 0.8 percent of the total operating hours.</p>	15A NCAC 2D .0521
Total Reduced Sulfur	See Section 2.2 (F), AOS No. 1 – Control by Riley Boiler	15A NCAC 2D .0524 (40 CFR 60, Subpart BB)
good operations and maintenance practices	as defined in specific conditions	15A NCAC 2D .0606 and 40 CFR 52 Subpart II
Sulfur Dioxide	Emissions of sulfur dioxide shall not exceed 851 tons per consecutive 12-month period.	Avoidance of 15A NCAC 2D .0530
Toxic Air Pollutants	See Section 2.2 (A) – State-Enforceable Only	15A NCAC 2D .1100
Nitrogen Oxides	Ozone season emissions allocations See Permit Condition 2.2 C	15A NCAC 2D .1417

1. 15A NCAC 2D .0503: PARTICULATES FROM FUEL BURNING INDIRECT HEAT EXCHANGERS

- a. Emissions of particulate matter from the combustion of coal, residual oil, LVHC gases, and stripper off gases that are discharged from this source into the atmosphere shall not exceed 0.205 pounds per million Btu heat input. [15A NCAC 2D .0503(a)]

Testing [15A NCAC 2D .0501(c)(3)]

- b. If emissions testing is required, the testing shall be performed in accordance General Condition JJ. If the results of this test are above the limit given in Section 2.1 M. 1. a. above, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0503.
- c. Under the provisions of NCGS 143-215.108, the Permittee shall demonstrate compliance with the emission limit(s) above by testing the Riley Boiler (ID No. ES-59-25-0190) 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 Section 3 - 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 reduced to every two years.** If the results of this or any test is above the limit given in Section 2.1 M.1.a. above, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0503.

Monitoring/Recordkeeping [15A NCAC 2Q .0508(f)]

- d. Particulate matter emissions from the Riley Boiler (ID No. ES-59-25-0190) shall be controlled by the Wet Spray Tower Scrubber (ID No. CD-59-67-1000). To ensure compliance and the effective operation of the scrubbers, the Permittee shall monitor and record, once per day, field pressure gauge readings of scrubber water pressure and 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. 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 pressure gauges or devices shall be calibrated, operated, and maintained using procedures that take into account manufacturer's specifications. In addition, an annual internal inspection of the scrubber system that entails inspection of spray nozzles, packing material, chemical feed system (if so equipped), and the cleaning/calibration of all associated instrumentation. The Permittee shall be deemed in noncompliance with 15A NCAC 2D .0503 if these records are not maintained.
- e. The Permittee shall establish a "normal range" for field pressure gauge readings for the scrubber water pressure and flow rate in the first 30 days following the effective date of the permit. If the pressure gauge readings or flow rates recorded as required in Section 2.1. M.1.d., above, are observed to be outside the normal range, the Permittee shall inspect the scrubber(s) for malfunctions and clean or repair, as necessary, in accordance to manufacturer's inspection and maintenance recommendations. The Permittee shall be deemed in noncompliance with 15A NCAC 2D .0503 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 normal operating range for the scrubber; and
 - iii. corrective actions taken.The Permittee shall be deemed in noncompliance with 15A NCAC 2D .0503 if these records are not maintained.
- g. Particulate matter emissions from the Riley Boiler (ID No. ES-59-25-0190) shall be controlled by the North ESP (ID No. CD-59-45-0100) and South ESP (ID No. CD-59-45-0150) operating in parallel. To ensure that optimum control efficiency is maintained, the Permittee shall monitor the following parameters daily for values outside the normal operating range in each field or section:
 - i. primary voltage,
 - ii. secondary voltage,
 - iii. primary current,
 - iv. secondary current, and
 - v. spark 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. The Permittee shall establish "normal" for these parameters in the first 30 days following the effective date of the permit.

- h. The results of the electrostatic precipitator monitoring shall be maintained in a logbook (written or electronic form) 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 normal range of values for each parameter, and
 - iii. the values of each parameter.The Permittee shall be deemed in noncompliance with 15A NCAC 2D .0503 if these parameters are not monitored or these records are not maintained.

Reporting [15A NCAC 2Q .0508(f)]

- i. The Permittee shall submit a summary report of the monitoring and recordkeeping postmarked on or before January 30 of each calendar year for the preceding six-month period between July and December and July 30 of each calendar year for the preceding six-month period between January and June. All instances of deviations from the requirements of this permit must be clearly identified.

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

- a. Emissions of sulfur dioxide from these sources shall not exceed 2.3 pounds per million Btu heat input. Sulfur dioxide formed by the combustion of sulfur in fuels, wastes, ores, and other substances shall be included when determining compliance with this standard. [15A NCAC 2D .0516 and 2D .0608]

Testing [15A NCAC 2D .0501(c)(4)]

- b. If emissions testing is required, the testing shall be performed in accordance with 15A NCAC 2D .0501(c)(4) and General Condition JJ. If the results of this test are above the limit given in Section 2.1 M. 2.a. above, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0516.

Monitoring/Recordkeeping [15A NCAC 2Q .0508(f) and 2D .0606]

- c. The Permittee shall assure compliance with 15A NCAC 2D .0516 by determining sulfur dioxide emissions in pounds per million Btu using a continuous emissions monitoring (CEM) system meeting the requirements of 40 CFR Part 75 except that unbiased values may be used (missing data shall be filled in accordance with 40 CFR Part 75). Compliance with sulfur dioxide emission standards shall be determined by averaging hourly continuous emission monitoring system values over a 24-hour block period beginning at midnight. To compute the 24-hour block average, the average hourly values (missing data shall be filled in accordance with 40 CFR Part 75) shall be summed, and the sum shall be divided by 24. The minimum number of data points, equally spaced, required to determine a valid hour value shall be determined by 40 CFR Part 75. If any 24-hour block average exceeds 2.3 pounds per million Btu heat input or records are not maintained, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0516.

Reporting [15A NCAC 2Q .0508(f)]

- d. The Permittee shall submit the continuous emissions monitoring data showing the 24-hour daily block values in pounds per million Btu for each 24-hour daily block averaging period during the reporting period 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. All instances of deviations from the requirements of this permit must be clearly identified.
- e. **CEMs Monitor Availability** - The Permittee shall submit sulfur dioxide CEM systems monitor downtime reports, including monitor availability values (as calculated for 40 CFR Part 75) for the last hour of the reporting period, 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.

3. 15A NCAC 2D .0519: CONTROL OF NITROGEN OXIDES EMISSIONS

- a. Emissions of nitrogen oxides from these sources when burning coal and oil shall be calculated by the following equation [15A NCAC 2D .0519]:

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

where: E = emission limit for combined burning of coal and oil in **pounds per million Btu**
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
Qt = Qc + Qo

Testing [15A NCAC 2D .0501(c)(7)]

- b. If emissions testing is required, the testing shall be performed in accordance with 15A NCAC 2D .0501(c)(7) and General Condition JJ. If the results of this test are above the limit given in Section 2.1 M.3.a. above, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0519.

On or Before May 1, 2004

Monitoring/Recordkeeping/Reporting [15A NCAC 2Q .0508(f)]

- c. No monitoring/recordkeeping/reporting is required from the firing of coal and residual oil in this source for this regulation.

After May 1, 2004

- d. **Monitoring/Recordkeeping** [15A NCAC 2Q .0508(f)]

The Permittee shall assure compliance with 15A NCAC 2D .0519 by determining nitrogen oxide emissions in pounds per million Btu using a continuous emissions monitoring (CEM) system meeting the requirements of 40 CFR Part 75 except that unbiased values may be used (missing data shall be filled in accordance with 40 CFR Part 75). Compliance with this emission standard shall be determined by averaging hourly continuous emission monitoring system values over a 24-hour block period beginning at midnight. To compute the 24-hour block average, the average hourly values (missing data shall be filled in accordance with 40 CFR Part 75) shall be summed, and the sum shall be divided by 24. The minimum number of data points, equally spaced, required to determine a valid hour value shall be determined by 40 CFR Part 75.

For monitoring purposes, the following emission limits will apply:

- i. When only coal is burned, the emission limit shall be **1.8 pounds per million Btu heat input**.
- ii. When only oil is burned, the emission limit shall be **0.8 pounds per million Btu heat input**.
- iii. When oil is burned other than for startup and for periods greater than 24 hours, the emission limit shall be calculated in accordance with the equation in Section 2.1 M.3.a. above.

If any 24-hour block average exceeds the emission limit or records are not maintained, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0519.

- e. The Permittee shall maintain records of monthly coal and oil consumption (written or electronic form) and shall submit such records within 30 days of a request by DAQ. The Permittee shall be deemed in noncompliance with 15A NCAC 2D .0519 if these records are not maintained.

After May 1, 2004

Reporting [15A NCAC 2Q .0508(f)]

- f. The Permittee shall submit the continuous emissions monitoring system data showing the 24-hour daily block values for periods of **excess nitrogen oxide emissions** no later than 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.
- g. **CEMs Monitor Availability** - The Permittee shall submit the nitrogen oxide CEM systems monitor downtime reports, including monitor availability values (as calculated for 40 CFR Part 75) for the last hour of the reporting period, no later than 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.

FEDERAL-ONLY REQUIREMENTS:

4. 40 CFR 52 SUBPART II: NORTH CAROLINA STATE IMPLEMENTATION PLAN

Until the EPA approves the revised 15A NCAC 2D .0521 opacity rule for sources required to install, operate, and maintain continuous opacity monitoring systems (COMs), the following limit applies:

- a. Visible emissions from these sources shall not be more than **20 percent opacity** (except during startups) when averaged over a six-minute period except that six-minute periods averaging not more than 87 percent opacity may occur not more than once in any hour nor more than four times in any 24-hour period. [40 CFR 52 Subpart II]

Testing [15A NCAC 2D .0501(c)(8)]

- b. If emissions testing is required, the testing shall be performed in accordance with 15A NCAC 2D .0501(c)(8) and General Condition JJ. If the results of this test are above the limit given in Section 2.1 A.3.a. above, the Permittee shall be deemed in noncompliance with 40 CFR 52 Subpart II.

Monitoring/Recordkeeping [15A NCAC 2Q .0508(f)]

- c. To assure compliance the Permittee shall determine the opacity using a continuous opacity monitor system (COMS) meeting the requirements of 15A NCAC 2D .0536(g). If any six-minute average of opacity measured by the COMS is above the limit given in Section 2.1 M.4.a. above, the Permittee shall be deemed in noncompliance with 40 CFR 52 Subpart II.

Reporting [15A NCAC 2Q .0508(f)]

- d. The Permittee shall submit the COMS data in accordance with the reporting requirements given in Section 2.1 M.7.c. All instances of excess emissions must be clearly identified.

STATE-ONLY REQUIREMENTS:

5. 15A NCAC 2D .0521: CONTROL OF VISIBLE EMISSIONS

Until the EPA approves the revised 15A NCAC 2D .0521 opacity rule for sources required to install, operate, and maintain continuous opacity monitoring systems (COMs), the following limit applies:

- a. For sources required to install, operate, and maintain continuous opacity monitoring systems (COMs), compliance with the **20 percent opacity** limit shall be determined as follows excluding startups, shutdowns, maintenance periods when fuel is not being combusted, and malfunctions approved as such according to procedures approved under 15A NCAC 2D .0535: (1) no more than 10 six-minute periods shall exceed the opacity standard in any one day; and (2) the percent of excess emissions (defined as 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 source 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. [15A NCAC 2D .0521(g)]

Testing [15A NCAC 2D .0501(c)(8)]

- b. If emissions testing is required, the testing shall be performed in accordance with 15A NCAC 2D .0501(c)(8) and General Condition JJ.

Monitoring/Recordkeeping [15A NCAC 2Q .0508(f)]

- c. To assure compliance the Permittee shall determine the opacity using a continuous opacity monitor system (COMS) meeting the requirements of 15A NCAC 2D .0536(g). Compliance with 15A NCAC 2D .0521 shall be determined using six-minute averages of the COMS values as described in Section 2.1 M.5.a. above.

Reporting [15A NCAC 2Q .0508(f)]

- d. The Permittee shall submit the COMS data in accordance with the reporting requirements given in Section 2.1 M.7.c. All instances of excess emissions must be clearly identified.

6. 15A NCAC 2D .0521: CONTROL OF VISIBLE EMISSIONS

When the EPA approves the revised 15A NCAC 2D .0521 opacity rule for sources required to install, operate, and maintain continuous opacity monitoring systems (COMs), the following limit applies beginning on the date the final rule is published in the Federal Register:

- a. For sources required to install, operate, and maintain continuous opacity monitoring systems (COMs), compliance with the **20 percent opacity** limit shall be determined as follows excluding startups, shutdowns, maintenance periods when fuel is not being combusted, and malfunctions approved as such according to procedures approved under 15A NCAC 2D .0535: (1) no more than 10 six-minute periods shall exceed the opacity standard in any one day; and (2) the percent of excess emissions (defined as 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 source 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. [15A NCAC 2D .0521(g)]

Testing [15A NCAC 2D .0501(c)(8)]

- b. If emissions testing is required, the testing shall be performed in accordance with 15A NCAC 2D .0501(c)(8) and General Condition JJ. If the results of this test are above the limit given in Section 2.1 M.6.a. above, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0521.

Monitoring/Recordkeeping [15A NCAC 2Q .0508(f)]

- c. To assure compliance the Permittee shall determine the opacity using a continuous opacity monitor system (COMS) meeting the requirements of 15A NCAC 2D .0536(g). If any six-minute average of opacity measured by the COMS is above the limit given in Section 2.1 A.5.a above, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0521.

Reporting [15A NCAC 2Q .0508(f)]

- d. The Permittee shall submit the COMS data in accordance with the reporting requirements given in Section 2.1 M.7.c. All instances of excess emissions must be clearly identified.

STATE-ONLY REQUIREMENTS:

7. 15A NCAC 2D .0606: SOURCES COVERED BY APPENDIX P OF 40 CFR PART 51 (CONTINUOUS OPACITY MONITORING AND EXCESS EMISSIONS)

Monitoring/Recordkeeping [15A NCAC 2Q .0508(f)]

- a. 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.
- 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 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 **20 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 %MD does not exceed 2.0 percent.

Calculations for %EE and %MD

Percent Excess Opacity Emission (%EE) Calculation:

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

Percent Monitor Downtime (%MD) Calculation for COMS:

$$\%MD = \frac{\text{Total Monitor Downtime}^{**}}{(\text{Total Source Operating Time}^{***})} \times 100$$

- * Total Excess Emission Time contains any 6-minute period greater than 20% 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 2Q .0508(f)]

- 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 each six-minute period average greater than **20 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 instances of deviations from the requirements of this permit must be clearly identified.

FEDERAL-ONLY REQUIREMENTS:

8. 40 CFR 52 Subpart II: SOURCES COVERED BY APPENDIX P OF 40 CFR PART 51 (CONTINUOUS OPACITY MONITORING AND EXCESS EMISSIONS)

Monitoring/Recordkeeping [15A NCAC 2Q .0508(f)]

- a. 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.

**9. 15A NCAC 2Q. 0317: AVOIDANCE CONDITIONS for
15A NCAC 2D. 0530: PREVENTION OF SIGNIFICANT DETERIORATION**

- a. In order to avoid applicability of 15A NCAC 2D .0530 (g) for major sources and major modifications, sulfur dioxide emissions from the Riley Boiler shall not exceed 851 tons per year. [15A NCAC 2Q .0508(f)]

Testing [15A NCAC 2D .0501(c)(8)]

- b. If emissions testing is required, the testing shall be performed in accordance with 15A General Condition JJ. If the results of this test are above the limits given in Section 2.1 M.9.a. above, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0530.

Monitoring/ Recordkeeping [15A NCAC 2Q .0508(f)]

- c. To assure precise and accurate monitoring of sulfur dioxide emissions, the Permittee shall install and operate continuous monitoring systems in accordance with the following requirements:
 - i. the CEM systems shall be installed, tested, and certified in accordance with 40 CFR Part 60, Appendix B, Performance Specifications 2 and 6 – Specification and Test Procedures for SO₂ CEMS and Continuous Emission Rate Monitoring Systems (CERMS) in Stationary Sources. Relative Accuracy Test Audit (RATA) for the SO₂ and the flow monitors shall be conducted for individual components, with results expressed in parts per million (ppm) and standard cubic feet per minute (SCFM), respectively and for the system with results expressed in units of the standard (lbs/hr).
 - ii. the CEM systems shall also be calibrated, audited, and maintained in accordance with 40 CFR Part 60, Appendix F, Quality Assurance Procedures.
 - iii. the CEM shall be maintained to ensure data availability in accordance with the EPA Region IV CEM Enforcement Plan (CEP) or any guidelines succeeding the Region IV CEP.

The Permittee shall calculate the total sulfur dioxide emissions for each month using the continuous monitor results. During periods when the certified monitor is down or "out-of-control", as defined in 40 CFR Part 60, Appendix F, the owner or operator shall substitute emission data. During periods when monitor downtime coincides with scrubber downtime the maximum potential emissions shall be substituted. Calculations and the total amount of sulfur dioxide emissions shall be recorded monthly in written or electronic format maintained on-site and made available to an authorized representative upon request.

Reporting [15A NCAC 2Q .0508(f)]

- f. The Permittee shall submit a summary report within 30 days after each calendar quarter, due by 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. The report shall contain the monthly tons of sulfur dioxide emissions for the previous 14 months. The emissions shall be calculated for each of the 12-month periods over the previous 14 months. All instances of deviations from the requirements of this permit must be clearly identified.

N. No. 1 Package Boiler:

No. 1 Package Boiler firing distillate oil (ID No. ES-66-25-2050)

- 1. Regulatory Analysis

The following provides a summary of limits and/or standards for the emission source(s) described above. A review of the information in the application was performed to ensure the appropriate limits and associated calculations used to show compliance were correct.

Regulated Pollutant	Limits/Standards	Applicable Regulation
Particulate Matter	0.20 pounds per million Btu based on the following equation:	15A NCAC 2D .0503
Nitrogen Oxides	0.20 pounds per million Btu heat input	15A NCAC 2D .0524 (40 CFR 60, Subpart Db)
Sulfur Dioxide	0.5 weight percent sulfur fuel oil	15A NCAC 2D .0524 (40 CFR 60, Subpart Db)

Visible Emissions	20 percent opacity	15A NCAC 2D .0524 (40 CFR 60, Subpart Db)
Nitrogen Oxides	Emissions of nitrogen oxides from the No. 1 Package Boiler shall be less than 40 tons per consecutive 12-month period.	Avoidance of 15A NCAC 2D .0530
	Ozone season emissions allocations. See Permit Condition 2.2 C	15A NCAC 2D .1417(b)(1) and .1417(b)(2)
Sulfur Dioxide	0.05 weight percent sulfur fuel oil	Avoidance of 15A NCAC 2D .0530
Toxic Air Pollutants	See Section 2.2 (A) – State-Enforceable Only	15A NCAC 2D .1100

1. 15A NCAC 2D .0503: PARTICULATES FROM FUEL BURNING INDIRECT HEAT EXCHANGERS

- a. Emissions of particulate matter from the combustion of fuel oil that are discharged from this source into the atmosphere shall not exceed 0.159 pounds per million Btu heat input. [15A NCAC 2D .0503(a)]

Testing [15A NCAC 2D .0501(c)(3)]

- b. If emissions testing is required, the testing shall be performed in accordance General Condition JJ. If the results of this test are above the limit given in Section 2.1 B 1. a. above, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0503.

Monitoring/Recordkeeping [15A NCAC 2D .0508(f)]

- c. Under the provisions of NCGS 143-215.108, the Permittee shall demonstrate compliance with the emission limit(s) above by testing the Package Boiler (**ID No(s). ES-160-000**) 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 Section 3 - General Condition JJ. Testing shall be completed and the results submitted by XXXX XX, 2004 (**one year from issuance**) unless an alternate date is approved by the DAQ. **The testing shall be performed annually thereafter. If the results of the testing demonstrate results at less than 80 percent of the limit above, the testing frequency may be reduced to once per five years. If the results of this or any test is above the limit given in Section 2.1 A. 1. a. above, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0503.**

Recordkeeping/Reporting [15A NCAC 2Q .0508(f)]

No Recordkeeping/reporting is required from the firing of No. 2 fuel oil in this source for this regulation.

2. 15A NCAC 2D .0524: NSPS 40 CFR 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 2D .0524 "New Source Performance Standards (NSPS) as promulgated in 40 CFR Part 60 Subpart Db, including Subpart A "General Provisions." [15A NCAC 2D .0524]

Emission Limitations [15A NCAC 2D .0524]

- b. **Particulate matter** - Particulate emissions from these boilers shall not exceed 0.10 pounds per million Btu heat input. [40 CFR Part 60, Subpart 60.44b]

- c. **Sulfur dioxide** – Sulfur dioxide emissions from these boilers shall not exceed 0.8 pounds per million Btu heat input and the potential SO₂ emissions shall be reduced by minimum of 90 percent by the scrubber. [40 CFR Part 60, Subpart 60.44b]
- d. **Nitrogen oxides** -
 - i. Nitrogen oxide emissions when solely firing distillate oil shall not exceed 0.10 pounds per million Btu heat input. [40 CFR Part 60, Subpart 60.44b]
 - ii. Nitrogen oxide emissions when solely firing residual oil shall not exceed 0.30 pounds per million Btu heat input. [40 CFR Part 60, Subpart 60.44b]
- iv. Nitrogen oxide emissions from the **simultaneous combustion of a mixture of distillate fuel oil, residual fuel oil, and/or byproduct gas** shall not be in excess of the rate calculated by the following formula [40 CFR Part 60, Subpart 60.44b]:

$$E_n = (0.1H_{go} + 0.3H_{ro} + 0.3H_{pg}) / (H_{go} + H_{ro} + H_{pg})$$

Where: E_n = nitrogen oxide emission limit (lb/million Btu)
 H_{fo} = heat input from the combustion of distillate oil (million Btu)
 H_{ro} = heat input from the combustion of residual oil (million Btu)
 H_{pg} = heat input from the combustion of **byproduct gas** (million Btu)

- v. Compliance with the nitrogen oxide emission limits are determined on a 30-day rolling average basis [40 CFR Part 60, Subpart 60.44b(i)].
- e. **Opacity** - Each boiler shall not cause to be discharged into the atmosphere any gases that exhibit greater than 20 percent opacity (six-minute average), except for one six-minute period per hour of not more than 27 percent opacity.

Monitoring [15A NCAC 2Q .0508(f)]

- f. 40 CFR § 60.47b(a) - The Permittee shall calibrate, maintain, and operate a continuous monitoring system for measuring sulfur dioxide concentrations and either oxygen or carbon dioxide concentrations at the inlet and outlet of the scrubber.
- g. 40 CFR § 60.47b(b) – CEMS alternative
- h. 40 CFR § 60.47b(c) – sulfur dioxide minimum emission data requirements
- i. 40 CFR § 60.47b(d) – measurement of sulfur dioxide 1-hour averages
- j. 40 CFR § 60.47b(e) – installation, evaluation, and operation of continuous monitoring systems
- j. 40 CFR § 60.48b(a) - The Permittee shall calibrate, maintain, and operate a continuous monitoring system for measuring the opacity of emissions discharged to the atmosphere and record the output of the system. Due to the presence of uncombined water vapor, the opacity shall be monitored using the following surrogate parameters:
 - i. stack gas temperature after the scrubber (degrees F); and
 - ii flowrate of recirculating scrubber reagent (gallons per minute).The stack gas temperature shall be maintained below _____. The recirculating scrubber reagent flowrate shall be maintained above _____. If the Permittee fails to maintain the parameters as specified above, the Permittee shall be deemed in noncompliance with 2D .0524.
- k. 40 CFR § 60.48b(b) - The Permittee shall calibrate, maintain, and operate a continuous monitoring system for measuring nitrogen oxide emissions discharged to the atmosphere and record the output of the system.
- l. 40 CFR § 60.48b(c) - operation of nitrogen oxide continuous monitoring systems and data recording.
- m. 40 CFR § 60.48b(d) - measurement of nitrogen oxide 1-hour averages.
- n. 40 CFR § 60.48b(e) - installation, evaluation, and operation of continuous monitoring systems.
- o. 40 CFR § 60.48b(f) - continuous monitoring systems breakdowns, repairs, calibration checks and zero and span adjustments.

Recordkeeping and Reporting [15A NCAC 2Q .0508(f)]

- p. 40 CFR § 60.49b(d) - recordkeeping of the amounts of each fuel fired each day.
- q. 40 CFR § 60.49b(e) - quarterly recordkeeping of the nitrogen content of the residual oil.

- s. 40 CFR § 60.49b(f) - recordkeeping of the opacity
- t. 40 CFR § 60.49b(g) and (i) - daily recordkeeping and quarterly reporting of the nitrogen oxide emission rates and supporting data.
- u. 40 CFR § 60.49b(h) - reporting of excess emissions.
- v. 40 CFR § 60.49b(j), (k), and (m) - daily recordkeeping and quarterly reporting of the sulfur dioxide emission rates and supporting data.
- w. 40 CFR § 60.49b(o) – records retention.
- x. The Permittee shall submit a summary report of the monitoring and recordkeeping activities postmarked on or before January 30 of each calendar year for the preceding six-month period between July and December and July 30 of each calendar year for the preceding six-month period between January and June. All instances of deviations from the requirements of this permit must be clearly identified.

**3. 115A NCAC 2Q. 0317: AVOIDANCE CONDITIONS for
15A NCAC 2D. 0530: PREVENTION OF SIGNIFICANT DETERIORATION**

- a. In order to avoid applicability of 15A NCAC 2D .0530 (g) for major sources and major modifications, the No. 1 Package Boiler (**ID No. ES-66-25-2050**) shall discharge into the atmosphere less than 40 tons per year of nitrogen oxides per consecutive twelve month period:

Testing [15A NCAC 2D .0501(c)(8)]

- b. If emissions testing is required, the testing shall be performed in accordance with 15A General Condition JJ. If the results of this test are above the limits given in Section 2.1 N.3.a. (**ID No. ES-66-25-2050**) above, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0530.

Monitoring/ Recordkeeping [15A NCAC 2Q .0508(f)]

- i. To ensure emissions do not exceed the annual nitrogen oxide emission limitation, the Permittee shall not combust more than oil. This limit assumes that the average nitrogen oxide emission is 0.1 lb/million Btu (based on monitor data from 9/1/97 through 12/18/98). The Permittee shall record in written or electronic format the following information:

- (A) Monthly distillate fuel oil usage.
- (B) Monthly nitrogen oxide emissions as determined from the nitrogen oxides continuous emission monitor required by 40 CFR 60 subpart Db.

- c. To ensure that emissions are less than the above-specified limits, the Permittee shall not burn more than 5,700,000 gallons per year of distillate No. 1 Package Boiler (**ID No. ES-66-25-2050**) per consecutive twelve (12) month period.). The Permittee shall be deemed in noncompliance with 15A NCAC 2D .0530 if the amount of fuel burned exceeds this limit.

- d. To ensure compliance, the Permittee shall maintain records as follows
 - i. the Permittee shall record and maintain records of the amounts (in gallons) of distillate oil burned in the No. 1 Package Boiler (**ID No. ES-66-25-2050**) during each month and;
 - ii. Monthly nitrogen oxide emissions as determined from the nitrogen oxides continuous emission monitor required by 40 CFR 60 Subpart Db.

The record of the amounts of fuel (in gallons) burned during each month shall be made available to an authorized representative of DAQ upon request. The Permittee shall be deemed in noncompliance with 15A NCAC 2D .0530 if the amounts of fuel burned during each year are exceeded or the for each month are not recorded.

Reporting [15A NCAC 2Q .0508(f)]

- e. 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, due and postmarked on or before January 30 of each calendar year for the preceding three-month period between October and December, April 30 of each calendar year for the preceding three-month period between January and March, July 30 of each calendar year for the preceding three-month period between April and June, and October 30 for the calendar year for the preceding three-month period between July and September.. The report shall contain the following:

- i. the monthly quantities of distillate oil burned and the monthly nitrogen oxide emissions as determined from the nitrogen oxides continuous emission monitor required by 40 CFR 60 Subpart Db) for the previous 14 months. The total quantities burned and the nitrogen oxide emissions must be calculated for each of the 12-month periods over the previous 14 months; and
- ii. All instances of deviations from the requirements of this permit must be clearly identified.

O. Maintenance and Utility Operations:

Carpenter Shop Painting with associated Paint Spray Booth (ID No. ES-94-55-0105) and Woodworking Operations (ID Nos. ES-94-15-0451, ES-94-15-0452, ES-94-15-0453, and ES-94-15-0454) with associated Cyclone (ID No. CD-94-15-0450)

1. Regulatory Analysis

The following provides a summary of limits and/or standards for the emission source(s) described above. A review of the information in the application was performed to ensure the appropriate limits and associated calculations used to show compliance were correct.

Regulated Pollutant	Limits/Standards	Applicable Regulation
Particulate Matter	The Permittee shall not cause, allow, or permit particulate matter caused by the working, sanding, or finishing of wood to be discharged from any stack, vent, or building into the atmosphere without providing, as a minimum for its collection, adequate duct work and properly designed collectors. In no case shall the ambient air quality standards be exceeded beyond the property line.	15A NCAC 2D .0512
Visible Emissions	40 percent opacity	15A NCAC 2D .0521

1. 15A NCAC 2D .0512: PARTICULATES FROM MISCELLANEOUS WOOD PRODUCTS FINISHING PLANTS

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

Monitoring [15A NCAC 2Q .0508(f)]

- b. Particulate matter emissions from the spray booths (ID No. ID No. ES 94-55-0105) shall be controlled by adequate ductwork and properly designed collectors. To assure compliance, the Permittee shall perform inspections and maintenance. As a minimum, the inspection and maintenance program shall include:
 - i. weekly inspection of the spray booths' filters noting the condition; and
 - ii. annual (for each 12 month period following the initial inspection) inspection of the associated ductwork noting structural integrity.

The Permittee shall be deemed in noncompliance with 15A NCAC 2D .0512 if the filters are not inspected and maintained.

- c. Particulate matter emissions from the wood material collection operations (ID Nos. ES 94-15-0451, ES 94-15-0452, ES-94-15-0453, and ES-94-15-0454) are controlled by a cyclone (ID No. CD-94-15-0450) . To assure compliance, the Permittee shall perform inspections and maintenance as recommended by the manufacturer, if any. As a minimum, the inspection and maintenance program shall include:
 - i. monthly external inspection of the ductwork, cyclones, and/or bagfilters noting the structural integrity; and

The Permittee shall be deemed in noncompliance with 15A NCAC 2D .0512 if the ductwork and cyclone is not inspected and maintained.

Recordkeeping [15A NCAC 2Q .0508(f)]

- d. The results of inspection and maintenance for the spray booths shall be maintained in a logbook (written or electronic format) on-site and made available to an authorized representative upon request. The logbook shall record the following:
 - i. the date and time of each recorded action;
 - ii. the results of each inspection; and
 - iii. the results of maintenance performed on any filters or control device (cyclone).
The Permittee shall be deemed in noncompliance with 15A NCAC 2D .0512 if these records are not maintained.

Reporting [15A NCAC 2Q .0508 (f)]

- e. The Permittee shall submit the results of any maintenance performed on the filters, ductwork or control device (cyclone) 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.

VII. Multiple Emission Source(s) Specific Limitations and Conditions

A. 40 CFR 63, Subpart S Affected Sources

Emission Source ID No.	Emission Source Description	Control Device ID No.	Control Device Description		
HVLC System Sources					
No. 6 Fiberline Operations					
ES-06-10-2380	No. 6 Fiberline Chip Bin Relief Condenser	NA	MACT Required by April 17, 2006		
ES-06-21-1200	No. 6 Fiberline Digester Blow Tanks				
ES-06-21-1100	No. 6 Fiberline Pressure Diffuser Filtrate Tank				
ES-06-22-1080	No. 6 Fiberline Secondary Knotters				
ES-06-22-1280	No. 6 Fiberline Quaternary Screen				
ES-06-22-1100	No. 6 Fiberline Screen Dilution Tanks				
ES-06-23-1200	No. 6 Fiberline Decker Hoods				
ES-06-23-1220	No. 6 Fiberline Decker Filtrate Tank				
No. 6 Bleach Plant					
ES-06-32-2060	No. 6 Oxygen Delignification 2nd Stage O2 Reactor Blow Tube				
ES-06-32-2100	No. 6 Oxygen Delignification 2nd Stage Wash Tower				
ES-06-32-2120	No. 6 Oxygen Delignification 2A/2B Filtrate Tanks				
No. 7 Fiberline					
ES-07-10-2380	No. 7 Fiberline Chip Bin Relief Condenser				
ES-07-21-1200	No. 7 Fiberline Digester Blow Tank				
ES-07-21-1100	No. 7 Fiberline Digester Pressure Diffuser Filtrate Tank				

Emission Source ID No.	Emission Source Description	Control Device ID No.	Control Device Description
ES-07-22-1080	No. 7 Fiberline Secondary Knotters		
ES-07-22-1280	No. 7 Fiberline Quaternary Screens		
ES-07-22-1100	No. 7 Fiberline Screen Dilution Tanks		
ES-07-23-1200	No. 7 Fiberline Decker Hoods		
ES-07-23-1220	No. 7 Fiberline		
No. 7 Bleach Plant			
ES-07-31-1140	No. 7 Oxygen Delignification 1st Stage O2 Reactor Blow Tube		
ES-07-31-1180	No. 7 Oxygen Delignification 1st Stage Wash Tower		
ES-07-31-1200	No. 7 Oxygen Delignification 1A/1B Filtrate Tank		
ES-07-32-2120	No. 7 Oxygen Delignification 2nd Stage Surge Tank		
ES-07-32-2240	No. 7 Oxygen Delignification 2nd Stage Filtrate Tank		
LVHC System			
No. 7 Fiberline			
ES-07-10-2420	No. 7 Digester Flash Condenser	CD-14-55-2020 and ES-14-60-3000 or ES-59-25-0190	LVHC Collection System to Riley Boiler** or LVHC White Liquor Scrubber followed by the No. 5 Lime Kiln**
No. 6 & 7 Fiberline Common Facilities			
ES-08-61-1020	Turpentine Decanter Weir	CD-14-55-2020 and ES-14-60-3000 or ES-59-25-0190	LVHC Collection System to Riley Boiler** or LVHC White Liquor Scrubber followed by the No. 5 Lime Kiln**
ES-08-61-1080	Turpentine Tank		
ES-08-61-1000	Turpentine Decanter Tank		
ES-08-61-1040	Turpentine Underflow Tank		
Chemical Recovery: Evaporator Operations			
ES-09-20-0320	No. 6 Black Liquor Evaporator System	CD-14-55-2020 and ES-14-60-3000 or ES-59-25-0190	LVHC Collection System to Riley Boiler** or LVHC White Liquor Scrubber followed by the No. 5 Lime Kiln**
ES-09-35-0200	Concentrator Hotwell		
ES-09-25-0510	No. 7 Black Liquor Evaporator System		
Bleaching System Sources			

Emission Source ID No.	Emission Source Description	Control Device ID No.	Control Device Description
No. 6 Bleach Plant			
ES-06-33-3060	Bleaching Tower - Stage D (3rd)	CD-06-35-8100	No. 6 BP White Liquor Scrubber
ES-06-35-5060	Bleaching Tower - Stage Dp (5th)		
ES-06-35-5080	5th Stage Filtrate Tank		
No.7 Bleach Plant			
ES-07-33-3080	Bleaching Tower – Stage D (3rd)	CD-07-36-8000	No. 7 BP White Liquor Scrubber
ES-07-35-5060	Bleaching Tower – Stage D (5th)		
ES-07-35-5080	5th Stage Filtrate Tank		
Pulping Process Condensates			
Miscellany			
ES-09-25-1000	Condensate Stripper Feed Tank	CD-14-55-2020 and ES-14-60-3000 or ES-59-25-0190	LVHC Collection System to Riley Boiler** or LVHC White Liquor Scrubber followed by the No. 5 Lime Kiln**
ES-09-25-1050	Condensate Stripper Reflux Condenser	CD-14-60-3000 or CD-59-25-0190	SOG Collection System to the No. 5 Lime Kiln** or Riley Boiler**

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

Regulated Pollutant	Limits/Standards	Applicable Regulation
<div style="border: 1px solid black; padding: 5px; width: fit-content;"> Not in rule specifically; Is there an appropriate date for this action/routing </div>	<p><u>Bleaching System</u> 10 ppmv total chlorinated HAP</p> <p><u>LVHC System</u> Route system vents to Riley Boiler or LVHC White Liquor Scrubber followed by the No. 5 Lime Kiln</p> <p><u>HVLC System</u> Route system vents to No. 2 or No. 1 Hog Fuel Boiler (Compliance date, March 8, 2004)</p> <p><u>Pulping Condensate Collection</u> Collect a minimum 11.1 pounds per ton ODP followed by treatment in the Steam Stripper meeting: 92 percent HAP removal, or 10.2 pounds per ton ODP removal</p>	15 A NCAC 2D .1111 (40 CFR 63 Subpart S)

1. 15A NCAC 2D . 2D .1111: MACT 40 CFR 63 SUBPART S

- a. The Permittee shall comply with all applicable provisions, including the notification, testing, reporting, recordkeeping, and monitoring requirements contained in Environmental Management Commission Standard 15A NCAC 2D .1111 "Maximum Achievable Control Technology" (MACT) as promulgated in 40 CFR Part 63 Subpart S, including Subpart A "General Provisions." Terms used throughout this section are defined in the Clean Air Act as amended in 1990 and in 40 CFR 63.2 and 63.441. Units and abbreviations are defined in 40 CFR 63.3 [15A NCAC 2D .1111]

Emission Limitations [15A NCAC 2D .1111]

Standards for the Bleaching System (40 CFR 63.445)

- b. The Permittee shall meet the following control requirements for bleaching systems using chlorinated compounds [40 CFR 63, Subpart 63.445]:
- i. The equipment at each bleaching stage of the bleaching systems, where chlorinated compounds are introduced shall be enclosed and vented into a closed vent system meeting the requirements specified in 40 CFR 63.450 and introduced into the No. 6 BP White Liquor Scrubber and No. 7 BP White Liquor Scrubber (ID Nos. CD-07-36-8000 and CD-06-35-8100).
 - ii. The Scrubbers (**ID Nos. CD-07-36-8000 and CD-06-35-8100**) 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 listed above.

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

- c. The Permittee shall meet the following control requirements for the total HAP emissions from the LVHC system [40 CFR 63, Subpart 63.443]:
- a. Each LVHC system component shall be enclosed and vented into a closed vent system meeting the requirements of 40 CFR 63.450, and routed to:
 - i. The No. 5 Lime Kiln (**ID No. ES-14-60-3000**) by introducing the HAP emission stream with the primary fuel or into the flame zone: or
 - ii. The Riley Boiler (**ID No. ES-59-25-0190**) [heat input capacity greater than 150 mmBtu/hr] by introducing the HAP emission stream with the combustion air/primary fuel/into flame zone.
 - d. **No later than April 17, 2006**, the Permittee shall meet the following control requirements for the total HAP emissions from the HVLC system [40 CFR 63, Subpart 63.443]
 - a. Each HVLC system component shall be enclosed and vented into a closed vent system meeting the requirements of 40 CFR 63.450, and routed to:
 - i. The No. 5 Lime Kiln (**ID No. ES-14-60-3000**) by introducing the HAP emission stream with the primary fuel or into the flame zone: or
 - ii. The Riley Boiler (**ID No. ES-59-25-0190**) [heat input capacity greater than 150 mmBtu/hr] by introducing the HAP emission stream with the combustion air/primary fuel/into flame zone.
 - e. Periods of excess emissions reported under Sec. 63.455 shall not be a violation of Sec. 63.443 (c) and (d) provided that the time of excess emissions (excluding periods of startup, shutdown, or malfunction) divided by the total process operating time in a semi-annual reporting period does not exceed the following levels:
 - a. **One percent for the Lime Kiln; and**
 - b. **Four percent for the Riley Boiler**

Standards for kraft pulping process condensates (40 CFR 63.446).

- f. The pulping process condensates as identified per 40 CFR 63.446(b) shall be conveyed in a closed collection system that is designed and operated to meet the following requirements:

- a. 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;
- b. Closed vent systems shall be designed and operated in accordance with 40 CFR 63.450;
- c. The process condensate streams collected in total shall contain a minimum of 11.1 pounds per ton of oven dried pulp produced (based on a 30-day rolling average);
- d. The Condensate Stripper Feed Tank (**ID No. ES-09-25-1000**) shall meet the requirements per 40 CFR 63.446(d)(2); and
- e. The pulping process condensates collected shall be treated by the Condensate Stripper Relux Condenser (**ID No. ES-09-25-1050**) which shall:
 - i. Reduce or destroy the total HAPs by at least 92 percent or more by weight; or
 - ii. Remove a minimum of 10.2 pounds per ton of oven dried pulp (ODP);

g. **Testing** [15A NCAC 2D .0501(c)(3)]

If emissions testing is required, the testing shall be performed in accordance General Condition JJ. If the results of this test are above the limits given in Section 2.2 A.1 b. through e. above, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .1111.

Monitoring for the Bleaching System Scrubber [15A NCAC 2Q .0508(f)]

- h. The Permittee shall install, calibrate, certify, operate, and maintain according to the manufacturer's specifications, a continuous monitoring system (CMS), on the BP White Liquor Scrubbers Nos. 6 and 7 (**ID Nos. CD-06-35-8100 and CD-07-36-8000**). The CMS shall include a continuous recorder. The CMS shall be operated to ensure the following operational parameters are maintained [40 CFR 60, Subpart 63.453]:
 - a. The minimum pH of the scrubber effluent shall be 9.6;
 - b. The scrubber inlet vent gas fan operating status of "on" (on or off based on motor load) ; and
 - c. The minimum scrubber liquid recirculation rate shall be 770 gallons per minute.

If any monitoring parameter values are exceeded or if the monitoring procedures are not followed, the Permittee shall be deemed in noncompliance with 2D .1111.

Monitoring for the LVHC and HVLC pulping systems Control Devices [15A NCAC 2Q .0508(f)]

- i. No control device parameter monitoring is required for pulping vent systems routed to the Lime Kiln (**ID No. ES 455-061**) or the No. 2 Power Boiler (**ID No. ES 161 061**). [40 CFR 60, Subpart 63.453]

Monitoring for the pulping process condensates [15A NCAC 2Q .0508(f)]

Condensate Collection:

- j. The Permittee shall install, calibrate, certify, operate, and maintain according 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. [40 CFR 60, Subpart 63.453]:
 - a. [ID streams, monitored parameters, parameter values/limits, specify annual stream factor measurement/verification], etc. XXXXX;
 - b. XXXXX; and
 - c. XXXXX.

If any monitoring parameter values are exceeded or if the monitoring procedures are not followed, the Permittee shall be deemed in noncompliance with 2D .1111.

Monitoring for the pulping process condensates [15A NCAC 2Q .0508(f)]

Condensate Stripper Reflux Condenser (ID No ES-09-25-250):

- k. The Permittee shall install, calibrate, certify, operate, and maintain according to the manufacturer's specifications, a continuous monitoring system (CMS) on the Condensate Stripper Reflux Condenser (ID No ES 161-078). The CMS shall include a continuous recorder. The CMS shall be operated to ensure the following operational parameters are maintained. [40 CFR 60, Subpart 63.453]:
 - a. ***Process water values***;
 - b. ***Steam feed values***; and
 - c. ***column feed temperature values***.

If any monitoring parameter values are exceeded or if the monitoring procedures are not followed, the Permittee shall be deemed in noncompliance with 2D .1111.

Monitoring for Enclosures and Closed Vent Systems [15A NCAC 2Q .0508(f)]

1. Each enclosure and closed vent system shall meet the monitoring requirements of 40 CFR 63.453. The Permittee shall be deemed in noncompliance with 15A NCAC 2D .1111 if the monitoring is not performed.

Recordkeeping/Reporting [15A NCAC 2Q .0508(f)]

- m. 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. The Permittee shall be deemed in noncompliance with 15A NCAC 2D .1111 if these records are not maintained.
- n. When actions taken during a startup, shutdown, or malfunction (including an action taken to correct a malfunction) are not consistent with the procedures specified in the facility's Startup Shutdown Malfunction (SSM) Plan, the Permittee shall record the actions taken for that event for inclusion in the semiannual SSM report. The Permittee shall be deemed in noncompliance with 15A NCAC 2D .1111 if these records are not maintained.
- o. When actions taken by the Permittee during a startup, shutdown, or malfunction (including actions taken to correct a malfunction) are consistent with the procedures specified in the facility's SSM plan, the Permittee shall keep records for that event that demonstrate that the procedures specified in the SSM plan were followed. The Permittee shall be deemed in noncompliance with 15A NCAC 2D .1111 if these records are not maintained.

B. 40 CFR 63, Subpart MM Affected Sources:

Source ID No.	Source Description	Control ID No	Control Description
ES-10-25-0110	No. 5 Recovery Boiler firing black liquor solids and distillate oil (130 tons per hour of black liquor solids with low sulfur No. 2 fuel oil)	CD-10-45-0220 and CD-10-45-0010	North and South Electrostatic Precipitators (169,164 square feet of plate area minimum each) operating in parallel
ES-14-05-0050	North Smelt Tank	CD-14-05-0700	Ducon Alkaline Scrubber (North) (377 gallons per minute liquid injection rate minimum)
ES-14-05-0300	South Smelt Tank	CD-14-05-0750	Ducon Alkaline Scrubber (South) (377 gallons per minute liquid injection rate minimum)
ES-14-60-3000	No. 5 Lime Kiln firing residual oil, LVHC gases, and stripper off gases (500 tons per day of reburned lime nominal capacity and 185 million Btu per hour No. 6 oil burner nominal heat input)	CD-14-70-2012	Venturi Scrubber (800 gallons per minute minimum liquid injection rate)

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

Regulated Pollutant	Limits/Standards	Applicable Regulation
Hazardous Air Pollutants	Compliance with the requirements per 40 CFR 63, Subpart MM by January 12, 2004, meeting the emission standards per 40 CFR 63.862	15 A NCAC 2D .1111 (40 CFR 63 Subpart MM)

1. 15A NCAC 2D . 2D .1111: MACT 40 CFR 63 SUBPART S

- a. The Permittee shall comply with all applicable provisions, including the notification, testing, reporting, recordkeeping, and monitoring requirements contained in Environmental Management Commission Standard 15A NCAC 2D .1111 "Maximum Achievable Control Technology" (MACT) as promulgated in 40 CFR Part 63 Subpart MM, including Subpart A "General Provisions."
Per 40 CFR 63.863 The owner or operator of an existing affected source or process unit must comply with the requirements in this subpart no later than January 12, 2004.

C. No. 6 Bleach Plant:

- No. 6 1st Stage O2 Surge Tank (ID No. ES-06-31-1000),**
- No. 6 Bleach Plant Building Fugitives (ID No. FS-003),**
- No. 28 High Density Tank (ID No. ES-06-32-2300),**
- No. 29 High Density Tank (ID No. ES-06-32-2340),**
- No. 30 High Density Tank (ID No. ES-06-32-2380),**
- No. 6 2C Washer (ID No. ES-06-32-2460),**
- No. 6 Oxygen Delignification 2nd Stage O2 Reactor Blow Tube (ID No. ES-06-32-2060),**
- No. 6 Oxygen Delignification 2nd Stage Wash Tower (ID No. ES-06-32-2100),**
- No. 6 Oxygen Delignification 2A/2B Filtrate Tanks (ID No. ES-06-32-2120),**
- Bleaching Tower - Stage D (3rd) (ID No. ES-06-33-3060),**

**Bleaching Tower - Stage Dp (5th) (ID No. ES-06-35-5060),
5th Stage Filtrate Tank (ID No. ES-06-35-5080), and
No. 6 2C Washer Filtrate Tank (ID No. ES-06-32-2480),
Bleaching Tower - Stage Eo (4th) (ID No. ES-06-34-4080),
4th Stage Filtrate Tank (ID No. ES-06-34-4100),
Bleach Plant Acid Sewer (ID No. ES-08-67-1400)**

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

Regulated Pollutant	Limits/Standards	Applicable Regulation
Carbon Monoxide	<p>No. 6 Bleach Plant shall not operate at a throughput in excess of 800 bone dry tons of unbleached pulp per day.</p> <p>Total CO emissions from the No. 6 Bleach Plant shall not exceed 73.3 pounds per hour and 321.1 tons per consecutive 12-month period based on the BACT emission factor of 2.2 pounds CO per bone dry ton of unbleached pulp.</p>	15A NCAC 2D. 0530

**1. 15A NCAC 2Q. 0317: AVOIDANCE CONDITIONS for
15A NCAC 2D. 0530: PREVENTION OF SIGNIFICANT DETERIORATION**

- a. In order to avoid applicability of 15A NCAC 2D .0530 (g) for major sources and major modifications, the No. 6 Bleach Plant, shall discharge into the atmosphere less 73.3 pounds per hour and 321.1 tons tons of carbon monoxide (CO) per consecutive twelve month period:

Testing [15A NCAC 2D .0501(c)(8)]

- b. If emissions testing is required, the testing shall be performed in accordance with 15A General Condition JJ. If the results of this test are above the limits given in Section 2.2 C.1.a. above, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0530.

Monitoring/ Recordkeeping [15A NCAC 2Q .0508(f)]

- c. To ensure that emissions are less than the above-specified limits, the Permittee shall not operate the No. 6 Bleach Plant shall at a production rate in excess of 800 bone dry tons of unbleached pulp per day. The Permittee shall be deemed in noncompliance with 15A NCAC 2D .0530 if the amount of unbleached pulp exceeds this limit.
- d. To ensure compliance, the Permittee shall maintain records as follows
 - i. the Permittee shall record and maintain records of the amounts (in bone dry tons) of unbleached pulp processed in the No. 6 Bleach Plant during each day and each month, and;
 - ii. the records of the amounts unbleached pulp (in bone dry tons) processed during each day and month in the No. 6 Bleach Plant shall be made available to an authorized representative of DAQ upon request. The Permittee shall be deemed in noncompliance with 15A NCAC 2D .0530 daily limit for CO if; the limit on the daily amount of bone dry tons of unbleached pulp during are exceeded; or, the limit for CO if the yearly amount of bone dry tons of unbleached pulp during are exceeded or not recorded.

Reporting [15A NCAC 2Q .0508(f)]

- e. 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, due and postmarked on or before January 30 of each calendar year for the preceding three-month period between October and December, April 30 of each calendar year for the preceding three-month period between January and March, July 30 of each calendar year for the preceding three-month period between April and June, and October 30 for the calendar year for the preceding three-month period between July and September. The report shall contain the following:

- i. the monthly quantities of unbleached pulp in the No. 6 Bleach Plant for the previous 14 months. The total quantities burned must be calculated for each of the 12-month periods over the previous 14 months; and
- ii. All instances of deviations from the requirements of this permit must be clearly identified.

D. No. 7 Bleach Plant:

**No. 7 1st Stage O2 Surge Tank (ID No. ES-07-31-1000),
No. 7 3rd Stage Feed Tank (ID No. ES-07-33-3000),
No. 7 Bleach Plant Building Fugitives (ID No. FS-004),
No. 7 Oxygen Delignification 1st Stage O2 Reactor Blow Tube (ID No. ES-07-31-1140),
No. 7 Oxygen Delignification 1st Stage Wash Tower (ID No. ES-07-31-1180),
No. 7 Oxygen Delignification 1A/1B Filtrate Tank (ID No. ES-07-31-1200),
No. 7 Oxygen Delignification 2nd Stage Surge Tank (ID No. ES-07-32-2120),
No. 7 Oxygen Delignification 2nd Stage Filtrate Tank (ID No. ES-07-32-2240), Bleaching Tower - Stage D (3rd) (ID No. ES-07-33-3080),
Bleaching Tower - Stage Eop (4th) (ID No. ES-07-34-4080),
4th Stage Filtrate Tank (ID No. ES-07-34-4100),
Bleaching Tower - Stage D (5th) (ID No. ES-07-35-5060),
5th Stage Filtrate Tank (ID No. ES-07-35-5080),
Bleaching Tower - Stage P (6th) (ID No. ES-07-36-6040),
6th Stage Filtrate Tank (ID No. ES-07-36-6060),
No. 6 Bleach Plant Blend Box (Sump) (ID No. ES-08-67-1400),
10% Sulfuric Acid Day Tank (ID No. ES-08-50-3140),
Base Effluent Neutralization Tank (ID No. ES-08-67-1200),
Acid Effluent Neutralization Tank (ID No. ES-08-67-1300), and
No. 6 & 7 White Liquor Oxidation Tank (ID No. ES-08-70-1000)**

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

Regulated Pollutant	Limits/Standards	Applicable Regulation
Carbon Monoxide	<p>No. 7 Bleach Plant shall not operate at a throughput in excess of 1,250 bone dry tons of unbleached pulp per day.</p> <p>Total CO emissions from the No. 7 Bleach Plant shall not exceed 114.6 pounds per hour and 502.0 tons per consecutive 12-month period based on the BACT emission factor of 2.2 pounds CO per bone dry ton of unbleached pulp.</p>	15A NCAC 2D. 0530

**1. 15A NCAC 2Q. 0317: AVOIDANCE CONDITIONS for
15A NCAC 2D. 0530: PREVENTION OF SIGNIFICANT DETERIORATION**

- a. In order to avoid applicability of 15A NCAC 2D .0530 (g) for major sources and major modifications, the No. 7 Bleach Plant, shall discharge into the atmosphere less 114.6 pounds per hour and 502.0 tons tons of carbon monoxide (CO) per consecutive twelve month period:

Testing [15A NCAC 2D .0501(c)(8)]

- b. If emissions testing is required, the testing shall be performed in accordance with 15A General Condition JJ. If the results of this test are above the limits given in Section 2.2 D.1.a. above, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0530.

Monitoring/ Recordkeeping [15A NCAC 2Q .0508(f)]

- c. To ensure that emissions are less than the above-specified limits, the Permittee shall not operate the No. 7 Bleach Plant shall at a production rate in excess of 1,250 bone dry tons of unbleached pulp per day. The Permittee shall be deemed in noncompliance with 15A NCAC 2D .0530 if the amount of unbleached pulp exceeds this limit.
- d. To ensure compliance, the Permittee shall maintain records as follows
 - i. the Permittee shall record and maintain records of the amounts (in bone dry tons) of unbleached pulp processed in the No. 7 Bleach Plant during each day and each month, and;
 - ii. the records of the amounts unbleached pulp (in bone dry tons) processed during each day and month in the No. 7 Bleach Plant shall be made available to an authorized representative of DAQ upon request. The Permittee shall be deemed in noncompliance with 15A NCAC 2D .0530 daily limit for CO if; the limit on the daily amount of bone dry tons of unbleached pulp during are exceeded; or, the limit for CO if the yearly amount of bone dry tons of unbleached pulp during are exceeded or not recorded.

Reporting [15A NCAC 2Q .0508(f)]

- e. 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, due and postmarked on or before January 30 of each calendar year for the preceding three-month period between October and December, April 30 of each calendar year for the preceding three-month period between January and March, July 30 of each calendar year for the preceding three-month period between April and June, and October 30 for the calendar year for the preceding three-month period between July and September. The report shall contain the following:
 - i. the monthly quantities of unbleached pulp in the No. 7 Bleach Plant for the previous 14 months. The total quantities burned must be calculated for each of the 12-month periods over the previous 14 months; and
 - ii. All instances of deviations from the requirements of this permit must be clearly identified.

E. HVLC Source Collection and Control (Subject to 40 CFR 60, Subpart BB):

No. 6 Fiberline:

- No. 6 Fiberline Chip Bin Relief Condenser (ID No. ES-06-10-2380),**
- No. 6 Fiberline Digester Blow Tanks (ID No. ES-06-21-1200),**
- No. 6 Fiberline Pressure Diffuser Filtrate Tank (ID No. ES-06-21-1100), and**
- No. 6 Fiberline Secondary Knotters (ID No. ES-06-22-1080)**

No. 7 Fiberline:

- No. 7 Fiberline Chip Bin Relief Condenser (ID No. ES-07-10-2380),**
- No. 7 Fiberline Digester Blow Tank (ID No. ES-07-21-1200),**
- No. 7 Fiberline Digester Pressure Diffuser Filtrate Tank (ID No. ES-07-21-1100), and**
- No. 7 Fiberline Secondary Knotters (ID No. ES-07-22-1080)**

No. 1 Hog Fuel Boiler:

- No. 1 Hog Fuel Boiler (ID No. ES-64-25-0290)**

No. 2 Hog Fuel Boiler:

- No. 2 Hog Fuel Boiler (ID No. ES-65-25-0310)**

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

Regulated Pollutant	Limits/Standards	Applicable Regulation

Total Reduced Sulfur (TRS)	5 ppm by volume on a dry basis, corrected to 10 percent oxygen	15A NCAC 2D .0524 (40 CFR 60, Subpart BB)
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1. 15A NCAC 2D .0524: NSPS 40 CFR 60 SUBPART BB

- a. The Permittee shall comply with all applicable provisions, including the notification, testing, reporting, recordkeeping, and monitoring requirements contained in Environmental Management Commission Standard 15A NCAC 2D .0524 "New Source Performance Standards (NSPS) as promulgated in 40 CFR Part 60 Subpart BB, including Subpart A "General Provisions." [15A NCAC 2D .0524]

Emissions Limitations [15A NCAC 2D .0524]

- b. No owner or operator shall cause to be discharged into the atmosphere any gases which contain TRS in excess of 5 ppm by volume on a dry basis, corrected to 10 percent oxygen, unless the following conditions are met [40 CFR Part 60, Subpart 60.283(a)(1)]:
 - i. The gases are combusted with other waste gases in an incinerator or other device, and are subjected to a minimum temperature of 650 °C (1200 °F) for at least 0.5 second

Monitoring [15A NCAC 2Q .0508(f)]

- c. The Permittee shall follow the inspection procedures per Specific Condition **2.2 A.** to insure that the emissions are routed to the No. 1 or No. 2 Hog fired Boiler (ID Nos. ES-64-25-0290 and ES-65-25-0310) as specified above.
- d. 40 CFR § 60.284(b)(1) - 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. 1 or No.2 Hog fired Boiler (ID Nos. ES-64-25-0290 and ES-65-25-0310) to assure the minimum temperature as specified above is maintained.

Reporting/ Recordkeeping [15A NCAC 2Q .0508(f)]

- e. 40 CFR § 60.284(d) –reporting of excess emissions.
- f. The Permittee shall submit a summary report of the monitoring and recordkeeping activities postmarked on or before January 30 of each calendar year for the preceding six-month period between July and December and July 30 of each calendar year for the preceding six-month period between January and June. All instances of deviations from the requirements of this permit must be clearly identified.

F. LVHC Source Collection and Control (Subject to 40 CFR 60, Subpart BB):

No. 6 Fiberline:

No. 6 Fiberline Digester Flash Condenser (ID No. ES-06-10-2420)

No. 7 Fiberline:

No. 7 Fiberline Digester Flash Condenser (ID No. ES-07-10-2420)

Evaporator Operations:

No. 7 Black Liquor Evaporator System (ID No. ES-09-25-0510)

Lime Mud Filters and Lime Kiln Operations:

No. 5 Lime Kiln (ID No. ES-14-60-3000)

Miscellany:

Condensate Stripper Reflux Condenser (ID No. ES-09-25-1050)

Riley Boiler:

Riley Boiler (ID No. ES-59-25-0190)

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

Regulated Pollutant	Limits/Standards	Applicable Regulation
Total Reduced Sulfur	<p><u>POS – No. 5 Lime Kiln Operation</u></p> <p>Any digester system, brown stock washer system, multiple-effect evaporator system, or condensate stripper system emissions containing TRS in excess of 5 ppm by volume on a dry basis, corrected to 10 percent oxygen, shall not be discharged to the atmosphere unless the emissions are combusted in the No. 5 Lime Kiln. Regardless of whether these TRS emission are routed to the kiln, emissions from the No. 5 Lime Kiln shall not contain TRS in excess of 8 ppm by volume on a dry basis, corrected to 10 percent oxygen.</p> <p><u>AOS No. 1 – Control by Riley Boiler</u></p> <p>Any digester system, brown stock washer system, multiple-effect evaporator system, or condensate stripper system emissions containing TRS in excess of 5 ppm by volume on a dry basis, corrected to 10 percent oxygen, must be combusted in the Riley Boiler at a minimum temperature of 1,200°F for at least 0.5 second.</p>	15A NCAC 2D .0524 (40 CFR 60, Subpart BB)

1. 15A NCAC 2D .0524: NSPS 40 CFR SUBPART BB

- a. The Permittee shall comply with all applicable provisions, including the notification, testing, reporting, recordkeeping, and monitoring requirements contained in Environmental Management Commission Standard 15A NCAC 2D .0524 "New Source Performance Standards (NSPS) as promulgated in 40 CFR Part 60 Subpart BB, including Subpart A "General Provisions." [15A NCAC 2D .0524]

Emissions Limitations [15A NCAC 2D .0524]

- b. Per 40 CFR Part 60, Subpart BB, emissions from the No. 5 Lime Kiln shall not exceed:
 - i. 0.30 g/dscm (0.13 gr/dscf) of particulate matter corrected to 10 percent oxygen. [40 CFR Part 60, Subpart 60.282(a)(3)(i)] (**See Section 2.1. J.4.**), or
 - ii. 8 ppm of TRS by volume on a dry basis, corrected to 10 percent oxygen based on a 12-hour average [40 CFR Part 60, Subpart 60.283(a)(5) and 60.284(c).

Testing [15A NCAC 2D .0501(c)(4)]

- c. If emissions testing is required, the testing shall be performed in accordance with General Condition JJ found in Section 3. If the results of this test are above the limit given in Section 2.2 F.1.b. above, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0524.
- d. Under the provisions of NCGS 143-215.108, the Permittee shall demonstrate compliance with the particulate emission limitation by testing the No. 5 Lime Kiln (ID No. ES-14-60-3000) once every permit cycle (i.e., 5 years) using EPA Method 16B contained in 40 CFR 60, Appendix in accordance with a testing protocol approved by the DAQ. Details of the emissions testing and reporting requirements can be found in Section 3 - 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 2.2 F.1.b. above, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0524.

Monitoring [15A NCAC 2Q .0508(f)]

- e. TRS emissions from the No. 5 Lime Kiln shall be controlled by the Venturi Scrubber (**ID No. CD-14-70-2012**). To ensure that optimum control efficiency is maintained, the Permittee shall monitor as required in 2.1 H.2.e. above. 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. The Permittee shall establish “normal” for these parameters in the first 30 days following the effective date of the permit.

- f. In accordance with 40 CFR 60.284(a) the Permittee shall install, calibrate, maintain, and operate the following continuous monitoring systems:
 - i. Continuous monitoring systems to monitor and record the concentration of TRS emissions on a dry basis and the percent of oxygen by volume on a dry basis in the gases discharged into the atmosphere from the No. 5 Lime Kiln. These systems shall be located downstream of the Venturi Scrubber (**ID No. CD-14-70-2012**) and the spans of these continuous monitoring system(s) shall be set at a TRS concentration of 30 ppm for the TRS continuous monitoring system and at 25 percent oxygen for the continuous oxygen monitoring system.
- g. Using the data provided by the continuous monitoring system required by 40 CFR 60.284(a)(2) to measure TRS emissions, the Permittee shall in accordance with 40 CFR 60.284(c):
 - i. Calculate and record on a daily basis 12-hour average TRS concentrations for the two consecutive periods of each operating day. Each 12-hour average shall be determined as the arithmetic mean of the appropriate 12 contiguous 1-hour average total reduced sulfur concentrations provided by the continuous monitoring system.
 - ii. Calculate and record on a daily basis 12-hour average oxygen concentrations for the two consecutive periods of each operating day. These 12-hour averages shall correspond to the 12-hour average TRS concentrations and shall be determined as an arithmetic mean of the appropriate 12 contiguous 1-hour average oxygen concentrations provided by the continuous monitoring system.
 - iii. Using the following equation, the Permittee shall correct all 12-hour average TRS concentrations to 8 volume percent oxygen:
$$C_{\text{corr}} = C_{\text{meas}} \times (21 - X/21 - Y)$$
where:
C_{corr} = the concentration corrected for oxygen.
C_{meas} = the concentration uncorrected for oxygen.
X = the volumetric oxygen concentration in percentage to be corrected to 8 percent.
Y = the measured 12-hour average volumetric oxygen concentration.
- iii. In accordance with 40 CFR 60.284(b)(2), the Permittee shall install, calibrate, maintain, and operate the following continuous monitoring devices for the Venturi scrubber (CD-14-70-2012) installed on the No. 5 Lime Kiln (ID No. CD-14-60-3000):
 - (A) A monitoring device for the continuous measurement of the pressure loss of the gas stream through the control equipment. The monitoring device is to be certified by the manufacturer to be accurate to within a gage pressure of ±500 pascals (ca. ±2 inches water gage pressure).
 - (B) A monitoring device for the continuous measurement of the scrubbing liquid supply pressure to the control equipment. The monitoring device is to 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 record once per shift measurements obtained from the continuous monitoring devices required by 40 CFR 60.284(b)(2).

- iv. The Permittee shall follow the procedures under §60.13 for installation, evaluation, and operation of the continuous monitoring systems required under 40 CFR 60.284. These continuous monitoring systems shall be operated in accordance with the applicable procedures under Performance Specifications 1, 3, and 5 of 40 CFR 60 Appendix B. Quarterly accuracy determinations and daily calibration drift tests shall be performed in accordance with Procedure 1 of 40 CFR 60 Appendix F.
- v. All uncontrolled atmospheric ventings of TRS gases from the LVHC and SOG collection systems shall be maintained in written or electronic format on-site and made available to an authorized representative upon request. The records shall include the following:
 - (A) date of each uncontrolled atmospheric venting; and
 - (B) the results of any maintenance performed and corrections made.

- vi. Pursuant to 40 CFR 60.7(b), the Permittee shall maintain records of the occurrence and duration of any startup, shutdown, or malfunction in the operation of this NSPS affected facility; any malfunctions of the air pollution control equipment; or any periods during which the continuous monitoring system is inoperative.
- vii. The Permittee shall maintain a file of all measurements, including continuous monitoring system, monitoring device, and performance testing measurements; all continuous monitoring system performance evaluations; all continuous monitoring system or monitoring device calibration checks; adjustments and maintenance performed on these systems or devices; and all other information required by 40 CFR 60 recorded in a permanent form suitable for inspection in a manner consistent with the requirements of 40 CFR 60.7(f).
- h. The Permittee shall follow the procedures under §60.13 for installation, evaluation, and operation of the continuous monitoring systems required under 40 CFR 60.284, with the exception that the Permittee is not required to perform relative accuracy test audits (RATAs) on the TRS monitors required by 60.284(a)(2). These continuous monitoring systems shall be operated in accordance with the applicable procedures under Performance Specifications 1, 3, and 5 of 40 CFR 60 Appendix B. Quarterly accuracy determinations and daily calibration drift tests shall be performed in accordance with Procedure 1 of 40 CFR 60 Appendix F.
- i. **Monitoring** [15A NCAC 2Q .0508(f)] – AOS No. 1 – Control by Riley Boiler
 No continuous monitoring is required because the temperature at the point of combustion and the residence time of LVHC/SOG gases in the Riley Boiler (ID No. CD-59-25-0190) is guaranteed by standard boiler operation to exceed 1,200°F and 0.5 seconds at all firing rates and fuel combinations.

Recordkeeping [15A NCAC 2Q .0508(f)]

- j. The results of the venturi monitoring shall be maintained in a logbook (written or electronic form) 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 normal range of values for each parameter, and
 - iii. the values of each parameter.
 The Permittee shall be deemed in noncompliance with 15A NCAC 2D .0508 if these parameters are not monitored or these records are not maintained.

Reporting/ Recordkeeping [15A NCAC 2Q .0508(f)]

- k. 40 CFR § 60.284(d) –reporting of excess emissions.
- l. 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.

**G. No. 1 Hog Fuel Boiler:
 No. 1 Hog Fuel Boiler (ID No. ES-64-25-0290)
 No. 2 Hog Fuel Boiler:
 No. 2 Hog Fuel Boiler (ID No. ES-65-25-0310)**

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

Regulated Pollutant	Limits/Standards	Applicable Regulation

Particulate Matter Less Than 10 Microns in Diameter	The combined amounts of waste oils combusted in the No. 1 and No. 2 Hog Fuel Boilers shall not exceed 2,000 gallons of crankcase oil and 5,000 gallons of gearbox oil on a monthly basis.	Avoidance of 15A NCAC 2D .0530
Mercury	The combined amount of wastewater sludge combusted in the No. 1 Hog Fuel Boiler and the No. 2 Hog Fuel Boiler shall not exceed 125 bone dry tons of primary wastewater treatment and secondary fiber sludges on a daily basis.	Avoidance of 15A NCAC 2D .0530
Mercury	Total emissions to the atmosphere from combustion of wastewater treatment plant sludge shall not exceed 3.2 kg (7.1 lb) of mercury per 24-hour period.	15A NCAC 2D .1110 (40 CFR 61, Subpart E)

**1. 15A NCAC 2Q. 0317: AVOIDANCE CONDITIONS for
15A NCAC 2D. 0530: PREVENTION OF SIGNIFICANT DETERIORATION**

- a. In order to avoid applicability of 15A NCAC 2D .0530 (g) for major sources and major modifications, the No. Hog Fuel Boiler (ID No. ES-64-25-0290) and No. 2 Hog Fuel Boiler (ID No. ES-65-25-0310), shall discharge into the atmosphere less 15 tons of particulate (PM10) per consecutive twelve month period (attributable to the firing of these waste oils):

Testing [15A NCAC 2D .0501(c)(8)]

- b. If emissions testing is required, the testing shall be performed in accordance with 15A General Condition JJ. If the results of this test are above the limits given in Section 2.2 G.1.a. above, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0530.

Monitoring/ Recordkeeping [15A NCAC 2Q .0508(f)]

- c. To ensure that emissions are less than the above-specified limits, the Permittee shall not fire more than 2,000 gallons of crankcase oil and 5,000 gallons of gearbox oil per month. The Permittee shall be deemed in noncompliance with 15A NCAC 2D .0530 if the amount of oil exceeds these limits.
- d. To ensure compliance, the Permittee shall maintain records as follows
 - i. the Permittee shall record and maintain records of the amounts (in gallons) of crankcase oil and gearbox oil fired during each month, and;
 - ii. the record of the amounts (in gallons) of crankcase oil and gearbox oil fired each month shall be made available to an authorized representative of DAQ upon request. The Permittee shall be deemed in noncompliance with 15A NCAC 2D .0530 if the amounts of crankcase oil and gearbox oil fired each month are not recorded.

Reporting [15A NCAC 2Q .0508(f)]

- e. 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, due and postmarked on or before January 30 of each calendar year for the preceding three-month period between October and December, April 30 of each calendar year for the preceding three-month period between January and March, July 30 of each calendar year for the preceding three-month period between April and June, and October 30 for the calendar year for the preceding three-month period between July and September. The report shall contain the following:
 - i. the monthly quantities of crankcase oil and gearbox oil fired each month for the previous 14 months. The total quantities burned must be calculated for each of the 12-month periods over the previous 14 months; and
 - ii. All instances of deviations from the requirements of this permit must be clearly identified.

Monitoring/ Recordkeeping [15A NCAC 2Q .0508(f)]

- c. To ensure that emissions are less than the above-specified limits, the Permittee shall not fire more than 2,000 gallons of crankcase oil and 5,000 gallons of gearbox per month. The Permittee shall be deemed in noncompliance with 15A NCAC 2D .0530 if the amount of oil exceeds these limits.
- d. To ensure compliance, the Permittee shall maintain records as follows
 - i. the Permittee shall record and maintain records of the amounts (in gallons) of crankcase oil and gearbox oil fired during each month, and;
 - ii. the record of the amounts (in gallons) of crankcase oil and gearbox oil fired each month shall be made available to an authorized representative of DAQ upon request. The Permittee shall be deemed in noncompliance with 15A NCAC 2D .0530 if the amounts of crankcase oil and gearbox oil fired each month are not recorded.

Reporting [15A NCAC 2Q .0508(f)]

- e. 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, due and postmarked on or before January 30 of each calendar year for the preceding three-month period between October and December, April 30 of each calendar year for the preceding three-month period between January and March, July 30 of each calendar year for the preceding three-month period between April and June, and October 30 for the calendar year for the preceding three-month period between July and September. The report shall contain the following:
 - i. the monthly quantities of crankcase oil and gearbox oil fired each month for the previous 14 months. The total quantities burned must be calculated for each of the 12-month periods over the previous 14 months; and
 - ii. All instances of deviations from the requirements of this permit must be clearly identified.

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

- a. In order to avoid applicability of 15A NCAC 2D .0530 (g) for major sources and major modifications, the No. Hog Fuel Boiler (ID No. ES-64-25-0290) and No. 2 Hog Fuel Boiler (ID No. ES-65-25-0310), shall discharge into the atmosphere less 0.1 tons of mercury per consecutive twelve month period (attributable to the firing of wastewater and secondary fiber sludge):

Testing [15A NCAC 2D .0501(c)(8)]

- b. If emissions testing is required, the testing shall be performed in accordance with 15A General Condition JJ. If the results of this test are above the limits given in Section 2.2 G.2.a. above, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0530.

Monitoring/ Recordkeeping [15A NCAC 2Q .0508(f)]

- c. To ensure that emissions are less than the above-specified limits, the Permittee shall not fire more than 125 bone dry tons of primary wastewater treatment and secondary fiber sludges on a daily basis. The Permittee shall be deemed in noncompliance with 15A NCAC 2D .0530 if the amount of sludge exceeds these limits.
- d. To ensure compliance, the Permittee shall maintain records as follows
 - i. the Permittee shall record and maintain records of the amounts (in bone dry tons) of primary wastewater treatment and secondary fiber sludge fired during each day, and;
 - ii. the record of the amounts (in bone dry tons) of primary wastewater treatment and secondary fiber sludge fired each month shall be made available to an authorized representative of DAQ upon request. The Permittee shall be deemed in noncompliance with 15A NCAC 2D .0530 if the amounts of (in bone dry tons) of primary wastewater treatment and secondary fiber sludge fired each month are not recorded.

Reporting [15A NCAC 2Q .0508(f)]

- e. 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, due and postmarked on or before January 30 of each calendar year for the preceding three-month period between October and December, April 30 of each calendar year for the preceding three-month period between January and March, July 30 of each calendar year for the preceding three-month period between April and

June, and October 30 for the calendar year for the preceding three-month period between July and September. The report shall contain the following:

- i. the monthly quantities of primary wastewater treatment and secondary fiber sludge fired each month for the previous 14 months. The total quantities burned must be calculated for each of the 12-month periods over the previous 14 months; and
- ii. All instances of deviations from the requirements of this permit must be clearly identified.

3. 15A NCAC 2D .1110: NESHAP 40 CFR 61 Subpart E

- a. Emissions to the atmosphere from sludge incineration plants, sludge drying plants, or a combination of these that process waste water treatment plant sludges shall not exceed 2300 grams of mercury per 24-hour period.

Testing [15A NCAC 2D .0501(c)(8)]

- b. If emissions testing is required, the testing shall be performed in accordance with 15A General Condition JJ. If the results of this test are above the limits given in Section 2.2 G.3.a. above, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0530.

Monitoring [15A NCAC 2Q .0508(f)]

- c. As a means for demonstrating compliance with 40 CFR 61.52(b), the Permittee conducted a sludge test to determine the mercury concentration of sludge on a dry solids basis. Based on a maximum sludge burn rate of 125 bone dry tons per day and the results of the sludge test, the estimated mercury emissions attributed to sludge burning is less than 30 grams per day. In accordance with 40 CFR 61.55, no additional monitoring is required because each source combusting wastewater sludge does not emit mercury emissions greater than 1.6 kg per 24-hour period, as demonstrated by sludge sampling.

Reporting [15A NCAC 2Q .0508(f)]

- d. In accordance with 40 CFR 61.55, no additional monitoring (therefore reporting) is required because each source combusting wastewater sludge does not emit mercury emissions greater than 1.6 kg per 24-hour period, as demonstrated by sludge sampling.

**H. Riley Boiler (ID No. ES 59-25-0190); and
No. 1 Package Boiler firing distillate oil (ID No. ES 66-25-2050)**

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

Regulated Pollutant	Limits/Standards	Applicable Regulation
Nitrogen oxides	Ozone season emissions allocations	15A NCAC 2D .1417

1. 15A NCAC 2D .1417: EMISSION ALLOCATIONS FOR LARGE COMBUSTION SOURCES

- a. The Riley Boiler (**ID No. ES 59-25-0190**) shall not exceed a NOx allocation of 566 tons per ozone season in 2004, 708 tons per ozone season in 2005, and 379 tons per ozone season for 2006 and later.
- b. The No. 1 Package Boiler (**ID No. ES 66-25-2050**) shall not exceed a NOx allocation of 20 tons per ozone season in 2004, 25 tons per ozone season in 2005, and 25 tons per ozone season for 2006 and later.

Monitoring/Recordkeeping [15A NCAC 2D .0508(f), 15A NCAC 2D .1417(e), 15A NCAC 2D .1404(d)]

- c. The Riley Boiler (**ID No. ES-59-25-0190**) and the No. 1 Package Boiler (**ID No. ES 66-25-2050**) shall comply with the requirements of 15 A NCAC 2D .1417 using the nitrogen oxide budget trading program set out in 15A NCAC 2D .1419 and as follows:

- i. Sources shall use the procedures of and comply with the requirements of 40 CFR Part 96, Nitrogen Oxide Budget Trading Program for State Implementation Plans, with the following exceptions:
 - (1). Permit applications shall be submitted following the procedures and schedules in this Section and in Subchapter 2Q of this Title instead of the procedures and schedules in 40 CFR Part 96; and
 - (2) The dates and schedules for monitoring systems in 40 CFR Part 96 shall not apply; however, if a source operates during the ozone season, it shall have installed and begun operating by May 1, 2004, a continuous emissions monitoring system that complies with 40 CFR Part 96.
 - d. The Permittee shall show compliance using continuous emissions monitors that meet the requirements of 40 CFR Part 75, Subpart H or 40 CFR Part 96 [15A NCAC 2D .1417(e)].
 - e. All emission control devices and techniques installed to comply with 15A NCAC 2D .1417 shall be operated May 1 through September 30 in the manner in which they are designed and permitted to be operated.
 - f. The Permittee shall comply with the requirements of this section according to the following schedule:
 - i. The Permittee shall submit a description of how the source will comply with the requirements of this rule (15A NCAC 2D .1417) to the Division of Air Quality before October 1, 2003.
 - ii. The Permittee shall submit an application, to revise the permit in order to make a modification or to construct and begin operating a control device, before source modification(s) or control device installation(s).
 - iii. The Permittee shall install any required monitoring and implement record keeping, and reporting requirements before May 1, 2004.
- Reporting** [15A NCAC 2D .0508(f)]
- g. The Permittee shall submit a summary report of monitoring and record keeping activities by 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. All instances of deviations from the manufacturers' recommendations for maintenance of the scrubber and electrostatic precipitators must also be clearly identified.

I. All Permitted Emission Sources

1. Control of Toxic Air Pollutants [15A NCAC 2D .1100] - STATE-ENFORCEABLE ONLY for 2.2 A

Pursuant to 15A NCAC 2D .1100 and in accordance with the approved application for an air toxic compliance demonstration, the Permittee shall be subject to the following toxic limits for known compounds emitted from the combined pulp and paper mill and the wood products mill (Permit No. 06389R12). The limits are optimized, which means that the facilities would have to generate emissions greater than the potential in order to exceed the acceptable ambient levels established in 15A NCAC 2D.1104.

Toxics Emitted from Mills

TOXIC NAME	OPTIMIZED LIMIT
Acetaldehyde	4,003 lbs/hour
Acetic Acid	335 lbs/hour
Acrolein	45 lbs/hour
Ammonia	54 lbs/hour
Arsenic & Compounds	285 lbs/year
Benzene	578,237 lbs/year
Benzo(a)pyrene	2,062 lbs/year
Benzyl Chloride	118 lbs/hour
Beryllium	21,449 lbs/year
Bromine	20 lbs/hour
1,3 Butadiene	15,786 lbs/year
Cadmium	855 lbs/year
Carbon Disulfide	3,545 lbs/day
Carbon Tetrachloride	347,230 lbs/year
Chlorine	1,616 lbs/day 67 lbs/hour
Chlorobenzene	71,219 lbs/day
Chloroform	2,668,386 lbs/year
Chromium (VI)	42 lbs/year
Cresol	149 lbs/hour
Di(2-ethylhexyl) phthalate (DEHP)	327 lbs/day
Dimethyl Sulfate	33 lbs/day
Epichlorohydrin	1,283,377 lbs/year
Ethylene Dibromide	160,065 lbs/year
Ethylene Dichloride	1,222,927 lbs/year
Fluorides	685 lbs/day 29 lbs/hour
Formaldehyde	133 lbs/hour
Hexachlorodibenzo-p-dioxin (HCDD)	147 lbs/year
N-hexane	18,895 lbs/day
Hydrazine	37 lbs/day
Hydrogen Chloride	1,006 lbs/hour
Hydrogen Fluoride	2,867 lbs/day 119 lbs/hour
Hydrogen Sulfide	1,221 lbs/hour
Manganese & Compounds	2,028 lbs/day
Mercury, vapor	12 lbs/day
Methyl Chloroform	127,716 lbs/day 5,322 lbs/hour

Methyl Ethyl Ketone	51,080 lbs/day 2,206 lbs/hour
Methyl Isobutyl Ketone	94,955 lbs/day 3,980 lbs/hour
Methyl Mercaptan	81 lbs/hour
Methylene Chloride	2,070,404 lbs/year 236.5 lbs/hour
Nickel, metal	262 lbs/day
Nickel, soluble compounds as nickel	53 lbs/day
Nitric Acid	87 lbs/hour
Phenol	500 lbs/hour
Styrene	963 lbs/hour
Sulfuric Acid	1,850 lbs/day 77 lbs/hour
2,3,7,8-tetrachlorodibenzo-p-dioxin (TCDB)	0.402 lb/year
Tetrachloroethylene	3,364,527 lbs/year
Toluene	107,826 lbs/day 4,493 lbs/hour
Trichloroethylene	6,448,858 lbs/year
Trichlorofluoromethane	48,714 lbs/hour
Trichlorotrifluoroethane	82,629 lbs/hour
Xylene	102,277 lbs/day 4,319 lbs/hour

Pursuant to 15A NCAC 2D .1100, if the Permittee determines in the future that the combined paper mill and wood products mill (Permit No. 06389R12) emit any of the following toxics, the associated limits provided below apply to the facilities. The limits are optimized, which means that the facilities would have to generate emissions greater than the potential in order to exceed the acceptable ambient levels established in 15A NCAC 2D.1104.

Toxics Not Known to be Emitted, but Have Optimized Emission Limits Established

TOXIC NAME	OPTIMIZED LIMIT
Acrylonitrile	14,000 lbs/year
Ammonium Chromate	75 lbs/day
Ammonium Dichromate	75 lbs/day
Aniline	358 lbs/hour
Aziridine	262 lbs/day
Benzidine and salts	1 lb/year
Beryllium Chloride	382 lbs/year
Beryllium Fluoride	382 lbs/year
Beryllium Nitrate	382 lbs/year
Bis-chloromethyl Ether	34 lbs/year
Cadmium Acetate	512 lbs/year
Cadmium Bromide	512 lbs/year
Calcium Chromate	8 lbs/year
Chloroprene	18,968 lbs/day 790 lbs/hr
Chromic Acid	27 lbs/day
P-dichlorobenzene	23,602 lbs/hour
Dichlorofluoromethane	21,569 lbs/day
Dichlorodifluoromethane	10,688,857 lbs/day

1,4 Dioxane	45,058 lbs/day
Ethyl Acetate	50,097 lbs/hour
Ethylenediamine	12,833 lbs/day 535 lbs/hour
Ethylene Oxide	2,520 lbs/year
Ethylene Glycol Monoethyl Ether	5,156 lbs/day 215 lbs/hour
Ethyl Mercaptan	36 lbs/hour
Hexachlorocyclopentadiene	26 lbs/day 1 lb/hr
Hexane Isomers	128,852 lbs/hour
Hydrogen Cyanide	6,006 lbs/day 250 lbs/hour
Maleic Anhydride	519 lbs/day 22 lbs/hour
Manganese cyclopentadienyl tricarbonyl	26 lbs/day
Manganese Tetroxide	263 lbs/day
Mercury, alkyl	3 lbs/day
Mercury, aryl and inorganic compounds	26 lbs/day
Nickel Carbonyl	26 lbs/day
Nickel Subsulfide	196 lbs/year
Nitrobenzene	2,581 lbs/day 108 lbs/hour
N-nitrosodimethylamine	4,646 lbs/year
Pentachlorophenol	41 lbs/day 2 lbs/hour
Phosgene	34 lbs/day
Phosphine	47 lbs/hour
Polychlorinated Biphenyls	10,609 lbs/year
Potassium Chromate	75 lbs/day
Potassium Dichromate	75 lbs/day
Sodium Chromate	75 lbs/day
Sodium Dichromate	75 lbs/day
Strontium Chromate	8 lbs/year
1,1,1,2-tetrachloro-2,2-difluoroethane	2,242,947 lbs/day
1,1,2,2-tetrachloro-1,2-difluoroethane	2,242,947 lbs/day
1,1,1,2-tetrachloroethane	686,700 lbs/year
Toluene diisocyanate, 2,4-and 2,6 isomers	22 lbs/day 1 lb/hour
Vinyl Chloride	37,968.00 lbs/year
Vinylidene Chloride	5,158.00 lbs/day
Zinc Chromate	8 lbs/year

- a. To ensure compliance with the above limits, the following restrictions shall apply:
 - i. The Permittee shall maintain records of production rates, chemical usages, monitoring activities, test results, emission factors, control efficiencies and other process operational information as necessary to determine compliance with the specified emissions limits. The Permittee shall retain all records and information as specified in this Permit for a period of two years from date of recording.
 - ii. The maximum net fill rate (input minus output) of the combined condensate tank shall not exceed 96,000 gallons per hour.

- iii. The Permittee shall take quarterly samples of waste oil combusted in the No. 1 Hog Fuel Boiler (ID No. ES-64-25-0290) and No. 2 Hog Fuel Boiler (ID No. ES-65-25-0310) and make an annual composite sample to be analyzed for the following and the results sent to the Division of Air Quality:
- (A) type of waste,
 - (B) weight (lb./gal.),
 - (C) Btu content (Btu/gal.),
 - (D) ash content (% by wt.),
 - (E) sulfur content (% by wt.),
 - (F) lead content (% by wt.), and
 - (G) mercury, PCB, halogens, chromium, arsenic, cadmium, nickel, zinc, and aluminum (% by wt.).
- b. For compliance purposes, the Permittee shall submit the results of required waste oil analyses by January 30 of each calendar year for the preceding twelve-month period between January and December.

VIII. Schedule of Compliance

The **Hog Fuel Fired Boiler No. 1 (ES-64-25-0290)** is subject to the compliance schedule described below. This compliance schedule is an enforceable sequence of actions with milestones leading to compliance with applicable requirements for which the source is in noncompliance at the time of permit issuance. Any judicial consent decree or an administrative order to which the source is subject shall be supplemental to and shall not sanction noncompliance with the applicable requirements on which it is based [15A NCAC 2Q .0508(s) and (bb)].

- A. **Actions to be Taken by the Permittee** - The Permittee, desiring to comply with the legal requirements of this permit and with all pertinent provisions of the law and applicable requirements, is subject to the following activities:
1. In an effort to minimize NOx emissions from Hog Fuel Boiler No. 1, in addition to operating and maintaining the boiler using best engineering practices, the Company will not fire fossil fuels at a rate greater than 250 million Btu/hr input to Hog Fuel Boiler No. 1. The Company will track fuel consumption using current tracking methods. The Company will provide fuel consumption records to the Division within 24 hours upon Division request.
 2. On or before December 31, 2003, the Company shall submit a complete application for permit to construct an improved combustion system (overfire air) for Hog Fuel Boiler No. 1.
 3. The improved combustion system for Hog Fuel Boiler No. 1 shall be installed and in operation at the site no later than November 1, 2004.
 4. No later than March 1, 2005, the Company shall conduct an initial performance test on Hog Fuel Boiler No. 1 in accordance with applicable DENR rules and 40 CFR Part 60.
 5. If the results of the initial performance test indicate that emissions of NOx are greater than 70 percent of the applicable standard, the Company shall install a continuous emissions monitoring system (CEMS) to measure NOx emissions. Within 120 days of the initial performance test, the Company shall install the NOx CEMs and certify it in accordance with 40 CFR, Part 60, Section 60.13.
 6. No later than May 1, 2005, the Company shall submit a final written report of the initial performance test to DENR.
- B. **Termination** – This Order shall terminate upon completion by the Commission, the DAQ, and the Company of the undertakings described herein but no later than December 31, 2005.

IX. MACT Applicability and Requirements

Based on a review of the facility's current operations and emission sources, as detailed above the facility is Subject to MACT Subparts S and MM. Possible future applicable MACTs include Subpart DDDDD - [**Industrial, Commercial and Institutional Boilers and Process Heaters.**](#)

X. Permit Shield (including non-applicable requirements)

In accordance with 2Q .0512 the permit will contain a provision stating that compliance with the terms, conditions, and limitations of the Title V permit shall be deemed in compliance with applicable requirements specifically identified in the permit, as of the date of permit issuance. If the permit does not expressly state that a permit shield exists then it shall be presumed not to provide such a shield.

XI. General Conditions

The “General Conditions” section of the Title V Operating Permits lists additional applicable rule requirements that the Permittee must adhere to, as with any other permit condition. These requirements in general are common to all Title V facilities. The general conditions include provisions such as annual fee payment, permit renewal and expiration, transfer of ownership or operation, property rights, submission of documents, inspections and entry procedures, reopen for cause, and severability.

XII. Insignificant Activities

The insignificant activities listed in the application has been reviewed and verified. 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 insignificant activities are as follows:

Insignificant Activity Number	Emission Source ID No.	Emission Source Description
Fiberline Operations:		
1	NA	Inorganic liquid storage tanks (3)
2	ES-08-51-4060	No.7 chelate tank
3	ES-08-50-2280, ES-08-50-2080, ES-19-05-1340, ES-08-50-2060, ES-08-50-2260	Caustic storage tanks
4	NA	25% caustic storage
5	ES-08-51-1060	Magnesium sulfate storage tank
6	ES-08-51-2060	Hydrogen peroxide storage tank
7	ES-08-51-3040	67% nitric acid storage
8	ES-08-51-3080	No. 6 & 7 digester acid cleaning tank
9	ES-08-51-5020	Defoamer tank
10	ES-08-52-1580	Chiller hotwell overflow (from non-contact heat exchange)
11	ES-08-52-7500	Emergency water tank(CIO2 Plant)
12	ES-08-52-7000	Chlorine dioxide plant condensate tank (from non-contact steam)
13	ES-44-25-1000	Astrodome (filtered water surge tank)
14	ES-08-83-3100	No. 6 & 7 Hot water tank (for non-contact heat exchange)
15	ES-08-83-3000	No. 6 & 7 Warm water tank (for non-contact heat exchange)
16	ES-06-37-1060	No. 6 bleach plant condensate flash tank (from non-contact steam)
17	ES-08-62-2000	Central condensate tank (from non-contact steam)

Insignificant Activity Number	Emission Source ID No.	Emission Source Description
18	ES-07-37-1080	No. 7 bleach plant condensate flash tank (from non-contact steam)
Chemical Recovery:		
19	ES-10-08-0100	Day salt cake tank and baghouse
20	ES-14-20-2010	Green liquor heater condensate tank (non-contact steam condensate)
21	NA	East and West slaker sample funnels
22	ES-53-20-0470	Acid neutralization tank (Oct' 96) (formerly the white liquor surge tank)
23	ES-14-30-8050	Acid Cleaning Tank Associated with Lime Mud Filter System
Power Operations:		
24	ES-52-10-0010	No. 6 fuel oil storage tank (602,000 gal)
25	ES-10-04-0010	No. 2 fuel oil storage tank (4,888 gal)
26	ES-94-30-2500	Gasoline storage tank (15,500 gal)
27	ES-94-30-2300	East diesel storage tank (15,500 gal)
28	ES-94-30-2350	West diesel storage tank (15,500 gal)
29	ES-52-95-0050	Bark dozer's diesel fuel storage tank (3,000 gal)
30	ES-00-95-9900	Wood yard diesel fuel storage tank (10,000 gal)
31	ES-14-45-0920	No. 6 Fuel Oil Day Tank (by Lime Kiln)
32	ES-53-40-0130	Fire pump Diesel Engine (West of Fine Paper)
33	ES-53-40-0140	Fire Pump Diesel Engine (Warren Neck Creek- East)
34	ES-53-40-0145	Fire Pump Diesel Engine (Warren Neck Creek- West)
35	ES-73-05-4510	Lift Station Diesel Engine Runoff Collection
36	ES-73-05-5290	Lift Station Diesel Engine- Fiber Line
37	ES-14-60-3000	No. 5 Kiln Diesel Engine Backup
38	ES-71-95-0500	Emergency Generator for Radio System Backup
39	NA	Miscellaneous Boiler Condensate Collection tanks for continual hot fresh water (from non-contact heat exchange)
40	NA	East & West Demineralizer Reactors
41	NA	Riley Boiler Coal Bunker (vents into boiler)
42	NA	Nos. 1 & 2 Hog Fuel Storage Bins
43	NA	Coal Yard at Boilers
44	NA	Dry scrubber media storage pile and bucket elevator
45	NA	Dry scrubber media storage silo and vent filter baghouse

Insignificant Activity Number	Emission Source ID No.	Emission Source Description
46	NA	Riley coal pulverizers (3) and No. 2 hog fuel boiler coal pulverizers (2) (vents into boiler)
Paper Operations:		
47	NA	Precipitated Calcium Carbonate slurry tanks (3)
48	ES-44-03-1020, ES-44-02-1780	Caustic Boilout Tanks
49	ES-31-03-1120	Clay Slurry storage tank @ NC1
50	ES-31-06-0105, ES-31-06-0110	NC1 Bulk defoamer tanks (2)
51	ES-31-02-1400	Wet End Starch Cooker (NC1)
52	ES-44-07-2240 ES-45-07-2240	Wet End Starch Cooker Flash Tanks (NC4 & NC5)
Woodyard Operations:		
53	NA	Babbitt Nickelite Jig
54	ES-00-75-2300	Babbitt Pot Heater
55	ES-00-75-2350	Babbitt Press Hydraulic Pump
56	ES-00-75-2000	Knife Grinder
57	ES-00-94-1300	Hose Cutter
Wastewater Treatment:		
58	ES-73-05-7090	Phosphoric Acid Storage Tank
59	ES-73-25-0120	SSDF Ferric Chloride Tank
60	ES-73-25-0330	SSDF Dilute Hydrochloric Acid Tank
Maintenance and Utilities:		
61	ES-94-30	Motor Vehicle Repair Shop
62	NA	Plant-wide Refrigeration Equipment
63	NA	Plant-wide Propane Tanks
64	ES-44-92-2520	Wet End Starch Cooling Tower
65	NA	Site-wide degreasing operations
66	ES-44-92-2520	Alkaline Starch Cooling Tower
67	ES-01-10-1800	TRS Cooling Tower

